A Modern Approach to

Entrepreneurship and Small Business Management

Olivia Johnson

A Modern Approach to Entrepreneurship and Small Business Management

A Modern Approach to Entrepreneurship and Small Business Management

Edited by
Olivia Johnson

Published by The English Press,
5 Penn Plaza,
19th Floor,
New York, NY 10001, USA

ISBN: 978-1-9789-6311-5

Cataloging-in-Publication Data

A modern approach to entrepreneurship and small business management / edited by Olivia Johnson.
p. cm.
Includes bibliographical references and index.
ISBN 978-1-9789-6311-5
1. Entrepreneurship. 2. Small business--Management. 3. Industrial management. I. Johnson, Olivia.
HB615 .M63 2021
658.421--dc23

Contents

Preface

Entrepreneurship is the process of designing, launching and managing a business. The concept of entrepreneurship may be extended to encompass the capacity to identify a business opportunity, acquire and deploy the necessary resources to develop and manage a venture with the associated risks. Most entrepreneurial ventures often start as a small business with the owner alone managing operations, or involving a small team of employees. These small businesses offer an innovative service, process or product. An entrepreneurship is successful if there are situations or opportunities for combining resources to generate profit, and people and resources are efficiently organized. Entrepreneurship can extend in scope from for-profit businesses to social entrepreneurship. It may also range in scale from solo and part-time projects, to large-scale initiatives involving the creation of many jobs. This book elucidates the innovative models around prospective developments with respect to entrepreneurship. It is a compilation of chapters that discuss the most vital concepts and emerging trends in the field of small business management. This book, with its detailed analyses and data, will prove immensely beneficial to professionals and students involved in this area at various levels.

The researches compiled throughout the book are authentic and of high quality, combining several disciplines and from very diverse regions from around the world. Drawing on the contributions of many researchers from diverse countries, the book's objective is to provide the readers with the latest achievements in the area of research. This book will surely be a source of knowledge to all interested and researching the field.

In the end, I would like to express my deep sense of gratitude to all the authors for meeting the set deadlines in completing and submitting their research chapters. I would also like to thank the publisher for the support offered to us throughout the course of the book. Finally, I extend my sincere thanks to my family for being a constant source of inspiration and encouragement.

Editor

The role of financial management training in developing skills and financial self-efficacy

Author:
Corrinna L. Kirsten[1]

Affiliation:
[1]School of Accountancy, Faculty of Economic and Management Sciences, Stellenbosch University, South Africa

Corresponding author:
Corrinna Kirsten,
corinnakirsten@sun.ac.za

Background: Financial management is an essential management function for any small business. Short-term financial management is especially crucial for start-ups and established businesses. Owners of small businesses in South Africa often need to perform this function themselves; however, many do not possess the skills and practices required to perform this function effectively. Financial self-efficacy acts as an important motivating factor in managing the finances of a business. Focused training is important in developing financial management skills, but little research has been conducted to determine whether this type of training improves financial management skills and financial self-efficacy.

Aim: To determine whether a tailor-made financial management training course improves the development of short-term financial management skills and financial self-efficacy of small business owners in South Africa.

Setting: This study sampled small business owners who attended a tailor-made financial management training course that focused on short-term financial management principles.

Method: A quasi-experimental study using a pre-test–post-test single-group design was applied using self-administered questionnaires.

Results: The results from a one-tailed paired-sample *t*-test show that the training course significantly improved both the development of short-term financial management skills and the financial self-efficacy of participants.

Conclusion: Tailor-made financial management training courses enhance the short-term financial management skills of owners of small businesses and also improve their financial self-efficacy. By improving both their skills and self-efficacy, small business owners are likely to make better financial decisions and be more motivated to implement financial management practices.

Introduction

Small, medium and micro-enterprises (SMMEs) contribute significantly to employment and the economy in South Africa (Groepe 2015:5). However, research shows that the failure rates of SMMEs in South Africa are very high (Petrus 2009:I; Radipere & Van Scheers 2005:402; Van Eeden, Viviers & Venter 2003:13). Internal and external factors contribute to failure of new SMMEs, with lack of management experience and lack of functional skills cited as being important internal factors (Fatoki 2014:926). Rajaram (2008:10) identifies one of the difficulties small business owners face: often they cannot afford to employ managers, and thus owners need the skills to perform management functions themselves. Small businesses in South Africa have low growth rates, and it is estimated that up to half of small businesses do not grow (Ladzani & Van Vuuren 2002:155). Low growth rates in small businesses are impacted by, among many factors, inadequate decisions taken by the owners because of insufficient management skills (Ihua 2009:199).

Financial management skills are critical in operating a business in South Africa (Mamabolo, Kerrin & Kele 2017:9; Roodt 2005:18) and are needed to increase the survival rates of start-up businesses (Orford, Herrington & Wood 2004:3). However, research shows that many small business owners do not have the financial management skills they require to effectively manage their businesses (Orford et al. 2003:48; Rajaram & O'Neill 2009:115; Statistics South Africa 2005:xx). Schwarze (2008:144) suggests that owners of small businesses ought to first develop short-term financial management skills in order to survive and grow, after which long-term financial management skills can be developed.

The literature also reveals that not only financial management skills and resources are necessary for small firms to be successful, so too are attitudinal factors such as financial self-efficacy (or the

self-confidence to be able to perform a task), which influence the desire to persist and pursue managing the finances of a business (Amatucci & Crawley 2011:24). Lapp (2010:1) identifies financial self-efficacy as the vital connector between financial knowledge and taking financial decisions.

Training is important to develop financial management skills for newly formed and existing small businesses (Maas & Herrington 2006:70). Perks and Smith (2008:156) point out that training programmes for very small businesses need to focus on developing specific skills at an appropriate level in order to be effective. Gaining knowledge or skills from training may not, however, necessarily improve self-efficacy, a lack of which could lead to learners not effectively applying what they have learnt (Gist 1986:254). Wilson, Kickul and Marlino (2007:392) note that self-efficacy is not often used to assess the outcome of educational activities, although it could lead to better feedback on their effectiveness. This argument is supported by Latham (1989:293), who also regards measuring self-efficacy as an important outcome of training. Kirsten (2013:831) found that training improved the perceived knowledge of short-term financial management principles of small business owners, but the research did not measure whether the improvement was in actual understanding of financial management principles or in financial self-efficacy.

The literature shows that, while it is important that focused financial management training develops financial management skills, training also needs to enhance the financial self-efficacy of small business owners in South Africa in order to increase the likelihood of them implementing what they have learnt. Short-term financial management skills should be acquired before long-term financial management skills. The objectives of this study are therefore to determine whether a tailor-made training course improves the participants' understanding of short-term financial management principles, as well as their associated financial self-efficacy.

The rest of this paper is structured as follows. The next section provides a literature review of the financial management skills and practices which small business owners require to manage their business, the role of financial self-efficacy and the importance and nature of the training required to develop skills in small business owners. This is followed by the formulation of the hypotheses, the research methods and design of the study. The results of the study and discussion thereof are presented thereafter. The final section concludes on the findings of the study.

Literature review

Financial management skills and practices

Financial management involves acquiring and managing financial resources optimally in order to achieve long-term and short-term objectives (Conradie & Fourie 2002:5). Literature indicates the financial management practices and related skills which small business owners require in order to manage the finances of a business effectively. Marx et al. (2004:7) identify the short-term and long-term financial management functions that must be in place in order to manage a small business. In the short term, determining profitability and cash flow requirements is important. In the long term, investment, financing and solvency functions are required.

Brijlal, Enow and Isaacs (2014:344) identify financial planning, accounting record-keeping and financial analysis and reporting as important financial management practices that must be in place in SMMEs. Orford et al. (2003:48) identify cash book, accounts receivable, inventory records and effective management of debtors as critical practices in reducing the likelihood of cash flow problems in small and medium registered black-owned businesses. Perks and Struwig (2005:184) suggest that record-keeping skills are crucial in enabling owners of very small businesses to track the performance of the business themselves and to manage the finances of the business, especially when they cannot afford accountants to perform this function. Small business owners also need to be able to interpret management accounts, cash flow information and bank statements in order to adequately manage the finances of the business (Collis & Jarvis 2002:108).

Wolmarans and Meintjies (2015:111) found that short-term financial management practices related to working capital and profitability management were more applicable to established small and medium enterprises (SMEs) than long-term financial management practices, such as preparing balance sheets and strategic financial management. It was also found that financial management skills such as cash flow management (as a short-term management concern) and decision making were more applicable to SMEs than planning and detailed financial analysis (which are medium- to long-term management concerns). Also, the increased tax compliance burden (Abrie & Doussy 2006:10) and legal compliance requirements (for small businesses which operate as separate legal entities, such as companies) (Chiloane-Tsoka & Rankhumise 2012:12098) add to the responsibilities of small business owners. These owners need to understand these requirements in order to effectively manage the financial side of their businesses in the short term. Kirsten (2013:827) summarises five key elements of short-term financial management in which small business owners must be proficient: record-keeping; planning for future profitability (forecasting and performing break-even analysis); managing working capital (stock, debtors and cash); measuring past performance (compiling and analysing financial statements); and complying with tax and legal requirements. The literature thus shows the relevance of short-term financial management practices and skills in newly formed and established small businesses.

Financial self-efficacy

Self-efficacy is a term that was first used in social learning theory by Bandura (1977:193). It refers to confidence in one's ability to perform a specific endeavour. It has been shown to increase the likelihood of engaging and persevering in that endeavour (Bandura 1997:125). Locke and Latham (2002:706)

note that higher self-determined objectives are set by those with higher self-efficacy. Self-efficacy is attributable to a specific domain or area, and thus must be assessed for that specific area to determine the likelihood of a positive outcome in that area (Eccles 1994:594). Research on self-efficacy in the context of entrepreneurship shows that a high level of self-efficacy has positive effects on entrepreneurial intentions to start a business (Boyd & Vozikis 1994:75; Florin, Karri & Rossiter 2007:37; Urban 2006:8). Research on the effect of entrepreneurial education on entrepreneurial self-efficacy has shown varied results. Studies found that entrepreneurship education has a positive effect on entrepreneurial self-efficacy and entrepreneurial intentions (Wilson et al. 2007:398; Zhao, Seibert & Hills 2005:1270). Cox, Mueller and Moss (2002:240) found that entrepreneurial education impacted entrepreneurial self-efficacy differently; some participants' self-efficacy improved while that of others did not, indicating a need to incorporate more activities in entrepreneurial education to further improve entrepreneurial self-efficacy.

More recently, research has extended to investigating self-efficacy in relation to managing personal finances (consumers) and financial management (entrepreneurs). The term used to describe self-efficacy in these studies is 'financial self-efficacy'; it is used in this article to refer to self-efficacy which relates to the financial management of small businesses. Lapp (2010:1) proposed financial self-efficacy to be the motivating factor for low-income individuals making better decisions relating to personal finances. The results of Lown's (2011:54) study illustrated that consumers with low financial self-efficacy needed more assistance from financial advisors with personal finance decisions than those with higher financial self-efficacy. Amatucci and Crawley (2011:23) proved that women entrepreneurs were less confident than their male counterparts, and Fatoki and Oni (2016:186) found that spaza-shop owners did not have sufficient financial self-efficacy to manage some financial management functions.

Education and training for small businesses

Literature shows the importance of presenting and designing training programmes that suit the needs of small businesses. McGee et al. (2009:984) suggest that educational interventions should not only address 'inspiration' activities (those which attract entrepreneurs to ventures and to search for business opportunities) but also 'perspiration' activities to enhance the crucial implementation skills needed to operate a business. Perks and Smith (2008:153) provide comprehensive considerations to bear in mind when presenting training programmes to support small businesses, the main recommendations being that training programmes ought to be presented in smaller sessions to target specific skills; be appropriate to the participants' skill level; blend with developing a large variety of skills; be widely published; be presented in small groups; combine the knowledge, skills competence, and attitude domains of learning; incorporate mentors (though these are often too expensive and lengthen the process); involve business associations and universities to a greater extent; provide enough time to manage one's own learning; and focus on the training needs of participants. Some of these recommendations are in line with suggestions stemming from other research. Herrington, Kew and Kew (2009:109) concur that training courses need to be tailor-made to meet the requirements of small businesses. Orford et al. (2004:53) and De Waal (1997:15) suggest that experts in their respective fields ought to present these focused training courses; more specifically related to financial management training. Schwarze (2008:148) recommends that accounting academics could contribute positively to this process by presenting focused training in financial management, as they are experts in this field.

Based on the preceding literature review, the following two hypotheses were formulated relating to a tailor-made training course covering short-term financial management topics:

H1: The training course improved the participants' understanding of short-term financial management principles.

H2: The training course improved the participants' financial self-efficacy related to short-term financial management.

Research methods and design

Study design

In order to determine whether a tailor-made training course improved, firstly, the participants' understanding of short-term financial management and secondly their financial self-efficacy, a quasi-experimental study was applied using a pre-test–post-test single-group design. This design is appropriate as it determines whether expected changes have occurred in the participants according to the objectives of the intervention (Babbie & Mouton 2001:348).

Population

The target population for this study was South African small business owners who attended a tailor-made financial management training course that focused on short-term financial management principles. Forty-nine participants attended the training and all of them were invited to participate in this study on a voluntary basis. The questionnaires of 43 participants were complete for both the pre-test and the post-test, and these responses formed the basis of this study.

Intervention

A programme was devised by a municipality in the Cape Winelands region in the Western Cape Province of South Africa to enhance entrepreneurial development in this region. The focus of the programme was to enhance the business and management skills of owners of qualifying small businesses who came from previously disadvantaged communities in this rural region. Beneficiaries were also provided with financial support to grow or start their businesses. This programme was managed by an external not-for-profit organisation and included training and mentoring of participants in areas such as general business management, marketing and financial management. The not-for-profit organisation made use of field specialists to conduct the training and mentoring for each component of the

programme. For the financial management training component of this programme, beneficiaries attended a Sector Education and Training Authority (SETA)-accredited training course which was designed to develop the short-term financial management skills of small business owners.

The training course broadly covered short-term financial management principles, such as record-keeping; planning for future profitability (costing, pricing, break-even); measuring past performance (preparation and interpretation of financial statements); working capital management (stock, debtors and cash flow); and compliance (tax and legal). Participants used a case study (based on a fictional small business that provides both goods and services) for practical application of the short-term financial management principles covered during the training course. A number of toolkits were used during the training to help participants understand the processes involved in applying financial management principles to the case study. Participants could later use these toolkits and apply them to their businesses. The training course was presented over two days at five different training sites in rural towns in the Cape Winelands region. The training courses were facilitated by accounting lecturers from a local university who volunteered to present the training course as part of a social impact initiative.

Measures

Understanding of short-term financial management principles

An assessment using simple constructed-response questions was used to measure the participants' understanding of the short-term financial management principles that were covered in the training course. For example, respondents were asked to explain how a small business should keep record of its transactions; what the term 'working capital' means; and what an income statement is, and what it is used for. The same assessment was used for the pre-test and the post-test. Constructed-response questions allow the participants to develop their own answers by reflecting on the knowledge they have gained from the intervention (Tankersely 2007:12). Comprehension (or understanding) is one of the building blocks in the hierarchy of cognitive skills as indicated in Bloom's taxonomy (Bloom 1956:120). Thus, before being able to apply a principle, one must first comprehend or understand the principle. The split-half method, using even and odd items, was used to test the reliability of the assessment. The larger the size of the correlation between the two halves, the more reliable the scale (Coldwell & Herbst 2004:17). The unequal-length Spearman–Brown split-half reliability coefficient of the assessment before the training was 0.681, and after the training was 0.726. The assessment is therefore considered reliable.

Financial self-efficacy related to short-term financial management

Financial self-efficacy related to short-term financial management was measured using a five-point Likert scale (ranging from 'no confidence' to 'very confident'), combined with a happy-face graphic rating scale in order to complement the meaning of the response options of the Likert scale. Stange et al. (2016:9) found that it may be advantageous for respondents with lower literacy levels to combine smiley-face graphic rating scales with text-only questions for emotive response options, especially in self-administered questionnaires. The construct used to measure financial self-efficacy relating to short-term financial management was adapted from constructs used by Lown (2011:59) that relate to financial behaviour; from Amatucci and Crawley (2011:28) that relate to successful financial management; and from McGee et al. (2009:978) that relate to implementing finance-related tasks. Respondents were asked to rate how confident they felt about their ability to apply each of the five short-term financial management principles covered in the training course. Cronbach's alphas were computed for the pre-test and post-test financial self-efficacy constructs in order to determine the internal consistency. The scale comprised five items. Cronbach's alpha showed the questionnaire to reach a high reliability, $\alpha = 0.780$ for the pre-test and $\alpha = 0.753$ for the post-test (Nunnally 1978:245).

Data collection

The primary source of data was the self-administered questionnaires. Participants were requested to complete a questionnaire shortly before the commencement of the two-day training course (the pre-test) and to complete the same questionnaire directly after the completion of the course (the post-test). The questionnaire consisted of two sections. One section required participants to rate their financial self-efficacy relating to short-term financial management and the other required participants to complete an assessment to test their understanding of the short-term financial management principles covered during the training course. Demographic data of the participants were obtained from a questionnaire they completed when they initially registered for the entrepreneurial development programme.

Validity assessment

The internal validity of this study's design may be threatened because of maturation, history, testing and regression effects (Marsden & Torgerson 2012:584). Maturation is growth, change or development over time that is unrelated to an intervention. The history effect is events or influences that could have changed in a participant's environment, which may account for the changes being tested for. Testing effects are effects that influence participants because they are aware of being tested and may change because of any knowledge gained from the pre-test independent of the intervention. Lastly, regression effects are applicable when participants are selected for an intervention based on unusual pre-test scores, which influence the interpretation of post-test scores (Robson 1993:70).

The training course was presented on two consecutive days and participants were tested directly before the training commenced on the first day and directly after the course was concluded at the end of the second day. The threat of maturation and history effects is therefore regarded as low. Participants

may have been alerted to the testing and initiated some form of learning after the pre-test. However, participants did not receive any direct feedback on their answers after completing the pre-test, and no learning which was independent of the training was considered likely by the researcher because of the brief time that elapsed between the pre- and post-testing. The threat of testing effect is, therefore, also regarded as low. Participants were not selected based on their pre-test scores, as all participants who attended the training course were included in the pre-test, as well as the post-test, thus eliminating the regression threat. Thus, the internal validity of this study is considered to be high. Field experiments have a high external validity (Zikmund et al. 2010:274), and thus the external validity will be high for this explorative study.

Data analysis

The responses from the completed questionnaires were captured onto an Excel spreadsheet by the researcher. The data captured were double-checked for correctness. Numbers were assigned to the participants' responses once the data were captured to ensure anonymity in further data analysis. The assessment of each participant was marked by a single examiner using an analytical scoring rubric, containing six rating score categories ranging from 'no understanding' to 'excellent understanding'. The assessment was moderated by an independent senior colleague. The responses were coded in order to upload them to the statistical package. Possible-code cleaning was performed to examine the distribution of responses to each item in the data set, and any errors detected were corrected. To test the hypotheses that the financial management training course improved the participants' understanding of short-term financial management principles and financial self-efficacy, a one-tailed paired-sample *t*-test was used.

Ethical considerations

The views expressed in this article are my own and not an official position of the institution or funder.

Results

Participant characteristics

The characteristics of the participants who took part in the financial management training course are shown in Table 1. The participants were distributed widely across demographic categories. The majority had school-level education only. A quarter of the participants had start-up businesses and did not have any turnover or assets.

TABLE 1: Demographic characteristics of the participants in the study.

Variable	*n*	%
Gender		
Men	22	51.2
Women	21	48.8
Age		
<30	5	11.6
30–39	10	23.3
40–49	17	39.5
50–59	8	18.6
60 and older	3	7.0
Education – highest qualification		
Lower than Grade 7	1	2.3
Grade 7	2	4.7
Grade 10	9	20.9
Grade 12	23	53.5
B Tech degree	3	7.0
Baccalaureus degree	4	9.3
Honours degree	1	2.3
Type of business		
Manufacturing	8	18.6
Service	31	72.1
Retail	4	9.3
Reason for starting business		
Opportunity	33	76.7
Necessity	10	23.3
Form of ownership		
Sole proprietor	22	51.2
Close corporation	10	23.3
Private company	9	20.9
Partnership	1	2.3
Co-operative	1	2.3
Annual turnover		
R0	11	25.6
R1 – R50 000	8	18.6
R50 001 – R100 000	6	13.9
R100 001 – R200 000	10	23.3
R200 001 – R500 000	6	13.9
R500 001 – R1 000 000	2	4.7
Total gross asset value		
R0	11	25.6
R1 – R20 000	10	23.3
R20 001 – R50 000	7	16.3
R50 001 – R100 000	9	20.9
R100 001 – R600 000	4	9.3
R600 001 – R2 500 000	2	4.6
Number of employees		
0	10	23.3
1–5	25	58.1
6–10	8	18.6

Testing the hypotheses

The one-tailed paired-sample *t*-test provided the following results:

> **H1:** The training course improved the participants' understanding of short-term financial management principles.

Before performing the analysis, the assumption of normally distributed difference scores was analysed. The skew and kurtosis levels were determined at 0.142 and -0.760, respectively. Thus, the assumption of normal distribution was considered satisfied, as the values were less than the maximum allowable values for a *t*-test (i.e. skew < |2| and kurtosis < |9|) (Posten 1984:97). On average, the participants' understanding of short-term financial management also improved significantly after the training course ($M = 3.358$, $SE = 0.124$), compared to before the course ($M = 1.958$, $SE = 0.141$, $t(42) = -10.557$, $p < 0.001$, $r = 0.852$). The null hypothesis, namely that the training course did not improve the participants' understanding of short-term financial management principles, was therefore rejected. A graphic representation of the means and adjusted 95%

confidence intervals (Loftus & Masson 1994:476) for understanding of short-term financial management principles is presented in Figure 1.

H2: The training course improved the participants' financial self-efficacy related to short-term financial management.

The skew and kurtosis levels were determined at 0.285 and 0.542, respectively, which was less than the maximum allowable values for a *t*-test and also satisfies the normal distribution assumption. On average, the participants' financial self-efficacy after the training course improved significantly (M = 4.047, SE = 0.069), compared to before the course (M = 2.958, SE = 0.137, $t(42)$ = -6.754, $p < 0.001$, r = 0.722). The null hypothesis, namely that the training course did not improve the participants' financial self-efficacy related to short-term financial management, was therefore rejected. A graphic representation of the means and adjusted 95% confidence intervals (Loftus & Masson 1994:476) for financial self-efficacy is presented in Figure 2.

Discussion

Discussion of key findings

A key finding of this study was that not only did the focused financial management training course significantly improve the participants' understanding of short-term financial management principles, the training was also able to significantly improve the participants' associated financial self-efficacy. Having improved their understanding of short-term financial management principles, the participants are better equipped to manage the finances of their business in the short term. The literature has shown that having gained knowledge or skills through training may not necessarily translate into applying what one has learnt unless self-efficacy is also improved. Thus, having also improved their financial self-efficacy, the participants are likely to better utilise the knowledge gained from the training for financial decision making and be more motivated to implement the financial management practices covered in the training course in their businesses. As the participants are able to better manage the finances of their businesses in the short term, there may be an increased likelihood of their businesses surviving and growing.

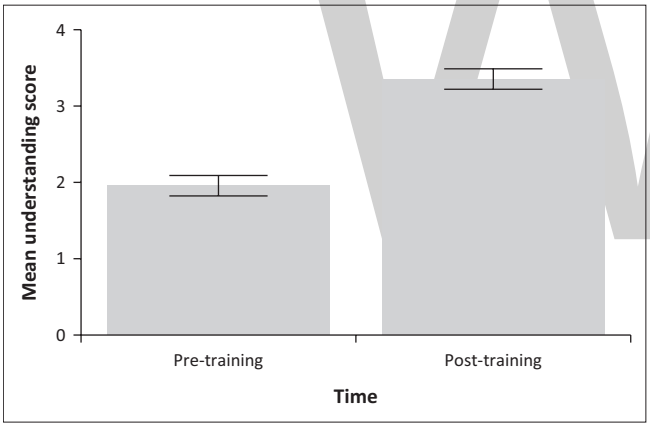


FIGURE 1: Means and 95% confidence intervals for understanding short-term financial management principles associated with the pre- and post-training conditions.

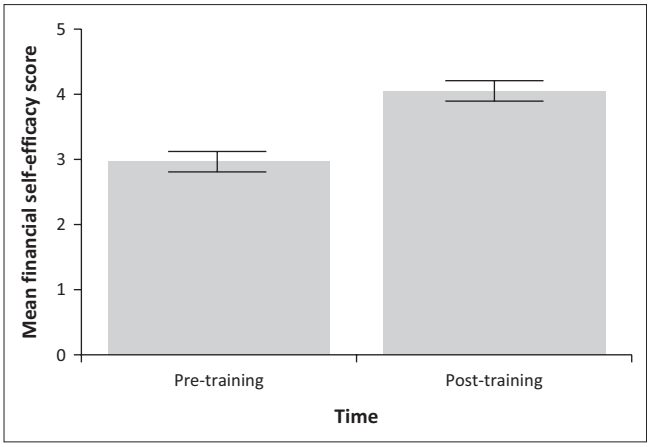


FIGURE 2: Means and 95% confidence intervals for financial self-efficacy associated with the pre- and post-training conditions.

Strengths and limitations

This study was able to determine that the short-term financial management skills actually improved, as the participants' understanding of short-term financial management principles was measured using an assessment and was not based on self-reporting. A limitation of the study is that financial self-efficacy was measured based on self-reporting of participants, which may have caused it to be misrepresented because of 'social desirability bias' (Holbrook 2008:805). The businesses of most participants in this study fell into the categories of micro-business and very small business, as defined by the *Small Businesses Act* (South Africa 1996, s. 1 ss. [xv]). The impact of this type of training on improving the development of short-term financial management skills and financial self-efficacy of people owning businesses that are larger than these categories was not tested. The sample size of the study was small and focused on a specific geographic region, thus it is not representative of all small businesses in South Africa. A larger sample size may present different results.

Implications and recommendations

By first improving the development of short-term financial management skills and financial self-efficacy through focused training, owners of start-ups and existing small businesses can establish a strong basis on which to make better financial decisions. In order to grow their businesses, small business owners would need to build on their financial management skills and financial self-efficacy and work towards developing financial management skills in order to achieve long-term financial management objectives. Thus, once the initial training has been completed, Schwarze (2008:148) recommends that a needs assessment of each participant should be done to determine the next appropriate intervention to develop their financial management skills. Suggested interventions are follow-up training courses for participants who require additional training or accounting clinics and/or mentoring, which can be facilitated by field specialists such as members of the accounting profession.

Kirsten and Fourie (2012:475) identify the need of existing small business support organisations for accounting professionals to assist in providing financial management training to those organisations' beneficiaries. It is recommended that a tailor-made financial management training course, such as the one used in the present study, be presented by members of the accounting profession to assist other small business support organisations in strengthening the initiatives they offer to their beneficiaries.

A possible area for future research is to determine the extent to which other types of intervention using field specialists improve the development of financial management skills and financial self-efficacy. Research could also investigate the extent to which participants in focused training courses are able to implement financial management practices themselves, or whether they need assistance.

Conclusion

In summary, this study found that a tailor-made financial management training course improves not only the short-term financial management skills of small business owners but also their financial self-efficacy. After attending this type of focused financial management training, small business owners in South Africa are likely to make better financial decisions relating to their businesses and be more motivated to implement financial management practices. This will have a beneficial impact on both small business owners in South Africa and the success of their businesses.

Acknowledgements

The author wishes to extend her thanks to Prof Charlene Gerber, University of Stellenbosch Business School, for her assistance with designing the self-administered questionnaires and the research methodology, as well to Mr Len Steenkamp, School of Accountancy, Stellenbosch University, for reviewing the draft of this research paper.

Competing interests

The author declares that she has no financial or personal relationships that may have inappropriately influenced her in writing this article.

References

Abrie, W. & Doussy, E., 2006, 'Tax compliance obstacles encountered by small and medium enterprise in South Africa', *Meditari Accountancy Research* 14(1), 1–13. https://doi.org/10.1108/10222529200600001

Amatucci, F.M. & Crawley, D.C., 2011, 'Financial self-efficacy among women entrepreneurs', *International Journal of Gender and Entrepreneurship* 3(1), 23–37. https://doi.org/10.1108/17566261111114962

Babbie, E. & Mouton, J., 2001, *The practice of social research*, Oxford University Press, Cape Town.

Bandura, A., 1977, 'Self-efficacy: Toward a unifying theory of behavioral change', *Psychological Review* 84, 191–215. http://psycnet.apa.org/doi/10.1037/0033-295X.84.2.191

Bandura, A., 1997, *Self-efficacy: The exercise of control*, Freeman, New York.

Bloom, B.S., 1956, *Taxonomy of educational objectives: Handbook 1: Cognitive domain*, David McKay, New York.

Boyd, N.G. & Vozikis, G.S., 1994, 'The influence of self-efficacy on the development of entrepreneurial intentions and actions', *Entrepreneurship Theory and Practice* 18(4), 63–77. https://doi.org/10.1177/104225879401800404

Brijlal, P., Enow, S. & Isaacs, E.B.H., 2014, 'The use of financial management practices by small, medium and micro enterprises: A perspective from South Africa', *Industry & Higher Education* 28(5), 341–350. https://doi.org/10.5367/ihe.2014.0223

Chiloane-Tsoka, G.E. & Rankhumise, E.M., 2012, 'Small, medium and micro enterprise owners' perceptions regarding the implementation of the new Companies Act: A South African perspective', *African Journal of Business Management* 6(51), 12095–12100. https://doi.org/10.5897/AJBM12.1218

Coldwell, D. & Herbst, F., 2004, *Business research*, Juta, Cape Town.

Collis, J. & Jarvis, R., 2002, 'Financial information and the management of small private companies', *Journal of Small Business and Enterprise Development* 9(2), 100–110. https://doi.org/10.1108/14626000210427357

Conradie, W.M. & Fourie, C.M.V., 2002, *Basic financial management for entrepreneurs*, Juta, Cape Town.

Cox, L., Mueller, S.L. & Moss, S.E., 2002, 'The impact of entrepreneurship education on entrepreneurial self-efficacy', *International Journal of Entrepreneurship Education* 1(2), 229–245.

De Waal, D., 1997, 'The perceptions of educators and trainers regarding African small business ventures', *Proceedings of the 9th Annual Conference of the Southern Africa Institute for Management Scientists*, Pietermaritzburg, South Africa, 2–3 June, pp. 12–16.

Eccles, J., 1994, 'Understanding women's educational and occupational choices', *Psychology of Women Quarterly* 18(4), 585–609. https://doi.org/10.1111/j.1471–6402.1994.tb01049.x

Fatoki, O., 2014, 'The causes of the failure of new small and medium enterprises in South Africa', *Mediterranean Journal of Social Sciences* 5(20), 922–927. https://doi.org/10.5901/mjss.2014.v5n20p922

Fatoki, O. & Oni, 2016, 'The financial self-efficacy of spaza shop owners in South Africa', *Journal of Social Sciences* 47(3), 185–190. https://doi.org/10.1080/09718923.2016.11893558

Florin, J., Karri, R. & Rossiter, N., 2007, 'Fostering entrepreneurial drive in business education: An attitudinal approach', *Journal of Management Education* 31(1), 17–42. https://doi.org/10.1177/1052562905282023

Gist, M.E., 1986, 'The effects of self-efficacy training on training task performance', in E. Hoy (ed.), *Academy of management best paper proceedings*, pp. 250–254, Academy of Management, Ada, OK.

Groepe, F., 2015, 'The role of small business in the economy', address given at the *AHI conference on The role of business in local government and local economic development*, George, South Africa, 09 October, pp. 1–12.

Herrington, M., Kew, J. & Kew, P., 2009, *Tracking entrepreneurship in South Africa: A GEM perspective*, The Centre for Innovation and Entrepreneurship, UCT Graduate School of Business, Cape Town.

Holbrook, A., 2008, 'Self-reported measure', in P.J. Lavrakas (ed.), *Encyclopedia of survey research methods*, pp. 804–906, Sage, Thousand Oaks, CA.

Ihua, U.B., 2009, 'SMEs key failure-factors: A comparison between the United Kingdom and Nigeria', *Journal of Social Science* 18(3), 199–207. https://doi.org/10.1080/09718923.2009.11892682

Kirsten, C.L., 2013, 'The impact of training courses on financial management skills of South African small business owners', *International Business & Economics Research Journal* 12(7), 825–834. https://doi.org/10.19030/iber.v12i7.7971

Kirsten, C.L. & Fourie, J.R., 2012, 'The accounting professions' role in financial management skills development of small businesses', *Journal of Economic and Financial Sciences* 5(2), 459–480.

Ladzani, W.M. & Van Vuuren, J.J., 2002, 'Entrepreneurship training for emerging SMEs in South Africa', *Journal of Small Business Management* 40(2), 154–161. https://doi.org/10.1111/1540-627X.00047

Lapp, W., 2010, 'The missing link: Financial self-efficacy's critical role in financial capability', EARN White Paper, EARN Research Institute, San Francisco, CA.

Latham, G.P., 1989, 'Behavioral approaches to the training and learning process', in I.L. Goldstein (ed.), *Training and development in organizations*, pp. 256–295, Jossey-Bass, San Francisco, CA.

Locke, E.A. & Latham, G.P., 2002, 'Building a practically useful theory of goal setting and task motivation: A 35-year odyssey', *American Psychologist* 57(9), 705–717. https://doi.org/10.1037/0003-066X.57.9.705

Loftus, G.R. & Masson, M.E.J., 1994, 'Using confidence intervals in within-subject designs', *Psychonomic Bulletin and Review* 1(4), 476–490.

Lown, J.M., 2011, 'Development and validation of a financial self-efficacy scale', *Journal of Financial Counselling and Planning* 22(12), 54–63.

Maas, G. & Herrington, M., 2006, *Global entrepreneurship monitor: South African executive report 2006*, The Centre for Innovation and Entrepreneurship, UCT Graduate School of Business, Cape Town.

Mamabolo, M.A., Kerrin, M. & Kele, T., 2017, 'Entrepreneurship management skills requirements in an emerging economy: A South African outlook', *Southern African Journal of Entrepreneurship and Small Business Management* 9(1), a111. https://doi.org/10.4102/sajesbm.v9i1.111

Marsden, E. & Torgerson, C.J., 2012, 'Single group, pre- and post-test research designs: Some methodological concerns', *Oxford Review of Education* 38(5), 583–616. https://doi.org/10.1080%2f03054985.2012.731208

Marx, J., De Swardt, C., Beaumont-Smith, M., Naicker, B. & Erasmus, P., 2004, *Financial management in Southern Africa*, Pearson, Cape Town.

McGee, J.E., Peterson, M., Mueller, S.L. & Sequiera, J.M., 2009, 'Entrepreneurial self-efficacy: Refining the measure', *Entrepreneurship Theory and Practice* 33(4), 965–988. https://doi.org/10.1111/j.1540-6520.2009.00304.x

Nunnally, J.C., 1978, *Psychometric theory*, 2nd edn., McGraw-Hill, New York.

Orford, J., Wood, E., Fischer, C., Herrington, M. & Segal, N., 2003, *Global entrepreneurship monitor: South African executive report 2003*, The Centre for Innovation and Entrepreneurship, UCT Graduate School of Business, Cape Town.

Orford, J., Herrington, M. & Wood, E., 2004, *Global entrepreneurship monitor: 2004 South African report*, The Centre for Innovation and Entrepreneurship, UCT Graduate School of Business, Cape Town.

Perks, S. & Smith, E.E., 2008, 'Focused training programmes for solving growth problems of very small businesses', *Acta Commercii* 8(1), 145–159. https://doi.org/10.4102/ac.v8i1.77

Perks, S. & Struwig, M., 2005, 'Skills necessary to grow micro entrepreneurs into small business entrepreneurs', *South African Journal of Economic and Management Sciences* 8(2), 171–186. https://doi.org/10.4102/sajems.v8i2.1226

Petrus, H.G., 2009, 'An investigation into causes of success and failure in small businesses with the Department of Social Development in the Eastern Cape', Master's Degree thesis, Rhodes Investec Business School, Rhodes University.

Posten, H.O., 1984, 'Robustness of the two sample t-test', in D. Rasch & M.L. Tiku (eds.), *Robustness of statistical methods and nonparametric statistics*, pp. 92–99, Reidel, Dordrecht.

Radipere, S. & Van Scheers, L., 2005, 'Investigating whether a lack of marketing and managerial skills is the main cause of business failure in South Africa', *South African Journal of Economic and Management Sciences* 8(4), 402–411. https://doi.org/10.4102/sajems.v8i4.1171

Rajaram, R., 2008, 'A needs analysis of financial management and accounting skills in the SME sector in KwaZulu-Natal', Master of Commerce thesis, School of Management, University of KwaZulu-Natal.

Rajaram, R. & O'Neill, C., 2009, 'Profit or no profit – Does the SME sector really know?' *Alternation* 16(1), 99–119.

Robson, C. 1993, *Real world research*, Blackwell, Oxford.

Roodt, J., 2005, 'Self-employment and the required skills', *Management Dynamics* 14(4), 18–33. https://hdl.handle.net/10520/EJC69699

Schwarze, C.L., 2008, 'Involving the accounting profession in the development of financial management skills of micro-enterprise owners in South Africa', *Meditari Accountancy Research* 16(2), 39–151. https://doi.org/10.1108/10222529200800017

South Africa, 1996, *National Small Business Act No. 102*, Government Printer, Pretoria.

Stange, M., Barry, A., Smyth, J. & Olson, K.M., 2016, 'Effects of smiley face scales on visual processing of satisfaction questions in web surveys', *Social Science Computer Review* 26 October, 1–11. https://doi.org/10.1177/0894439316674166

Statistics South Africa, 2005, *Survey of employers and the self-employed*, viewed 20 June 2018, from http://www.statssa.gov.za/publications/P0276/P02762005.pdf

Tankersely, K., 2007, *Tests that teach: Using standardized tests to improve instruction*, Association for Supervision & Curriculum Development, Alexandria.

Urban, B., 2006, 'Entrepreneurial self-efficacy in a multicultural society: Measures and ethnic differences', *SA Journal of Industrial Psychology* 32(1), 2–10. https://doi.org/10.4102/sajip.v32i1.221

Van Eeden, S., Viviers, S. & Venter, D., 2003, 'A comparative study of selected problems encountered by small business in the Nelson Mandela, Cape Town and Egoli metropoles', *Management Dynamics* 12(3), 13–23. https://hdl.handle.net/10520/EJC69664

Wilson, F., Kickul, J. & Marlino, D., 2007, 'Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurial education', *Entrepreneurship Theory and Practice* 31(3), 387–406. https://doi.org/10.1111/j.1540-6520.2007.00179.x

Wolmarans, H. & Meintjies, Q., 2015, 'Financial management practices in successful small and medium enterprises (SMEs)', *Southern African Journal of Entrepreneurship and Small Business Management* 7(1), 88–116. https://doi.org/10.4102/sajesbm.v7i1.8

Zhao, H., Seibert, S.E. & Hills, G.E., 2005, 'The mediating role of self-efficacy in the development of entrepreneurial intentions', *Journal of Applied Psychology* 90(6), 1265–1272. http://psycnet.apa.org/doi/10.1037/0021-9010.90.6.1265

Zikmund, W.G., Babin, B.J., Carr, J.C. & Griffin, M., 2010, *Business research methods*, 9th edn., South-Western Cengage Learning, Mason, IA.

Women entrepreneurship in South Africa: Understanding the role of competencies in business success

Authors:
Bridget N.O. Irene[1]

Affiliations:
[1]Cardiff School of Management, Cardiff Metropolitan University, United Kingdom

Corresponding author:
Bridget Irene,
bridget@ieedc.com

Background and aim: Environmental factors alone cannot determine the success of small, medium and micro-sized enterprises (SMMEs) and female entrepreneurs; there is a need to closely examine the internal factors that also contribute to business success. This is necessary because, despite the considerable government support and support of bodies interested in promoting gender equality in all areas (business included), 20% of female-owned businesses still fail annually. Consequently, even though, according to a report from the Department of Trade and Industry in South Africa, millions of Rands have been allocated to support female-owned SMMEs by way of government funding, training, grants and consultative support services, the failure rates of these female-owned businesses remain high. The main reason for this can be that over-dependence on these incentives often weakens rather than strengthens female entrepreneurs' ability to manage their businesses and reduces their competitiveness by laying emphasis on external, contextual factors rather than internal, competence variables for success. Researchers in the past have suggested that focusing on the internal factors, especially the 'people issues' facing the entrepreneurs (in this case female entrepreneurs), may give the business a better chance of success.

Design/methodology/approach: A 'mixed-method' approach, conducted in two parts, was adopted for this study and appropriate tools and techniques were used to collect and analyse the data drawn from a sample of female entrepreneurs in South Africa. The study applies culturally instantiated facets of the debate on gender entrepreneurship as part of a detailed and empirically sophisticated consideration of the status of female entrepreneurship within South Africa. The qualitative aspect utilised semi-structured interviews and focus group discussions. The quantitative aspect utilised survey questionnaires developed from the findings of the qualitative study.

Results: All participants agreed that entrepreneurial competencies are vital for business success. The study also makes a clear distinction between the traits approach and competencies approach in understanding business success. Arguably, the competency variable is viewed and appreciated differently by female entrepreneurs in South Africa. The findings also showed some cultural variations in the application of entrepreneurial competencies among the four dominant racial groups in South Africa.

Conclusion: This study offers a comprehensive analysis of the competency variable in understanding the factors that influence business success in the context of South African female entrepreneurs. It provides a basis for an agenda for focus on training and development of the entrepreneurial competencies of female entrepreneurs in South Africa.

Introduction

Small, medium and micro-sized enterprises (SMMEs) are a vital part of the macroeconomic growth in the developing world. Because the success of SMMEs is arguably more dependent upon the owner's capabilities than is the case with larger enterprises, it is therefore important to develop competencies among entrepreneurs to give the SMMEs (or micro, small and medium enterprises, MSMEs, as they are sometimes called) a sustainable competitive advantage (Mitchelmore & Rowley 2013). Irene (2016) affirms this position, arguing that the competencies of the owner-manager in SMMEs are 'individually specific', whereas larger firms are 'organisationally indexed'. Effectively, this means that the competencies of the entrepreneur-manager of SMMEs can be assumed as the firm's competencies, thereby allowing the focus of this study to be on the individual entrepreneur as the unit of analysis.

Previous researchers identified two types of entrepreneurs: opportunity entrepreneurs and necessity entrepreneurs. Opportunity entrepreneurs are those who discover or identify an opportunity or gap in the marketplace and embark on the entrepreneurial journey to fill that gap (Botha, Nieman & Van Vuuren 2007). By contrast, necessity entrepreneurs embark on the journey out of a need to survive because of a lack of employment, have reached the peak of their careers (glass ceiling) or lack the necessary qualifications to work for other firms. Turton and Herrington (2012) report on South African entrepreneurship highlights the gender divide between these two types of entrepreneurship, indicating that men are more often 'opportunity' entrepreneurs and women are more often 'necessity' entrepreneurs. Given that 'necessity', rather than 'opportunity' has been identified as the main reason for women venturing into business ownership in South Africa, it can, therefore, be deduced that many women embark on the entrepreneurial journey ill-prepared, with little understanding of the intricacies of business operation and management and possessing few or no skills and competencies. Entrepreneurship in South Africa is affected by a number of factors like race, gender and location. The statistics on gender in the economy exposes differences between women and men. Because of limited opportunities in the formal employment sector, many women, are left with no option but to work in the poorly paid and mostly unregulated informal sector. Access to resources and the control of resources is still based on race, gender and class. South Africa therefore remains characterised by extreme poverty, social disintegration and mass unemployment with the majority of people excluded from socio-economic development and growth (Kehler 2013).

According to the 2014 Global Entrepreneurship report for South Africa, female entrepreneurship could be the key to unlocking South African economic growth if more effort is made to support female entrepreneurs in a targeted way. The report maintains that an important way to develop the South African economy is to encourage and improve female self-employment as well as to pursue intervention programmes that are aimed at increasing female participation in business. According to the study, female entrepreneurs are easier to finance and less risky than their male counterparts; female-owned businesses could have a lower business failure rate and create more jobs compared to their male counterparts. Despite this, male entrepreneurs are 1.7 times more likely to be involved in early-stage entrepreneurship or become developed business managers than women (which is higher than the global average of 1.6 times). The 2014 Total Entrepreneurship Activity (TEA) rate for men was 8.1%, while it is 4.9% for women. This difference could be attributed to the fact that men are more 'opportunity' than 'necessity' entrepreneurs. The overall TEA rate of South Africa is lower than the other BRICS countries (Brazil, Russia, India, China and South Africa), which could be because of the fact that many South Africans (men and women) do not believe they have the skills required for venture start-up (GEM 2014). The report also concludes that South Africa has the lowest rate of new and established firms, thereby suggesting that the contribution of the entrepreneurial sector is below the norm for other developing countries. This can be improved considerably by developing the female entrepreneurial market.

The intervention of the government and NGOs in gender entrepreneurship has had little effect on female entrepreneurial success, as the failure only went down by 2.9% according to GEM (2014) report. This, therefore, raises the need to conduct research into the factors that affect the success or failure of enterprises by focusing on competencies, culture and gender differences rather than focusing on the barriers and challenges that they face (which has been the focus thus far). The findings from the studies of Irene (2016) and Botha (2006) have highlighted two competing understandings of potential entrepreneurial success regarding individual capabilities: the traits approach (arguing that entrepreneurial traits are innate) and the competency approach (arguing that successful entrepreneurship is an acquired skill). This paper endeavours to close the gap in the existing literature on entrepreneurial competencies by exploring the applicability of the comprehensive model of entrepreneurial competencies and examining its relationship to business success in the context of South African female entrepreneurs. By focusing on the female entrepreneur as the unit of analysis for this study, the paper highlights salient behaviours that delineate competencies for women entrepreneurs, given that studies have shown that behavioural differences exist between men and women.

Literature review

Entrepreneurs are portrayed as people that are 'very passionate about what they do' (Shefsky 2011) and are 'willing to take risks' so that their dreams can be transformed into realities. They have been described as a person adept to bring about change, who is not afraid to do things differently, who goes in search of new opportunities and exploits them and converts new thoughts into actuality. The descriptions of entrepreneurs are varied and spread from a broad criteria (i.e. start-ups) to a more defined criteria (risk management, doggedly turning ideas into reality and achieving set goals, innovative). The most common attribute for the entrepreneur is new venture creation; however, some researchers argue that an entrepreneur is more than just a new venture creator, but someone who is innovative, employing strategic management practices to ensure business growth and survival. To this end, Miskin and Rose (2015) portray entrepreneurs as the inventors of an 'innovative' economic organisation for the purpose of gain and growth under conditions of risk and uncertainty.

To establish the factors that determine business success in SMEs, some researchers have undertaken to study the behaviour of the entrepreneur by examining the managerial work of successful leaders. This has been approached through two broad themes. The first is the trait approach, which focuses on personality trait profiling of the entrepreneur (Entrialgo et al. 2001; Rauch and Frese 2007), and the second

is the competency approach, which is focused on the competencies of the individual entrepreneur (Chell 2013; Santandreu-Mascarell, Garzon & Knorr 2013; Tan & Tan 2012; Thongpoon, Ahmad & Yahya 2012). The focus of this paper is the competency approach and it is discussed further below.

The competency approach

There is no consensus on the definition of the word 'competency', which has led to confusion about the meaning of the concept of competencies (Irene 2016). The most common argument relates to the differences between 'competency' and 'competence'. Both terms are often used interchangeably, even though they are two distinct concepts by different scholars.

Rowe (1995), for example, defined 'competence' as a skill or standard of performance and argues that 'competency' refers to a behaviour that results in performance being achieved. Hoffmann (1999), from his extensive review of the various meanings attributed to competencies, concluded that there are three different definitions for competencies: (1) observable performance, (2) the standard of the outcome, or result, of a person's performance and (3) the underlying attributes of a person, such as their knowledge, skills and abilities.

The meanings that have been given to the concept of competency have been drawn from literature on management and entrepreneurship and are based on the use of the concept in either a broad or specified manner as illustrated below.

There are four features of competencies that are constant from the definitions above:

- Competencies comprise the complete characteristics of the individual that correlate with the actual performance of a particular job or task.
- Competencies are revealed in the individual's behaviour; consequently, they can be observed and measured.
- Competencies enable the achievement of goals and objectives.
- Competencies are resources in any organisation and they can be adopted or cultivated.

TABLE 1: Definitions of competencies.

Researcher	Definition
Boyatzis (1982)	'Underlying characteristics of a person in that it may be a motive, trait, skill, aspects of one's self-image or social role or a body of knowledge which he or she uses' (p. 21).
Brophy and Kiely (2002)	'Skills, knowledge, behavior and attitudes required to perform a role effectively' (p. 167).
Parry (1998)	'A cluster of related knowledge, attitudes, and skills that: (1) affects a major part of one's job, (2) correlates with performance on the job, (3) can be improved by training and development' (p. 60).
Tett et al. (2000)	'An identified aspect of prospective work behavior attributable to the individual' (p. 215).
Thompson, Stuart and Lindsay (1997)	'Integrated set of behavior which can be directed towards successful goal accomplishment' (p. 52).
Woodruffe (1993)	'The set of behavior patterns that the incumbent needs to bring to a position in order to perform its task and functions with competence' (p. 17).

Source: Irene, B., 2016, *Gender and entrepreneurial success: A cross cultural study of competencies of female SMEs operators in South Africa*, PhD Thesis, Cardiff Metropolitan University

In line with the above definitions, Bird (1995), Burgoyne (1993) and Parry (1998) all agree that utilising the competency approach to understanding business success provides a possible approach to intervention. In a study conducted by Wallace (1998) on the impact of small business courses on competencies, it was discovered that training programmes for entrepreneurs could indeed help them develop entrepreneurial competencies. According to McClelland (1973), when considering the provision of an intervention, the competency approach is vital because it is able to reduce the bias in the traditional personality traits approach. Despite the advantages of this approach, however, a caveat to the general endorsement of the competency model of the entrepreneurial success has been identified (Sadler–Smith et al. 2003). They point out that research so far does not distinguish between entrepreneurial competencies and managerial competencies. Therefore, identifying the specific entrepreneurial competency requirements is still an important task.

The definition of entrepreneurial competencies used in this paper is that of Noor (2007:22), which describes competencies as 'individual characteristics that include both attitudes and behaviours, enabling the entrepreneur to achieve and maintain business success'. A major challenge in measuring non-behavioural elements is the fact that internal elements, such as the need to achieve, self-efficacy and risk-taking propensities, are difficult to observe and have to be measured through self-reporting, introspection and inference (from the entrepreneur's behaviour).

This study is an extension of Man (2001) study, the study of Noor (2007) and that of Mitchelmore and Rowley (2013); therefore, the behaviours that reflected the 12 competency domains remain the focus. The competency domains identified by Man (2001) and validated by other researchers were as follows: (1) 'Strategic', (2) 'Commitment', (3) 'Conceptual', (4) 'Opportunity', (5) 'organising and leading', (6) 'relationship', (7) 'learning', (8) 'personal' and (9) 'technical'. Additional competency domains identified by Noor (2007) and Mitchelmore and Rowley (2013) are (10) 'ethics', (11) 'social responsibility' and (12) 'familism'.

Exploring business success in female-owned and managed small, medium and micro-sized enterprises

There is a lack of agreement over what comprises the best measure for business success. Some researchers advocate the use of only financial indicators, such as profitability, turnover and return on investment (ROI) as measures of business success. Others, such as Ramana, Raman and Aryasri (2009), posit that entrepreneurial success can be measured financially and non-financially. To this end, in their study of the influence of socio-demographic factors on entrepreneurship, they used growth in total sales and employment as financial measurements, while work experience and competencies were used as non-financial measurements.

According to Ahmad, Wilson and Kummerow (2011), the motivation for some SMMEs do not include job provision (only the need to provide for the immediate family); therefore, business growth is not a vital factor for these entrepreneurs. Also, most SMMEs do not have financial statements and accurate records; business success is consequently measured by self-reporting and perceptions (Ahmad et al. 2010). This view is also held by other researchers, such as Beaver and Jennings (2005), who argue in favor of using non-financial indicators in measuring business success, because, according to them

> Contrary to popular belief and a great deal of economic theory, money and the pursuit of personal financial fortune are not as significant as the desire for personal involvement, responsibility and the independent quality and life-style which many small business owner-mangers strive to achieve. Consequently, the attainment of these objectives becomes one of the principal criteria for success, as defined by the entrepreneur/owner-manager.

While financial success affords business sustainability and growth, non-financial indicators, such as achievement, accomplishments and attainment of personal goals and objectives, are factors to be considered, according to Walker and Brown (2004). They have gone on to propose some relevant non-financial indicators such as job satisfaction, greater independence, opportunities creation and encouraging new challenges and the pursuit of personal interest. These factors have also been previously identified as entrepreneurial motivational factors for women.

Given the arguments above, both financial and non-financial factors are used in this study to measure success in female-owned and managed SMEs in South Africa. Therefore, in this study, financial indicators such as turnover (sales), growth (sales), ROI and market share are used for the purpose of measuring the success of female entrepreneurs operating in the context of SMEs in South Africa. The non-financial indicators here (based on the work of the aforementioned scholars) are customer satisfaction, retention, the entrepreneur's satisfaction, reputation and goodwill of the business, employee satisfaction and good working environment or relations.

The choice of customer satisfaction and retention as a non-financial indicator for measuring business success is based on the views of Adams and Sykes (2003), who indicate that customer satisfaction and goodwill are linked to customer loyalty, which impacts customer retention and consequently profitability.

Methodology

This study contributes to the current debate on the entrepreneurial competencies literature by investigating competencies that are perceived as important to the success of women operating in the context of SMEs. The aim of this research is to examine the innate and acquired competencies of female entrepreneurs in South Africa with a view to differentiating the behavioural and non-behavioural elements of competency, which will further lead to the identification and exploration of competency clusters and the associated behavioural pattern.

The methodological framework proposed for this study is largely based on a positivist and realist approach to research. The researcher assumes that what exists in the social world is real and can be largely measured and described just as physical scientists measure and describe the physical world. According to Lin (1998), positivists seek to identify details with propositions that can be tested by identifying causal relationships present in a data set with some degree of probability. The positivist approach involves trying to decipher which pieces of information in the data sets are associated and then assesses the strength of the association by counterfactual thinking and problems of reliability and representativeness. However, positivism cannot easily explain how the mechanism implied by the causal relationship works or interacts. Interpretive works, on the other hand, can produce detailed examinations of causal mechanisms in specific cases and explains how particular variables interact. The combination of both modes of logic adds more functional content, which neither positivism nor interpretivism can produce alone and gives more additional confidence to our conclusions.

The sample for this study was drawn from a population of female business owners across four provinces – Western Cape, Gauteng, KwaZulu-Natal and Northern Cape. The sampling method for the qualitative aspect of this study was purposive with the initial 50 interviews conducted using open-ended questionnaires that comprised six parts. The findings from these interviews were collated and used to formulate the questions for the focus group discussions. Ten focus group discussions involving six to eight participants per session were then undertaken over an 8-month period. The findings from the qualitative study were then used to develop an eight-part questionnaire for the quantification study. The sampling method for the quantitative study was the simple random selection and it utilised a 5-point Likert scale questionnaire in which participants were required to (1) Highly Disagree, (2) Disagree, (3) Neither disagree nor agree, (4) Agree and (5) Highly Agree. In all, 1200 questionnaires were distributed and 785 usable responses were received. Both the qualitative and quantitative aspects involved 1075 female business owners.

Data collection and analysis

The method of data collection for the research elements of this study was mostly based on communication by means of face-to-face interaction with participants. Personal interviews were conducted with female entrepreneurs over a period of 5 months, after which focus group discussions were conducted. The information gathered from these interviews and discussions were then used to formulate the questionnaire used for the quantitative study. Samples for the quantification study were randomly selected by means of simple random sampling. This method was considered appropriate for this study, given that simple random

sampling allows for statistical analysis to be conducted on the samples and, because of its representativeness (it provides an equal opportunity for every member of the population to be selected), generalisations can be made from the results of the sample back to the population. While some of the respondents belonged to various business networks and association, a significant number (480) did not belong to any network. The secondary data were obtained from the review of the literature.

Given that the data collected in this current study comprised both qualitative and quantitative data, the analysis of the data was also done qualitatively and quantitatively. The qualitative data were tape-recorded and transcribed by professional transcribers in order to ensure accuracy and precision of the transcript. The quantitative data were captured into SPSS 12.0.1 software. Thematic analysis was conducted on the qualitative data, while regression was done on the quantitative data by building a one-factor congeneric model.[1]

Reliability and validity assessment

Cronbach's alpha was computed for each of the factors (a one-factor congeneric model was built for each of the 12 competency domains) in order to ascertain the internal consistencies of the constructs. The scales from this study were similar to those reported by Morris et al. (2013); therefore, a value of > 0.70 is considered to be good, while a value of > 0.60 is considered to be acceptable. Substantial and significant factor loadings can provide evidence of convergent validity with a value of > 0.50 considered as the recommended value. Table 2 shows that all the 12 competencies' loadings were significant and well above the recommended value of > 0.50. The opportunity competency and the social responsibility competency displayed the recommended value of > 0.50, while the strategic competency and organising and leading competency displayed a high value of > 0.80. These results show that from the 100 items used to measure 12 factors (entrepreneurial competency domains) on a 5-point Likert scale, the derived factors delivered a good Cronbach's alpha result.

Four dimensions of business success measurement were adopted for this study, comprising both financial and non-financial indicators. All dimensions for the business success construct were subjected to the measurement process such as the one adopted for entrepreneurial competencies and scales derived were similar to those of Noor (2007) and Morris et al. (2013). The correlations between all four dimensions of business success and entrepreneurial competencies were scrutinised separately, and there proved to be a strong correlation among all dimensions for business success and entrepreneurial competencies. As shown in Table 2, all the dimensions of the business success construct showed a strong internal consistency of > 0.80. This shows that all the dimensions for the business success construct can be considered reliable and valid (See Appendix 1- Table 1-A1).

To examine the interrelationships among all the variables in this study, a correlation analysis was undertaken. This showed a strong positive correlation among all 12 competency domains ($p < 0.01$). It also showed a link between the competency domains and the four business success dimensions except in the case of social responsibility, which showed a negative correlation with two of the business success constructs (such as performance relative to competitors and business growth). The strongest correlations, however, were found between the learning and organising competency and the leading, conceptual and strategic competencies (see Table 3).

TABLE 2: Reliability analysis.

Variable	All Respondents (785 Female Entrepreneurs)	
	Valid Cases	Cronbach's Alpha
Learning competency	782	0.7347
Social responsibility competency	781	0.5181
Ethical competency	781	0.6848
Familism competency	782	0.6050
Technical competency	782	0.7727
Personal competency	784	0.7198
Relationship competency	784	0.7459
Organising and leading competency	785	0.8365
Opportunity competency	784	0.5105
Conceptual competency	782	0.7894
Commitment competency	782	0.6461
Strategic competency	781	0.8112
Satisfaction with financial performance	767	0.8087
Satisfaction with non-financial performance	769	0.8325
Performance relative to competitors	779	0.8599
Business growth	779	0.8585

Source: Irene, B., 2016, *Gender and entrepreneurial success: A cross cultural study of competencies of female SMEs operators in South Africa*, PhD Thesis, Cardiff Metropolitan University

TABLE 3: Correlations of entrepreneurial competencies and business success.

Variable	*p*
Learning competency	0.039249
Social responsibility competency	0.045043
Ethical competency	0.028906
Familism competency	0.061354
Technical competency	0.044379
Personal competency	0.073391
Relationship competency	0.074531
Organising and leading competency	0.064611
Opportunity competency	0.049351
Conceptual competency	0.077900
Commitment competency	0.091659
Strategic competency	0.037051
Satisfaction with financial performance	0.123029
Satisfaction with non-financial performance	0.102483
Performance relative to competitors	0.021832
Business growth	0.050538

Source: Irene, B., 2016, *Gender and entrepreneurial success: A cross cultural study of competencies of female SMEs operators in South Africa*, PhD Thesis, Cardiff Metropolitan University

Note: Marked correlations are significant at $p < 0.05000$.

1.The fitting of a one-factor congeneric measurement model was to maximise the reliability of the composite scores. For a one-factor congeneric measurement model, the factor score regression coefficients represent the estimated bivariate regression of the factor on all observed indicator variables.

Regression summary for the dependent variable

As shown in Table 4, the entrepreneurial competencies construct was found to have a significant positive relationship with business success operationalised by self-reports of financial and non-financial indicators (four dimensions of measurement). The analysis was done by building a regression model using the results from the computed factor analysis (i.e. entrepreneurial competencies and business success). The model was then fitted using business success as the dependent variable and entrepreneurial competencies as the independent variables. All 12 competency domains had a direct pact with business success with a p-value of ≥ 0.000 (p-value is significant at < 0.05). The result shows that the effect of competencies on business success was strongest for business growth with a coefficient of p 0.0001, while it remained the same on all other measures for the business success construct. Based on the results, it can be inferred that there is statistical evidence that entrepreneurial competencies influence business success.

Discussion

The purpose of this paper was to examine the relationship between entrepreneurial competencies and business success in the context of female-owned businesses in South Africa. The analyses of the qualitative data collected identified 817 behaviours associated with entrepreneurial competencies. The behaviours were first grouped under the 12 existing competency domains and showed a degree of cross cultural generalisability. The existing competency domains include strategic, conceptual, commitment, opportunity, organising and leading, relationship, learning, personal, technical, social responsibility, ethical and familism. The qualitative data from this current research provide evidence of the universality of some aspects of entrepreneurial competencies while also generating some evidence of possible cultural or gender undertones or applications of these competencies. It was found that the cultural orientations of the entrepreneurs played a role in the determination of which competency was regarded as important, particularly with regard to the familism competency. It must, however, be emphasised that the purpose of this qualitative study was not to draw a definitive conclusion about the link between business success and entrepreneurial competencies but rather to incorporate the findings into the modification of the research instruments for the subsequent quantification study.

The findings of this research show that: (1) entrepreneurial competencies frameworks comprise effective portrayals of business behaviour among South African female entrepreneurs; (2) additional clusters of behaviour exist under these existing models of entrepreneurial competencies, which suggests that female entrepreneurs are sensitive to issues relating to integrity; and (3) the elements of 'Familism' highlighted implies that gender and cultural issues do have an influence on the women's entrepreneurship.

Based on the fact that 817 behaviours delineating entrepreneurial competencies were identified in the qualitative study, it was necessary to further consolidate these behaviours prior to integrating them into the measurement scales for entrepreneurial competencies for the quantification study. The process of consolidation involved taking articles considered limited in range or scope as well as those considered too specific and combining them to offer a non-specific level of behaviour that was reflective of a particular competency domain. Therefore, behaviours such as 'conduct research on a business premise before setting a new branch'; 'conduct research on a potential client before introducing them to a product/service' and 'conduct research on product quality before introducing them to the market', were grouped under a more generic detail 'conduct research before proceeding with an investment'. This helped to reduce the number of new items generated from the interviews and focus group discussions intended to be included in the original scale.

The findings provide knowledge of the impact of entrepreneurial competencies on the success of female SME operators in South Africa and show that those possessing high level of competencies were more likely to impact the success of female-owned businesses. They were also consistent with those of Man (2001) and highlights the important role of the owner-manager in the determination of business success of SMMEs over and above environmental factors. The results support the literature, which suggests

TABLE 4: Summary of the regression analysis for entrepreneurial competencies and business success.

All cultural groups: N = 745 (usable observations)	**Regression summary for dependent variable: Business success (competency and business success)**					
	β*	**Standard error**	**β**	**Standard error**	***t*(740)**	***p***
Intercept	-	-	1.0299	0.3112	3.3115	0.0973**
Competency	0.1977	0.0380	0.2062	0.3101	5.1960	0.0000***
Satisfaction with financial performance	0.2010	0.0742	0.0404	0.0674	1.3525	0.0000***
Satisfaction with non-financial performance	0.2748	0.0750	0.0744	0.0696	1.1956	0.0000***
Performance relative to competitors	0.2533	0.0349	0.0638	0.0626	-7.2358	0.0000***
Business growth	0.1758	0.03555	0.0309	0.0372	0.2964	0.0001***

Source: Irene, B., 2016, Gender and entrepreneurial success: A cross cultural study of competencies of female SMEs operators in South Africa, PhD Thesis, Cardiff Metropolitan University

$R = 0.31862128$; $R^2 = 0.10151952$; Adjusted $R^2 = 0.09666287$.

β*, measure of how strongly each predictor variable influences the criterion (dependent) variable; β, refers to the number of standard deviation changes that can be expected in the outcome variable for a 1 standard deviation change in the predictor variable; t(740), measures the size of the difference relative to the variation in the sample data (using 740 usable samples out of 785 responses received).

, statistically insignificant difference; *, sufficient significant difference (p-value significant at < 0.05).

that entrepreneurs can minimise the negative effect of the business environment by developing adequate skills and capabilities (competencies). In the framework of this research, individual values were projected to have an impact on the ability to develop entrepreneurial competencies.

Although the purpose of this study was not to analyse entrepreneurial motivation for South African women, it is essential to appreciate the reasons behind the decisions of women to engage in entrepreneurial activities. This is because, according to Buttner and Moore (1997), the entrepreneur's motivations have been found to correlate with their measurement of business success. It also correlates with their business strategy. According to McClelland et al. (2005), business owners are known to be moved by 'pull factors' (inner drive) and 'push factors' (outside forces). The 'pull factors' relate to the entrepreneurs desire for independence, to be one's own boss, to pursue a hobby or natural inclination and express one's own creativity, as well as engage in a passion. In contrast, the 'push factors' are associated with elements of necessity, such as forced or early retrenchment or redundancy, inability to secure employment, lack of job satisfaction or poor remuneration.

Conclusions and recommendations

Several important conclusions can be drawn from the findings. Entrepreneurial competencies play a huge role in the success of female entrepreneurs in South Africa. This current study also adds to the growing body of research seeking to establish a link between entrepreneurial competencies and business success. It provides the basis for a model of business success reflecting the realities of entrepreneurial activities by utilising the competency approach, given that the competency approach emphasises the actual behaviour of entrepreneurs concerning technical and managerial undertakings of their businesses. Therefore, the problem of unclear association between entrepreneurial traits and performance was overcome by this study.

Several conclusions could be drawn from the analysis of both the qualitative and quantitative data. Firstly, for the internal consistencies, results and composite measures of reliability for all variables were found to be reliable for all data sets. Secondly, the positive correlation between business success and entrepreneurial competencies indicates that there is a need to focus on the internal variable of competencies in order to better understand business success among female entrepreneurs in South Africa, as focusing only on external variables could be a major drawback in women's entrepreneurship.

Thirdly, although new competency domains were not discovered in this study, new behaviours were identified, pointing towards a need for a feministic model of entrepreneurial competencies. The theoretical and statistical significance of these findings suggests the need for an inclusive model that addresses the concerns of female entrepreneurs. This calls for a robust model of entrepreneurial competencies that could provide a better understanding of the behaviours that are prevalent and relevant to the activities of female entrepreneurs in South Africa.

Finally, given the link between entrepreneurial competencies and business success, the role of policymakers should perhaps focus on the development of entrepreneurial initiatives relevant to the development of individual skills and behaviours, such as the recognition of opportunities, ability to respond to opportunities, learning, conceptual thinking and effective personal development.

Limitations of this study

This study was not without its limitations and a few are worth mentioned here. Firstly, the source of all measurements for the predictors (competency) and outcome (business success) was the self-report of entrepreneurs. This approach was necessary given the difficulties associated with the independent assessment of each of these variables. Self-reporting is not an uncommon component in studies that examine management behaviours and business owner-managers (Chandler and Hanks 1994; Man 2001). According to Chandler and Jansen (1992), self-reported competencies are valid when measuring entrepreneurial competencies using a structured rating instrument (e.g. survey) with good reliability (such as the one used in this study). However, future studies could use information from multiple sources (i.e. the entrepreneur and independent sources) to reduce the likelihood of response bias.

Similarly, self-reported financial reports may be problematic and unreliable, as entrepreneurs could rate their individual performance highly and see their business performance as a reflection of their individual performance. However, previous research has shown that managerial assessment of business performance is generally quite consistent with performance data (Noor 2007). Also, several studies have used the same method of measurement used in this current study to examine performance and success in small businesses. This approach does not require sensitive and financial data to be collected because it is not always available to small businesses (McGee and Peterson 2000). Nevertheless, where possible, future studies should assess profit and loss statements for operationalising business success.

Acknowledgements

The research for this article was undertaken at Cardiff Metropolitan University, United Kingdom during the author's Ph. D studies. Whilst the writing of this article was initiated and completed while at Cardiff Metropolitan University, it was submitted for publication while engaged at Cornerstone Institute, Cape Town.

Competing interests

The author declares that she has no financial or personal relationship(s) that may have inappropriately influenced her in writing this article.

References

Adams, B. & Sykes, V., 2003, 'Performance measures and profitability factors of successful African-American entrepreneurs: An exploratory study', *Journal of American Academy of Business* 2(2), 418–424.

Ahmad, N.H., Ramayah, T., Wilson, C. & Kummerow, L., 2010, 'Is entrepreneurial competency and business success relationship contingent upon business environment?', *International Journal of Entrepreneurial Behaviour & Research* 16(3), 182–203. https://doi.org/10.1108/13552551011042780

Ahmad, N.H., Wilson, C. & Kummerow, L., 2011, 'A cross-cultural insight into the competency-mix of SME entrepreneurs in Australia and Malaysia', *International Journal of Business and Management* 4(1), 33.

Beaver, G. & Jennings, P., 2005, 'Competitive advantage and entrepreneurial power: The dark side of entrepreneurship', *Journal of Small Business and Enterprise Development* 12(1), 9–23. https://doi.org/10.1108/14626000510579617

Bird, B., 1995, 'Towards a theory of entreprenuerial competency', in *Advances in entrepreneurship, firm emergence and growth*, vol. 2, p. 21, Jai Press Inc., Middlesex, England.

Botha, M., 2006, 'Measuring the effectiveness of the women's entrepreneurship programme, as a training intervention, on potential, start-up and established women entrepreneurs in South Africa', Ph.D thesis, University of Pretoria.

Botha, M., Nieman, G. & Van Vuuren, J., 2007, 'Measuring the effectiveness of women entrepreneurship programme on potential, start-up and established women entrepreneurs in South Africa', *South African Journal of Economic and Management Sciences* 10(2), 163–183.

Boyatzis, R.E., 1982, *The competent manager: A model for effective performance*, Wiley, New York.

Brophy, M. & Kiely, T., 2002, 'Competencies: A new sector', *Journal of European Industry Training* 26(2), 165–176. https://doi.org/10.1108/03090590210422049

Burgoyne, J.G., 1993, 'The competence movement: Issues, stakeholders and prospects', *Personnel Review* 22(6), 6–13. https://doi.org/10.1108/EUM0000000000812

Buttner, E. & Moore, D., 1997, 'Women's organisational exodus to entrepreneurship: Self reported motivations and correlates with success', *Journal of Small Business Management* 35(1), 34–46.

Chandler, G.N. & Hanks, S.H., 1994, 'Founder competence, the environment and venture performance', *Entrepreneurship Theory and Practice* 18(3), 77–89.

Chandler, G.N. & Jansen, E., 1992, 'The founders self-assessed competence and venture performance', *Journal of Business Venturing* 7(3), 223–236.

Chell, E., 2013, 'Review of skill and the entrepreneurial process', *International Journal of Entrepreneurial Behaviour & Research* 19(1), 6–31. https://doi.org/10.1108/13552551311299233

Entrialgo, M., Fernandez, E. & Vazquez, C.J., 2001, 'The effect of the organizational context on SME's entrepreneurship: Some Spanish evidence', *Small Business Economics* 16(3), 223–236.

Hoffmann, T., 1999, 'The meanings of competency', *Journal of European Industrial Training* 23(6), 275–286. https://doi.org/10.1108/03090599910284650

Irene, B., 2016, *Gender and entrepreneurial success: A cross cultural study of competencies of female SMEs operators in South Africa*, PhD Thesis, Cardiff Metropolitan University.

Irene, B.N.O., 2017, 'A cross-cultural assessment of the competency needs of women operating in the context of SMMEs in South Africa', *Mediterranean Journal of Social Sciences* 8(1), 20. https://doi.org/10.5901/mjss.2017.v8n1p20

Kehler, J., 2013, 'Women and poverty: The South African experience', *Journal of International Women's Studies* 3(1), 41–53.

Lin, A.C., 1998, 'Bridging positivist and interpretivist approaches to qualitative methods', *Policy Studies Journal* 26(1), 162–180. https://doi.org/10.1111/j.1541-0072.1998.tb01931.x

Man, T.W.Y., 2001, 'Entrepreneurial competencies and the performance of small and medium enterprises in Hong Kong services sector', Ph.D thesis, Hong Kong Polytechnic University.

McClelland, D.C., 1973, 'Testing for competence rather than for intelligence', *American Psychologist* 28(1), 1–14. https://doi.org/10.1037/h0034092

McClelland, E., Swail, J., Bell, J. & Ibbotson, P., 2005,, 'Following the pathway of female entrepreneurs: A six-country investigation', *International Journal of Entrepreneurial Behavior and Research* 11(2), 84–107.

McGee, J.E. & Peterson, M., 2000, 'Toward the development of measures of distinctive competencies among small independent retailers', *Journal of Small Business Management* 38(2), 19.

Miskin, V. & Rose, J., 2015, 'New venture initiation: Factors influencing success', *Journal of Small Business Strategy* 1(2), 1–9.

Mitchelmore, S. & Rowley, J., 2013, 'Entrepreneurial competencies of women entrepreneurs pursuing business growth', *Journal of Small Business and Enterprise Development* 20(1), 125–142. https://doi.org/10.1108/14626001311298448

Morris, M.H., Webb, J.W., Fu, J. & Singhal, S., 2013, 'A competency-based perspective on entrepreneurship education: Conceptual and empirical insights', *Journal of Small Business Management* 51(3), 352–369. https://doi.org/10.1111/jsbm.12023

Noor, H.A., 2007, 'A cross-cultural study of entrepreneurial competencies and entreprenuerial success in SMEs in Australia and Malaysia', Ph.D thesis, The University of Adelaide.

Parry, S.B., 1998, 'Just what is a competency (and why should we care?)', *Training* 35(4), 58–64.

Ramana, C.V., Raman, K.J. & Aryasri, R.A., 2009, 'Influence of socio-demographic factors on entrepreneurial attributes and success', *South Asian Journal of Management* 16(4), 111.

Rauch, A. & Frese, M., 2007, 'Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship', in J. R. Baum, M. Frese & R. A. Baron (eds.), *The psychology of entrepreneurship*, pp. 41–65, Psychology Press, Hove, United Kingdom.

Rowe, C., 1995, 'Clarifying the use of competence and competency models in recruitment, assessment and staff development: Preliminary of a British study', *Industrial and Commercial Training* 27(11), 12–17. https://doi.org/10.1108/00197859510100257

Sadler–Smith, E., Hampson, Y., Chaston, I. & Badger, B., 2003, 'Managerial behavior, entrepreneurial style, and small firm performance', *Journal of Small Business Management* 41(1), 47–67. https://doi.org/10.1111/1540-627X.00066

Santandreu-Mascarell, C., Garzon, D. & Knorr, H., 2013, 'Entrepreneurial and innovative competences, are they the same?', *Management Decision* 51(5), 1084–1095. https://doi.org/10.1108/MD-11-2012-0792

Shefsky, L., 2011, *Entrepreneurs are made not born*, McGraw Hill Professional, New York City, NY.

Tan, W.-L. & Tan, S.T., 2012, *Entrepreneurs, managers and the competency approach: Do entrepreneurial competencies differentiate entrepreneurs from managers?*. Paper presented at CCSBE 2012.

Tett, R.P., Guterman, H.A., Bleier, A. & Murphy, P.J., 2000, 'Development and content validation of a "hyperdimensional" taxonomy of managerial competence', *Human Performance* 13(3), 205–251. https://doi.org/10.1207/S15327043HUP1303_1

Thompson, J.E., Stuart, R. & Lindsay, P.R., 1997, 'The competence of top team members: A framework for successful performance', *Team Performance Management: An International Journal* 3(2), 57–75.

Thongpoon, S., Ahmad, N.H. & Yahya, S., 2012, 'Sustainable performance of Thai SMEs: Investigating the entrepreneurial competencies and sufficiency economy philosophy', *Asia Pacific Journal of Management & Entrepreneurship Research* 1(2), 5–20.

Turton, N. & Herrington, M., 2012, *Global entrepreneurship 2012 South Africa*, UCT Graduate Business School, Cape Town, South Africa.

Walker, E. & Brown, A., 2004, 'What success factors are important to small business owners?', *International Small Business Journal* 22(6), 577–594.

Wallace, J., 1998, '*The impact of small business courses on competencies'*, Paper presented in the 22nd National Small Business Consulting Conference, Santa Fe, New Mexico, February 04–07, 1998.

Woodruffe, C., 1993, 'What is meant by a competency?', *Leadership & Organization Development Journal* 14(1), 29–36. https://doi.org/10.1108/eb053651

The psychometric properties of a shortened corporate entrepreneurship assessment instrument

Author:
Renier Steyn[1]

Affiliation:
[1]Graduate School of Business Leadership, University of South Africa, South Africa

Corresponding author:
Renier Steyn,
steynr@unisa.ac.za

Background: The entrepreneurial climate in organisations is often seen as an important antecedent to innovation and organisational success. Assessing the nature of the climate in a reliable and valid manner is essential, as this will guide the implementation of appropriate interventions where necessary as well as assessing the effects of such interventions.

Aim: The aim of this research was to evaluate the psychometric properties of a measure of entrepreneurial climate. Entrepreneurial climate was measured using a shortened version of the Hornsby, Kuratko and Zahra (2002) instrument, called the Corporate Entrepreneurship Assessment Instrument (CEAI). Making information on the psychometric properties of the instrument available directly relates to its utility.

Setting: The setting was medium to large South African companies. A random sample of employees was drawn from 53 selected companies across South Africa, with 60 respondents per company ($N = 3\,180$).

Methods: A cross-sectional survey design was used. Several instruments were administered, including the shortened version of the CEAI. Cronbach's alpha was used to test for reliability and several methods were used to test for validity. Correlation analysis was used to test for concurrent validity, convergent validity and divergent validity. Principle component factor analysis was used to test for factorial validity and a t-test to test for known-group validity.

Results: The results showed that the reliability for the total score of the shortened version of the CEAI was acceptable at 0.758. The results also showed some evidence of concurrent validity, as well as homogeneity among the items. With regard to factorial validity, all items loaded in accordance with the subscales of the instrument. The measure was able to distinguish, as expected, between government organisations and private business entities, suggesting known-group validity. Convergent validity and divergent validity were also assessed. Interesting to note was that entrepreneurship climate correlates more with general employee attitude (e.g. employee engagement; $R = 0.420$, $p < 0.001$ and organisational commitment, $R = 0.331$, $p < 0.001$) than with self-reported innovation ($R = 0.277$, $p < 0.001$ and $R = 0.267$, $p < 0.001$).

Contribution: This paper not only provided information on the reliability and validity of the shortened version of the CEAI in the South African context but also provides norms to be used when researchers or consultants work with smaller groups. Recommendations on the appropriate use of the instrument are offered and this contributes to the responsible use of the instrument.

Introduction

Though some confusion exists on the exact meaning of innovation in the workplace (Hind & Steyn 2015), definitions of the concept are abundant. García-Morales, Lloréns-Montes and Verdú-Jove (2008) describe innovation as new ideas, methods or devices, or acts of creating new products, services or processes. Similarly, Golla and Johnson (2013) use the term in relation to products and define it as the introduction to the market of new goods or services with distinct characteristics. Overstreet et al. (2013) describe innovativeness as the propensity of an organisation to deviate from conventional industry practices by creating or adopting new products, processes or systems.

Irrespective of the differences in the exact definition of innovation, it is seen as important and considered to be an essential component for competitiveness and survival, embedded in organisational structures, processes, products and services within the organisation (Gunday et al. 2011). It is therefore not surprising that innovation is perceived by many scholars as one of the most important determinants of firm performance (Adegoke, Walumbwa & Myers 2012; Durán-Vázquez, Lorenzo-Valdés & Moreno-Quezada 2012; Grant 2012).

The climate in organisations is appreciated by many as an important antecedent to innovation and organisational success (Choi, Moon & Ko 2013; Crespell & Hansen 2008; Hornsby, Kuratko & Zahra 2002; Nusair 2013, Nybakk & Jenssen 2012; Panuwatwanich, Stewart & Mohamed 2008). Assessing the nature of the climate accurately is necessary, as the absence of effective measures may be detrimental to making informed decisions. This is particularly true in instances where (costly) interventions are considered or when the effects of such interventions are evaluated. Additionally, accurate and valid measurement should underpin all responsible decisions that are based on psychometric instruments (American Educational Research Association, American Psychological Association & National Council on Measurement in Education 1999; Cohen, Swerdlik & Sturman 2013; Moerdyk 2015).

Objectives

The primary objective of this research was to evaluate the psychometric properties of a measure of entrepreneurial climate. The Hornsby et al. (2002) measure of entrepreneurial climate (Corporate Entrepreneurship Assessment Instrument, CEAI) is very often referred to and used (Bhardwaj 2012; Brazeal, Schenkel & Kumar 2014; De Villiers-Scheepers 2012; Hajipour & Mas'oomi 2011; Holt, Rutherford & Clohessy 2007; Hornsby et al. 2013; Karimi et al. 2011; Kuratko & Audretsch 2013; Marzban, Seyed & Ramezan 2013; Nikolov & Urban 2013). This specific measure forms the focus of this research. In the study, the psychometric properties of a shortened version of this instrument, as proposed by Strydom (2013), are assessed. The shortened version of the CEAI consists of 20 items, compared to the 48 items of the original instrument. Little is known about the psychometric properties of this instrument. Some evidence supports the replicability of the CEAI structure in a Western context (Holt et al. 2007; Hornsby et al. 2002) and other studies investigated the replicability of the model in Africa (Kamffer 2004; Strydom 2013; Van Wyk & Adonisi 2011). The results were mixed and Van Wyk and Adonisi (2011) fail to replicate the CEAI structure among African participants. Aforementioned points furthermore necessitate this research.

Literature review

The literature review comprises two parts, namely reliability and validity. Both reliability and validity are essential for effective measurement (American Educational Research Association et al. 1999; Cohen et al. 2013; Gregory 2011; Moerdyk 2015). The aim of the literature review was to explain the way reliability and validity are conceptualised and assessed.

Reliability

Many types of reliability are reported in literature, including test–retest reliability, half-split reliability, parallel-forms reliability and internal consistency (Cohen et al. 2013; Moerdyk 2015). Irrespective of the name or method used to calculate the value, the primary aim of a reliability measure is to assess the constancy of the scores generated (Shaughnessy, Zechmeister & Zechmeister 2009; Tredoux & Durrheim 2013). The type of reliability most often used is internal consistency (Cronbach 1951; Cronbach & Shavelson 2004; Novick & Lewis 1967; Kaiser & Michael 1975; Lord & Novick 1968), and it is expressed as coefficient alpha. Coefficient alpha, also known as Cronbach's alpha, is the mean of all the possible half-split reliability coefficients, corrected by the Spearman–Brown formula (see Gregory 2011). Though Cronbach's coefficient alpha is widely used to measure reliability (Cronbach & Shavelson 2004; Peterson 1994), it is also often criticised (Cho & Kim 2015; Sijtsma 2009), including for being seen as a comprehensive measure of reliability (Cronbach & Shavelson 2004). Coefficient alpha, an index of the internal consistency, is used because a test with high internal consistency tends to have stable scores, similar to those achieved by tests with high test–retest reliability (Gregory 2011). Furthermore, its use is widespread, its calculation standard to most statistical packages, and Cronbach's alpha is well debated in academic literature (Cronbach & Shavelson 2004; Nicholls et al. 2017).

What an acceptable coefficient alpha constitutes is a matter of debate. Guilford and Benjamin (1978) suggest that very accurate measures of personal differences require reliability above 0.90, but add that scales with reliabilities as low as 0.70 prove to be very useful. They also state that reliabilities lower than 0.70 can be helpful in research, where accuracy is not as important as when personal decisions are made. Hair, Black, Babin and Anderson (2010) suggest 0.60 to 0.70 as the lower limit. This is in line with what Clark and Watson (1995) and Nunnally and Bernstein (1994) suggest. Spatz and Kardas (2008) set the mark at 0.80. Field (2009) notes that coefficients of 0.70 and 0.80 are often mentioned as acceptable in publications, and that the type of instrument used and the number of items in the scale should play a role in interpreting the calculated values. He reports that for cognitive tests 0.80 could be set as the lower value, while a value of even below 0.70 could be acceptable for measures of psychological constructs. However, high coefficients are difficult to obtain when a scale consists of only a few items (Field 2009; Pallant 2010). From the aforementioned points, it is clear that 0.60 may be the ultimate cut-off point and that at a practitioner level, where real-life decisions are made, 0.70 should constitute the cut-off score.

Validity

Definitions of validity vary. The latest standards for educational and psychological testing, jointly developed by the American Educational Research Association, American Psychological Association and the National Council on Measurement in Education, emphasise the use of tests in their definition of validity: 'Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed uses of tests' (American Educational Research Association et al. 1999:9). Commenting on this definition, Newton (2012) refers to a test as valid if the assessment-based decision-making procedure, following

from interpreting the contextual assessment outcomes, is a measure of the attribute involved in the decision. Others focus more on the test itself and state that it is '… the judgement or estimate of how well a test measures what it purports to measure in a specific context' (Cohen et al. 2013:181) or that it '… is a unitary concept determined by the extent to which a test measures what it purports to measure' (Gregory 2011:111). The definition of Moerdyk (2015:47) similarly focuses on the instrument itself: 'Validity is the ratio of the relevant score to the total or observed score' (Moerdyk 2015:47). The definitions differ. Some researchers emphasise the appropriate use of the tests while others focus on the appropriateness of the test itself. These authors, however, do not fundamentally differ in their viewpoints, as Gregory (2011) refers to 'appropriateness' of use, Cohen et al. (2013) to 'appropriateness of inferences' and Moerdyk (2015) to 'validity generalisation'. As such, the validity of a test could be seen as the capability of the test (or test procedure) to assess a construct in such a way as to allow a responsible professional the means to apply the obtained scores in an appropriate manner.

Three types of validity have traditionally been identified, namely content validity, criterion-related validity and construct. The classic trinitarian view of validity is still common among contemporary authors on psychometrics (Cohen et al. 2013; Gregory 2011; Moerdyk 2015) and was also followed in this review. Although separable, content validity and criterion-related validity could be viewed as supportive evidence in the cumulative quest for construct validity (Gregory 2011).

Content validity: is reflective of the judgement of degree to which questions, tasks or items on a test are adequately representative of the universe of behaviour the test was designed to sample (Cohen et al. 2013; Gregory 2011). Face validity is a special case of content validity. Where face validity is concerned with appearance of the assessment technique as appropriate to those who are assessed (Moerdyk 2015), content validity is normally judged by subject matter experts (Cohen et al. 2013; Gregory 2011). Though techniques used to assess magnitude of content validity differ (see Lawshe 1975; Martuza 1977; Polit & Beck 2006; Wilson, Pan & Schumsky 2012), they basically consist of measures of agreement between experts on appropriateness of items. Important to note is that these ratios or coefficients are reflective of the validity of the items included in the assessment and tell us nothing about the items which should be included to make the existing pool of items representative of the universe of behaviour that the test was designed to assess (Gregory 2011).

Criterion-related validity: is demonstrated when a measure is effective in estimating the test-takers performance on some outcome measure (Gregory 2011), with the outcome measure being the criterion. Stated differently, it is 'a judgement of how adequately a test score can be used to infer an individual's most probable standing on some measure of interest' (Cohen et al. 2013:190). Many authors (Cohen et al. 2013; DeVellis 2012; Gregory 2011; Moerdyk 2015) state that concurrent and predictive validity subsume under criterion-related validity. Consensus exists among the aforementioned authors that the basic difference between the types is the time when data on the criterion is collected. For concurrent validity, criterion measures are obtained at approximately the same time as the test scores, while for predictive validity the criterion measures are obtained at a later stage. Concurrent validity therefore 'indicate(s) the extent to which test scores may be used to estimate an individual's present standing on a criterion' (Cohen et al. 2013:191) and predictive validity determines how accurate the measure can predict future events. Though a simple correlation between the test score and the criterion is often referred to as a validity coefficient (Cohen et al. 2013; DeVellis 2012; Gregory 2011; Moerdyk 2015), the standard error of estimate (see Gregory 2011), sensitivity tests (see DeVellis 2012) and calculating the coefficient of determination (Moerdyk 2015) are also suggested. Correlation coefficients are most often mentioned and used. Moerdyk (2015:52) states that 'in practice, validity coefficients above 0.5 are acceptable, and in case of selection criteria, validity coefficients as low as 0.3 and even 0.2 are acceptable'. Cohen et al. (2013:195) refer to the seminal work of Cronbach and Glesser (1965) and caution against the use of rules and state that 'validity coefficients should be large enough to enable the test user to make accurate decisions within the unique context in which the test is being used'.

Construct validity: is the extent to which a measure 'behaves' in the way that the construct it purports to measure should behave in relation to other constructs (DeVellis 2012). Moerdyk (2015:47) uses theoretical validity as a synonym for construct validity and states that the basic question of construct validity is whether the assessment procedure results are in line with what is already known (or theorised). A similar notion is presented by Cohen et al. (2013), who explain that a test is valid when individuals with high scores and low scores on a test behave as predicted by the theory about the construct. As indicated earlier, content validity and criterion-related validity could be viewed as supportive evidence in the cumulative quest for construct validity (Gregory 2011). In fact, 'to evaluate the construct validity of a test, we must amass a variety of evidence from numerous sources' (Gregory 2011:119). The following are (further) measures of construct validity:

- The *homogeneity of the test* (Cohen et al. 2013) or subtest (Gregory 2011). Such an analysis will reveal if a single construct is measured (Cohen et al. 2013; Gregory 2011). The correlation of the individual items with the total score (Cohen et al. 2013; Gregory 2011) and the coefficient alpha (Cohen et al. 2013) could be used in estimating how uniform a test is in measuring the construct of interest.
- *Factorial validity* assessment is based on the results of factor analysis. The primary purpose of a factor analysis is to define the underlying structure among the variables included in the analysis (Hair et al. 2010). The variables included in the analysis could be items from a single test, items from multiple tests or (total) scores from a battery

of tests. When the instrument internally displays the expected structure, this could be indicative of construct validity (Moerdyk 2015). Furthermore, when items of various tests load on different factors, or when scores of a battery of tests load on factors in a theoretically consistent manner (Gregory 2011), it could be indicative of construct validity.

- Construct validity can also be derived from *temporal changes*. If temporal changes in test scores are consistent with theory, for example, when test scores differ as a function of developmental changes or increase or decrease resulting from an intervention to which the person was exposed (Cohen et al. 2013; Gregory 2011), construct validity could be argued. In the first case, mentioned above, we may expect that young people score higher on an intelligence test than older people, and in the second case we may expect that following a therapeutic intervention individuals score lower on depression than before.
- Closely aligned to the aforementioned discussion is what Moerdyk (2015) called *known-group validation*. Known-group validity is demonstrated when a scale differentiates between existing groups in accordance with theory (Cohen et al. 2013; Gregory 2011; Moerdyk 2015). It is to be expected, for example, that individuals in positions of authority show higher scores on an effective leadership scale than those who have just started their careers. Related to this is the ability of a test to accurately classify individuals, which leads to the matter of test sensitivity and test specificity (Gregory 2011). Test sensitivity, within the context of selection, refers to the percentage of correctly selected individuals, whereas test specificity is reflected in the percentage of correctly rejected individuals.
- A fourth test of construct validity is when 'test scores correlate with scores on other tests in accordance with what would be predicted from a theory that covers the manifestation of the construct in question' (Cohen et al. 2013:199). Here the terms *convergent and divergent validity* are used. The first mentioned refers to a high correlation with a construct with which the measure overlaps (Gregory 2011), including an older version or an alternative version of the test (Cohen et al. 2013). Gregory (2011) does not set any rules on what an acceptable correlation could be, but refers to 0.5 as an example of a hefty correlation (suggesting that this could be highly acceptable). The latter, discriminant validity, refers to a situation where the achieved score does not correlate, in line with theory, with a construct unrelated to that construct. Cohen et al. (2013) write about a non-significant correlation as evidence of discriminant[1] validity. Cohen et al. (2013) also state that factor analysis could be used to judge convergent and discriminant validity. Similar constructs (or items) should load on the same factor and items from dissimilar constructs (or items) should load on other factors. The ambitious and seldom emulated multitrait–multimethod matrix (proposed by Campbell and Fiske [1959]) is an alternative to consider in making judgements on convergent and discriminant validity (Gregory 2011).

1. Discriminant validity is often used as a synonym to divergent validity. In this paragraph the term 'discriminant validity' is preferred as to align the content of the text to the sources consulted. In the rest of the text the term divergent validity will be used.

From the aforementioned discussion it is clear that construct validity is a complex matter and judgement on the construct validity of a test ought to be the result of integrating several sources of information.

Methods

In this section, the respondents, the procedure, the measuring instruments, the data analysis and the ethical considerations are discussed.

Respondents

To be included in the study, respondents needed to be employed at a large South African organisation, with a workforce of at least 60 employees. Several organisations were approached and 53 companies were eventually willing to participate. In total 60 respondents were randomly selected from each of these organisations. This presented a convenient sample of South African organisations, but a random sample of employees. More detail about the respondents is reported in the findings section.

Procedure

The sampling of the respondents is discussed above. The data were generated from paper-and-pencil tests, completed in organisations where permission was granted by the appropriate authorities, and all respondents gave consent. These data were not primarily collected for this research and are archival data collected by the author as part of a larger research project. The ethical clearance obtained allows him to collect and use the data in further analysis and to publish academic articles based on the data. This use of the data was clearly stated in the permission letters as well as the consent forms. After cleaning up the data appropriate statistics were calculated. Cleaning up the data was limited to removing of limit data and replacing it with missing values. The statistical techniques used are described in the section 'Data analysis'.

Measuring instruments

Eight instruments were administered.

A shortened version of the CEAI (Hornsby et al. 2002) was used. This instrument measures five constructs, namely the level of management support, work discretion and autonomy, rewards and reinforcement, time availability and organisational boundaries (Hornsby et al. 2002). Kuratko, Hornsby and Covin (2014:119) explain what is measured with each factor:

- Top management support: The extent to which employees perceive that top managers support, facilitate and promote entrepreneurial behaviour. This includes top

management's championing innovative ideas and providing the resources required for entrepreneurial actions.

- Work discretion: The extent to which employees perceive that the organisation tolerates experimentation (and failure). Furthermore, work discretion relates to decision-making autonomy and freedom from unwarranted oversight and also management, which delegates authority and responsibility to lower-level managers and workers.
- Rewards and reinforcement: The extent to which employees perceive that the organisation uses systems which reward entrepreneurial activity and success.
- Time availability: The extent to which employees experience their job's structure in such a way that unstructured or free time is available to allow individual employees or groups to pursue innovations.
- Organisational boundaries: The extent to which employees perceive that organisational boundaries are flexible and allow the flow of information within the organisation and beyond the organisation and the external environment. Flexile but clear boundaries are tested for. Boundaries induce, direct and encourage coordinated innovative behaviour.

The shortened version proposed and used by Strydom (2013) was applied in this research. Where the original questionnaire consists of 48 items, the shortened version consists of 20 items, 4 items per construct. The items in the shortened version were selected from the 48 items based on their high loading on the particular factor, which represents the subscale. The four items with the highest item load per factor were selected. Substantial work on the factorial validity of the original instrument was done. Hornsby et al. (2002) report the results of an analysis of the five-factor CEAI solution, which showed Cronbach's alpha of 0.92, 0.86, 0.75, 0.77 and 0.69, for the dimensions as listed above. Kamffer (2004) found similar alphas of 0.88, 0.80, 0.62, 0.71 and 0.77. Strydom (2013), using his shortened version of the CEAI, found alphas of 0.73, 0.82, 0.74, 0.68 and 0.57. The items of the CEAI were presented as statements, such as the following: 'Individual risk takers are often recognised for their willingness to champion new projects, whether eventually successful or not'. Respondents were asked to respond to the statements by selecting one of five options, namely: strongly agree (5), agree (4), undecided (3), disagree (2) or strongly disagree (1). A high score on any particular factor of the CEAI would be indicative of a climate that is conducive to entrepreneurial activity, and a low score would suggest circumstances that hamper entrepreneurial activity. An overall high score would suggest the presence of a positive entrepreneurial climate.

The Utrecht Work Engagement Scale-9 (UWES-9; Schaufeli & Bakker 2004) is a summative assessment of vigour, dedication and absorption. The UWES is mentioned as the most often used self-report measure of engagement and has been validated in many countries around the world (Bakker et al. 2008). The questionnaire consists of nine items. Schaufeli and Bakker (2004:33) report that the 'Cronbach's α of all nine items varies from 0.85 to 0.94 (median = 0.91) across the nine national samples. The αvalue for the total data base is 0.90'. With regard to validity, Schaufeli, Bakker and Salanova (2006) claim that the suggested three-factor structure of engagement is confirmed (across samples from different countries) and that the construct is related to other constructs in the expected manner. This suggests construct validity. The questionnaire consists of nine items. The following is a typical item from the scale: 'At my work, I feel bursting with energy'. Respondents are requested to indicate their views on this statement on a scale ranging from 0 (never) to 6 (every day). The minimum total score is 0 and the maximum 54. A high score on the survey would indicate high levels of engagement and a low score would indicate that the respondents are not engaged.

The Organizational Commitment Scale (Allen & Meyer 1990) has been used to assess organisational commitment. They identify affective, continuance and normative commitment as components of commitment. The full scale consists of 24 questions. Allen and Meyer (1990) report an internal consistency of 0.86, 0.82 and 0.73 for the three subscales. Furthermore, Allen and Meyer (1990:13) report evidence of construct validity and also comment that the 'relationship between commitment measures … and the antecedent variables … was, for the most part, consistent with prediction'. This points to convergent and discriminant validity. The first item of the scale reads as follows: 'I would be very happy to spend the rest of my career with this organisation'. Respondents are requested to indicate their views on this statement on a scale ranging from 1 (strongly disagree) to 7 (strongly agree). A high score on the scale indicates high levels of commitment and low scores signify low commitment. For the purpose of this study, only eight items of the Affective Commitment Scale was used.

The Innovative Work Behaviour (IWB) questionnaire was developed by de Jong and den Hartog (2010) to assess the four dimensions they hypothesised to relate to workplace innovation, namely exploration, generation, championing and implementation of ideas. De Jong and den Hartog (2010) state that their analyses demonstrated sufficient reliability and criterion validity. However, they did not find proof of dimensionality in their questionnaire and suggest that it should be used as a one-dimensional construct. The questionnaire was used as presented in the article, with the exception that the stem of the questions was changed from 'How often does this employee …' to 'As an employee how often do you …' The questionnaire contains 10 items. The first reads as follows: 'As an employee how often do you pay attention to issues that are not part of your daily work?' Responses were on a seven-point scale, from 0 (never) to 6 (always). A high score on the scale indicates high levels of innovation in the workplace while low scores indicate low levels of innovation.

Kleysen and Street (2001) hypothesised that individual innovative behaviours (IIBs) consist of five dimensions, namely opportunity exploration, generativity, formative

investigation, championing and application. They developed a 14-item questionnaire which assesses these dimensions, called the IIB. As with de Jong and den Hartog (2010), they were unable to confirm their hypothesised dimensionality, but suggest that including a variety of items contributes to a better understanding of the construct. The coefficient alphas for the subscales were 0.791, 0.791, 0.802, 0.893 and 0.796. They report an inter-correlation of 0.945 between the items. As such, they suggest that the items 'can be combined into a single measure of innovation behaviour … with good construct validity' (Kleysen & Street 2001:293). The first item of the scale reads as follows: 'In your current job, how often do you … look for opportunities to improve an existing process, technology, product, service or work relationship?' Respondents were asked to respond on a six-point scale, ranging from 1 (never) to 6 (always). A high score would then be indicative of high levels of innovative behaviour, whereas a low score would suggest the absence of innovative behaviour.

The Quality of Performance Appraisal Systems Questionnaire (QPASQ) was used to assess the perceived effectiveness of the (traditionally defined) performance appraisal systems in organisations. The QPASQ was developed by Steyn (2010) and is based on human resources management literature, which explains the characteristics of an effective performance appraisal system. Most items were borrowed from Grobler, Wärnick, Carrell, Elbert and Hatfield (2006), who provide a comprehensive list of requirements for an effective performance appraisal system. The items cover the following elements: relevance, reliability, freedom from contamination, discriminability or sensitivity, practicality, acceptedness, labour legislation requirements, specificity, (desired) outcomes, appropriate and contracting. Steyn (2010) reports internal consistency (Cronbach's alpha) of 0.84 and significant correlations (in the expected direction) with other workplace attitudes. The questionnaire used in this research consisted of 18 items, with the first question reading as follows: 'The performance appraisal system at my organisation is the primary mechanism used to assess the performance of the employees'. Respondents were requested to indicate their views on this statement on a scale ranging from 1 (Absolutely false – this is true in ±10% of all cases) to 5 (Absolutely true – this is true in ±90% of all cases. A high score would be indicative that a traditionally defined performance appraisal system is in place and effectively functioning while a low score would indicate that the respondents were not of the opinion that a traditionally defined effective performance appraisal system was functioning in their organisation.

The Human Resource Practices Scale (Nyawose 2009) was used to measure the perceived effectiveness of human resource practices, with three questions per practice. Seven HR practices were assessed in this study, namely training and development, compensation and rewards, performance management, supervisor support, staffing, diversity management, as well as communication and information sharing. Nyawose (2009) reports internal consistencies varying from 0.74 to 0.93 for these scales and significant correlations (in the expected direction) with outcomes such as occupational commitment and turnover intentions. Steyn (2012) reports alphas varying between 0.88 and 0.74 and significant correlations (in the expected direction) with outcomes such as job satisfaction, employee engagement, occupational commitment and turnover intentions. The following is the first question from the training and development part of the scale: 'My company is committed to the training and development needs of its employees'. Respondents were requested to indicate their views on this statement on a scale ranging from 1 (disagree strongly) to 5 (agree strongly). For each individual HR practice, the minimum score would be 3 and the maximum 15. A high score on the survey would be indicative of a belief that HR practices were effective, whereas a low score would indicate that the respondents were not satisfied with the HR practices provided.

The Multifactor Leadership Questionnaire (Avolio, Bass & Jung 1995) was used in the study. The questionnaire measures aspects of transformational leadership (12 items), transactional leadership (6 items), as well as a laissez-faire leadership style (three items). Extensive research on the instrument indicates acceptable reliability as well as validity (Antokonis, Avolio & Sivasubraimania 2003; Avolio, Bass & Jung 1999; Bono & Judge 2004; Muenjohn & Armstrong 2008). Respondents were asked to indicate their levels of agreement with statements such as: 'My manager makes others feel good to be around him/her'. Respondents were asked to indicate how often this behaviour was present in their managers, where (0) indicates 'Not at all', (1) 'Once in a while', (2) 'Sometimes', (3) 'Fairly often' or (4) 'Frequently, if not always'. A high score on a specific scale would be indicative of a workplace where that type of leadership style is often displayed, while a low score would be indicative of the absence of such leadership.

Data analysis

Demographical information about the sample, as well as descriptive statistics on the instrument of interest, the shortened version of the CEAI, were calculated. The mean, standard error of mean, standard deviation, skewness and kurtosis for the CEAI[2] are presented. With regard to kurtosis, for a sample of 200, heavier tails (platykurtic shape) are indicated with values below -0.47 and a sharper peak (leptokurtic shape) is indicated with values higher than 0.62 (Doane & Seward 2009). For a sample of 200, the lower limit for skewness (skewed to the left) is -0.281 and the upper limit (skewed to the right) is 0.281. These cut-off scores will be used in making comments with regard to the normality of the distribution.

Next calculations were done concerning the reliability of the instrument. Cronbach's alpha coefficient and the strict parallel method for calculating reliability, as generated

2.In most of the discussions that follow, reference will be made to the Strydom (2013) adaptation of the CEAI, the shortened version of the CEAI. All the results in the results section refer to the shortened version of the CEAI. To facilitate the flow of the argument, reference will not always be made to shortened version of the CEAI.

through the SPSS-23 programme, were calculated. As many authors (Clark & Watson 1995; Field 2009; Guilford & Benjamin 1978; Hair et al. 2010; Nunnally & Bernstein 1994) note that coefficients between 0.6 and 0.8 are expectable, the margin in this research was set at 0.70. This norm was applied to all the calculations pertaining to reliability.

Several calculations were done with regard to gathering information on validity. The first related to criterion validity. To test for concurrent criterion-related validity, the correlation between CEAI, as independent variable, and IWB and IIB, as dependent variables, was calculated. A statistical significant correlation ($p < 0.01$) of a medium size (larger than 0.3, as defined by Cohen 1988) was set as a minimum indicator of concurrent validity.

The rest of the analyses concerned construct validity. Firstly, the homogeneity of the items was tested. The common inter-item correlation, for the entire as well as the five subscales of CEAI, was calculated. Guidelines on the size of an acceptable inter-item correlation vary, but for this research the range was set in line with Clark and Watson's (1995) guidelines, which are $0.15 < R > 0.50$. Should this correlation be too high, then it means the items are too similar. If the correlations were too low on the other hand, they are not related.

Factorial validity was assessed through testing if the different subscales of the CEAI loaded in different factors. This is a simple analysis to test whether the items of the subtest correlate more with the subtest's own items than with items from another subtest (Nunnally & Bernstein 1994). Before performing this procedure, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was performed, as well as Bartlett's test of sphericity. The standards of acceptability for KMO are above 0.7 (Field 2009; Hair et al. 2010). In the case of the Bartlett's test the statistics generated should be statistically significant ($p < 0.05$) (Pallant 2010). Only if these results were acceptable, a principal component analysis was performed. The standard criteria of eigenvalues greater than 1 will be used for factor extraction. Ideally, five components, representing the five subscales of the CEAI, will be identified. Then the Varimax method with Kaiser normalisation was performed and values smaller than 0.4 were suppressed, to make interpretation easier. Ideally, 80% of the items will load on the appropriate factors (subscales).

Tests of known-group differences were conducted next. Firstly, it was tested whether government organisations (including parastatal entities) show less corporate entrepreneurship than private business entities, and secondly if managers show more corporate entrepreneurship than non-managers. One-way analysis of variance was performed in both cases. In the case of the multiple groups, the Scheffe post hoc test was performed to detect which groups differed from each other. Statistical significance of differences ($p < 0.05$) between groups was seen as sufficient evidence of known-group validity.

Information on convergent, and to a lesser extent divergent validity, was created by calculating the correlation between CEAI and several other measures. Firstly, it was hypothesised that corporate entrepreneurship would correlate significantly with innovative behaviour, more than generic organisational attitudes (employee engagement and organisational commitment). It was hypothesised that CEAI would correlate more with active forms of leadership (transformational and transactional) than with more passive forms of leadership (laissez-faire). Also, it was hypothesised that CEAI is related to performance, and as such, it would correlate more with a measure of effective performance management, rather than with a general measure of human resources management. Lastly, it was hypothesised that CEAI would correlate more with attitudes towards the job (employee engagement) than with attitudes towards the organisation (organisational commitment). A correlation of 0.5 would be seen as a clear sign of convergence, following Gregory's (2011) example, and a non-significant correlation as evidence of divergent validity, relying on Cohen et al. (2013). However, in this case divergent validity was not the concern, and differences in correlation, as hypothesised, were used as indicative evidence of validity.

Factor analysis would also be performed to test for divergent validity. This was done through forcing CEAI and each of the other measures used in this study into a two-factor solution, and then performing a Varimax method rotation with Kaiser normalisation. After suppressing values smaller than 0.4, to make interpretation easier, the percentage of items that load (correctly) on the appropriate factor was calculated. Should 70% of the items with loadings of 0.4 load 'correctly', it would be interpreted as signalling divergent validity. Should this percentage not be achieved, it would point to a lack of divergent validity. The tolerance for items loading 'incorrectly', indicative of poor divergent validity, was set at 10%. Thus, should more than 10% of items load 'incorrectly', the instrument would be seen as invalid from a factorial point of view.

Ethical considerations

Ethical clearance for the collection of the data was obtained from the ethics committee of the University of South Africa's Graduate School of Business Leadership (2014_SBL_018_CA dated 27 February 2014). All standard requirements for collecting data from human subjects were followed and no breaches of procedures were reported during the collection process.

Findings

Demographics of the sample

The total sample consisted of 3180 employees, representative of 53 companies. In total 57.1% reported that they were male employees, compared to 42.5% reporting that they were female employees (missing data = 0.4%). As far as race is concerned, 8.3% marked Asian, 58.4% black people, 8.4% mixed race and 24.6% white people (missing data = 0.3%). Their ages ranged between 20 and 72, with an

average of 37.80 (standard deviation = 9.11). As far as tenure at their present company is concerned, it varied between 1 month and 42 years, with an average of 8.39 (standard deviation = 7.47).

As far as functions are concerned, the findings showed that 46.6% indicated that they were involved in the core business of the company, with 52.8% reporting that they fulfil supportive roles (missing data = 0.5%). With regard to position, 36.5% indicated that they hold some kind of managerial position, while 62.9% reported that they did not form part of management (missing data = 0.7%). In Table 1 the post levels of the respondents are presented (missing data = 1.8%).

Concerning formal schooling, 5.0% reported that they received less than 12 years of formal schooling and 25.5% said that they had completed 12 years of formal schooling. A further 40.2% reported that they had completed a degree or diploma, while 28.9% indicated that they had a higher degree or higher diploma (missing data = 0.4%).

Descriptive statistics of the shortened Corporate Entrepreneurship Assessment Instrument

The descriptive statistics for the total instrument, as well as for the five subscales, are presented in Table 2. The sample size was 3180. The maximum total score was 98 and the minimum total score was 30 (20 items). For the subscales, the maximum score was 20 and the minimum 4 (4 items).

Almost all subscales were skewed to the left, with the exception of time availability, which was within the boundaries of normality (-0.281 to 0.281). The total score was also skewed to the left, with a value of -0.291. With regard to kurtosis, the subscale time availability had a heavier tail and the subscale organisational boundaries had a sharper peak. However, the total CEAI score of 0.257 fell well within the boundaries of -0.47 to 0.62.

TABLE 1: Description of post levels of respondents.

Semantic scale	Patterson	%
Senior management and top management	E and F	5.0
Professionally qualified, experienced specialists and middle management	D	27.7
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents	C	43.1
Semi-skilled and discretionary decision-making	B	20.1
Unskilled and defined decision-making	A	2.4

Reliability

Reliability was reported as per the Cronbach's alpha coefficient and the strict parallel method, as generated through the SPSS-23 programme. The coefficient for the total instrument was 0.758 (20 items). The unbiased reliability was 0.723 and the common inter-item correlation was 0.115. The coefficients for the subscales are presented in Table 3.

Interesting to note from the above is that common inter-item correlation related positively to reliability for the subscales (each with four items), though this parallel is not found for the total instrument (with 20 items).

Criterion-related validity

The results pertaining to the correlation and CEAI and innovative behaviour are presented in Table 4.

The correlation coefficients presented in Table 4 reveal that the size of the correlations is small, with the highest coefficients just below the threshold of 0.03, which Cohen (1988) set for a medium effect.

Construct validity

Evidence on construct validity is presented under four subheadings.

TABLE 3: Reliability coefficients and common inter-item correlation for subscales and Corporate Entrepreneurship Assessment Instrument total score.

Subscales or total score	Cronbach's alpha	Strict parallel unbiased reliability	Common inter-item correlation
Management support	0.676	0.662	0.328
Work discretion	0.746	0.714	0.384
Rewards and reinforcement	0.635	0.623	0.292
Time availability	0.586	0.562	0.242
Organisational boundaries	0.560	0.502	0.201
Total	**0.758**	**0.723**	**0.115**

TABLE 4: The correlation between Corporate Entrepreneurship Assessment Instrument scores and innovative behaviour in the workplace.

Corporate entrepreneurship	Innovative work behaviour	Individual innovative behaviour
Management support	0.234	0.216
Work discretion	0.206	0.201
Rewards and reinforcement	0.223	0.188
Time availability	0.014	0.023
Organisational boundaries	0.162	0.183
Total	**0.277**	**0.267**

Note: In all cases, N = 3 180 and all correlations are significant at the > 0.001 level.

TABLE 2: Descriptive statistics for subscales and shortened Corporate Entrepreneurship Assessment Instrument total score.

Subscales or total score	Mean	Standard error of mean	Standard deviation	Skewness†	Kurtosis
Management support	12.77	0.053	3.01	-0.467	-0.011
Work discretion	13.57	0.060	3.42	-0.386	-0.299
Rewards and reinforcement	13.39	0.054	3.10	-0.347	0.008
Time availability	11.15	0.053	3.03	-0.025	-0.429
Organisational boundaries	14.99	0.046	2.63	-0.585	0.656
Total	**65.90**	**0.163**	**9.24**	**-0.291**	**0.257**

†, The standard error for skewness was 0.043 and the standard error for kurtosis was 0.087 for the total score.

Homogeneity of the items

As stated above, the homogeneity of the items, expressed as inter-item correlations, could be indicative of content validity. The inter-item correlation of the subscales varies between 0.201 and 0.384, and for the total score it is 0.115 (see Table 3). All the subscales fall within the set parameters ($0.15 < R > 0.50$; Clark & Watson 1995), but the total is outside these boundaries.

As stated before, Cronbach's alpha could also be indicative of homogeneity. For the total CEAI score as well as for work discretion, a margin of 0.7 was reached. Unlike in the previous paragraph, where inter-item correlations were used, the CEAI met the requirement of homogeneity using the internal consistency measure.

Factorial validity

The Kaiser–Meyer–Olkin measure of sampling adequacy was performed and the value was 0.805. The Bartlett's test of sphericity was also conducted and the approximate chi-square value of 11753.89 (degrees of freedom = 190) was significant at a level smaller than 0.001. Given that these values were acceptable, the principle component method was use for factor extraction and this was based on eigenvalues greater than 1. Five factors met the eigenvalue criteria, and these five factors explained 50.5% of the variance in the data. The factors were rotated using the Varimax method with Kaiser normalisation, and this is presented in Table 5. In Table 5 values higher than 0.4 are bolded.

The above rotation converged in five iterations. The results presented in Table 5 present 100% compliance with an ideal solution.

Known-group variation and differences

Validity was also assessed by considering whether the measure could distinguish between groups where differences were expected. In this case it was foreseen that government organisations (including parastatal entities) would show less corporate entrepreneurship than private business entities and that non-managers would similarly show less corporate entrepreneurship than managers. The results revealed that the total scores of private business ($N = 1983$, mean = 66.61, standard deviation = 8.98), parastatal entities ($N = 480$, mean = 64.53, standard deviation = 8.77) and government organisations ($N = 719$, mean = 64.85, standard deviation = 10.04) differed significantly ($F = 15.94$, $p < 0.001$). The Scheffe post hoc test showed that parastatal entities and government organisations formed a homogeneous subset, which differed from private business. The results showed that managers ($N = 1160$, mean = 65.58, standard deviation = 9.38) did not score differently to non-managers ($N = 2001$, mean = 66.09, standard deviation = 9.16) on corporate entrepreneurship ($F = 2.22$, $p = 0.136$).

Convergent and discriminant validity

It was hypothesised that corporate entrepreneurship would correlate significantly with certain constructs, and not with others. From Tables 4 and 6, it can be read that corporate entrepreneurship does not correlate more with innovative behaviour ($R = 0.267$ and $R = 0.277$; Table 4) with more generic organisational attitudes ($R = 0.420$ for employee engagement and $R = 0.311$ for organisational commitment; Table 6).

As hypothesised, the CEAI correlates more with active forms of leadership (transformational and transactional) than with passive forms of leadership (laissez-faire). CEAI did not correlate more with a measure of effective performance management than with a general measure of human

TABLE 5: Rotated component matrix of Corporate Entrepreneurship Assessment Instrument items.

Item	Subscale	Component				
		1	2	3	4	5
1	Management support	0.063	0.718†	0.088	0.069	-0.043
2	Management support	0.104	0.734†	0.117	0.130	-0.005
3	Management support	0.061	0.644†	0.247	0.098	0.067
4	Management support	0.132	0.628†	0.056	-0.002	0.074
5	Work discretion	0.653†	0.202	0.041	0.097	0.035
6	Work discretion	0.828†	0.100	0.078	0.027	0.021
7	Work discretion	0.822†	0.073	0.123	0.006	0.052
8	Work discretion	0.623†	0.025	0.105	0.179	-0.038
9	Rewards and reinforcement	0.051	0.060	0.686†	0.060	0.076
10	Rewards and reinforcement	0.080	0.017	0.659†	0.081	-0.121
11	Rewards and reinforcement	0.103	0.232	0.727†	0.076	0.093
12	Rewards and reinforcement	0.123	0.299	0.559†	0.109	0.030
13	Time availability	0.155	0.206	0.171	0.209	0.674†
14	Time availability	-0.068	-0.158	-0.067	-0.070	0.650†
15	Time availability	0.103	0.177	0.076	0.050	0.675†
16	Time availability	-0.062	-0.041	-0.050	-0.049	0.639†
17	Organisational boundaries	0.100	0.133	0.163	0.733†	0.023
18	Organisational boundaries	0.119	0.097	0.087	0.761†	0.045
19	Organisational boundaries	0.139	-0.007	-0.011	0.492†	-0.068
20	Organisational boundaries	-0.070	0.065	0.079	0.595†	0.066

†, Loadings higher than 0.4.

TABLE 6: Correlation between Corporate Entrepreneurship Assessment Instrument scores and related measures.

Corporate entrepreneurship	Transformational leadership	Transactional leadership	Laissez-faire leadership	Human resources practices scale	Quality of performance appraisal	Organisational commitment scale	Utrecht work engagement scale-9
Management support	0.365	0.366	0.174	0.437	0.296	0.284	0.287
Work discretion	0.209	0.185	0.151	0.234	0.139	0.197	0.255
Rewards and reinforcement	0.411	0.464	0.144	0.495	0.334	0.287	0.357
Time availability	0.151	0.150	0.127	0.126	0.041	0.033	0.078
Organisational boundaries	0.255	0.256	0.088	0.322	0.220	0.209	0.308
Total	**0.455**	**0.465**	**0.227**	**0.527**	**0.335**	**0.331**	**0.420**

Note: In all cases, N = 3180 and all correlations are significant at the > 0.001 level.

TABLE 7: Distinctiveness of Corporate Entrepreneurship Assessment Instrument items and other items exposed to factor analysis.

Items from 'other measures' included with CEAI items in a factor analysis	Number of items loading on the CEAI factor	Number of items loading on the 'other measure' factor	Total items loading correctly with a load >0.4
Innovative Work Behaviour	14/20	9/10	23/30 = 76.6%
Individual Innovative Behaviour	14/20	14/14	28/38 = 73.6%
Multifactor Leadership Questionnaire	13/20	18/21	31/41 = 75.6%
Organisational Commitment Scale	14/20	7/8	21/28 = 75.0%
Utrecht Work Engagement Scale-9	12/20	9/9	21/29 = 72.4%
Human Resources Practices Scale	10/20†	21/21	31/41 = 75.6%‡
Quality of Performance Appraisal	14/20	17/18	31/38 = 81.5%

†, One item loaded on the 'other measure' factor; ‡, One item loaded on the 'other measure' factor, thus 1/41 = 2.4%.

resources practices, as hypothesised. However, CEAI did correlate more, as expected, with employee engagement than with organisational commitment. Only the correlation with human resources practices surpassed the margin of 0.5, indicating a 'hefty' correlation (Gregory 2011), but on total score level almost all met the 0.3 threshold Cohen (1988) set for a medium effect. Noticeably absent are the measures of innovative behaviour, reported in Table 3.

As explained above, factor analysis was also performed as a measure of convergent and divergent validity. Presenting the actual results is extensive, and a summary of that is presented in Table 7.

In all the (factor) analyses presented above, the requirements were met which could define CEAI as a distinct measure. This is evidence of divergent validity.

Discussion

Data were sampled from 53 companies. In total, 3 180 employees were respondents in this study. From a demographic point of view, most respondents were men, reported that they were members from the black group and that they were employed in non-core roles. Furthermore, most respondents reported that they did not form part of management. The majority categorised themselves as technically skilled and as being part of junior management or working on a supervisory level. Though their demographic characteristics varied widely, the respondents' profiles overall mirrored those of the current South African workforce profile. This meets the call for using a non-Western data to verify the psychometric properties of the CEAI.

The descriptive statistics for the CEAI are presented in Table 2. Given the sample size and the broad collection of companies surveyed, this could be used as guidelines when practitioners and researchers administer the instrument. They should, however, take note that median scores are higher than the mean scores and should consider this when they interpret the results of their tests. Given that the distribution for the total CEAI is close to normal, it may be advisable to focus on that score. This meets the call for localised norms for the use of the CEAI.

Reliability for the total CEAI, as reported as per the Cronbach's alpha coefficient and the strict parallel unbiased reliability, was acceptable at 0.758 and 0.723. As coefficients for some of the subscales were below the set margin, it would be desirable to rather use the total score.

Test of criterion-related validity revealed that the CEAI subscale of management support related most with innovation at work, while the contribution of the subscale time availability was small. When combining the subscales, the correlation between CEAI and innovation at work remained small (R = 0.277 and R = 0.267). Evidence of criterion-related validity was thus lacking.

Evidence on construct validity is presented below. Several measures were used to assess construct validity, as well as some of the results already presented above. The *homogeneity of the items* (as reflected in the inter-item correlations) was acceptable for the subtest, but not for the total score. The results of the factor analysis, reported in Table 5, confirm relatedness of the subscale items. However, contrary to what is suggested by inter-item correlations of the total instrument, the results of the multiple factor analyses, reported in Table 7, suggest that the items of the total instrument converge. The Cronbach's alpha also suggests homogeneity. As such, it is judged that the homogeneity of the items supports construct validity.

Factorial validity also forms part of construct validity. All the requirements were met to perform a factor analysis on the items of the CEAI. Five factors, explaining 50.5% of the variance in the in the data, were extracted. This is an acceptable amount of variance explained. When rotating the axis, all the items of the CEAI loaded on factors in accordance with the design of the instrument and per subscale. The results presented in Table 5 present 100% compliance with the theorised solution and therefore form evidence of factorial validity.

The findings pertaining to *known-group variation*, as evidence of construct validity, were mixed. The CEAI scores of government organisations (including parastatal entities) were lower than or differed from those of private business entities, as predicted, but managers did not score higher than non-managers, which was hypothesised.

Convergent and divergent validity results were mixed. It was hypothesised that corporate entrepreneurship would correlate more with innovative behaviour than with more generic organisational attitudes. Even with hindsight, it is difficult to explain why CEAI would correlate more with employee engagement (R = 0.420) and organisational commitment (R = 0.311) than with the two measures of innovative behaviour (R = 0.267 and R = 0.277). However, CEAI correlated more, as hypothesised, with employee engagement than with organisational commitment. Also, as hypothesised, CEAI correlated more with active forms of leadership (transformational and transactional) than with more passive forms (laissez-faire). The only correlation which surpassed the margin of 0.50 was the generic measure of human resources practices. This correlation was even stronger than the correlation with the measure of effective performance management. Using the correlation matrix as point of departure, it can only be concluded that the results pertaining to convergent and divergent validity are not particularly convincing. However, the results of the factor analysis performed as evidence of divergent validity (Table 7) were confirmative. It is demonstrated that CEAI items are distinct from the items of six other measures. This provides clear evidence of divergent validity.

Conclusion

In this article the psychometric properties of a shortened version of the CEAI are presented. The discussion of the psychometric properties was informed by data from a relatively large sample representative of numerous companies. This sample size compares well to other studies investigating psychometric properties. The reliability scores of the total instrument were acceptable. Also, though the validity evidence was mixed, a multitude of evidence found supported validity. It may be expected that when you collect evidence from a large number of sources, some may yield the consistent confirmation. Given all the evidence provided, particularly the evidence obtained from both applications of factor analysis, it is judged that the CEAI has acceptable validity.

Recommendations

Researchers and practitioners are urged to use the shortened version of the CEAI, using the 20 instead of 48 items. The shortened version of the CEAI showed acceptable reliability and validity and the use of the central statistics provided in Table 2 of this article is recommended, particularly in the South African or similar contexts. Researchers and practitioners can also now exploit the rich theory and empirical knowledge pertaining to CEAI within the South African context.

Limitations

Though the sample size was relatively large, and sampling within organisations was done randomly, organisations were selected on the basis of convenience. The generalisation of the results is thus limited. Furthermore, a judgement had to be made regarding the overall validity of the instrument, as not all the indicators of validity were positive. Although subjectivity was uncomfortable, most authors refer to validity assessment as a judgement call. Further research on this is needed to demonstrate evidence of validity. Also, additional statistical techniques, such as structural equation modelling, could be used in future studies. This may provide additional insights about the topic. The research made use of only a single method of data collection, self-reporting. This limitation may be mediated by adding additional methods of reporting, and this is recommended for future studies.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

References

Adegoke, O., Walumbwa, F.O. & Myers, A., 2012, 'Innovation strategy, human resource policy, and firms' revenue growth: The roles of environmental uncertainty and innovation performance', *A Journal of Decision Sciences Institute* 43(2), 273–301. https://doi.org/10.1111/j.1540-5915.2011.00350.x

Allen, N.J. & Meyer, J.P., 1990, 'The measurement and antecedents of affective, continuance and normative commitment to the organisation', *Journal of Occupational Psychology* 63, 1–18. https://doi.org/10.1111/j.2044-8325.1990.tb00506.x

American Educational Research Association, American Psychological Association, and National Council on Measurement in Education, 1999, *Standards for educational and psychological testing*, American Educational Research Association, Washington, DC.

Antokonis, J., Avolio, B.J. & Sivasubramanian, N., 2003, 'Context and leadership: An examination for the 9 factor full range leadership theory using MLQ', *The Leadership Quarterly* 14, 261–295. https://doi.org/10.1016/S1048-9843(03)00030-4

Avolio, B.J., Bass, B.M. & Jung, D., 1995, *MLQ: Technical report*, Mind Garden, Redwood City, CA.

Avolio, B.J., Bass, B.M. & Jung, D., 1999, 'Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire', *Journal of Occupational and Organizational Psychology* 7, 441–462. https://doi.org/10.1348/096317999166789

Bakker, A.B., Schaufeli, W.B., Leiter, M.P. & Taris, T.W., 2008, 'Work engagement: An emerging concept in occupational health psychology', *Work and Stress* 22(3), 187–200. https://doi.org/10.1080/02678370802393649

Bhardwaj, B.R., 2012, 'Internal environment for corporate entrepreneurship: Assessing CEAI model for emerging economies', *Journal of Chinese Entrepreneurship* 4(1), 70–87. https://doi.org/10.1108/17561391211200948

Bono, J.E. & Judge, T.A., 2004, 'Personality and transformational and transactional leadership: A meta-analysis', *Journal of Applied Psychology* 89(5), 901–910. https://doi.org/10.1037/0021-9010.89.5.901

Brazeal, D.V., Schenkel, M.T. & Kumar, S., 2014, 'Beyond the organizational bounds in CE research: Exploring personal and relational factors in a flat organizational structure', *Journal of Applied Management and Entrepreneurship* 19(2), 78–106. https://doi.org/10.9774/GLEAF.3709.2014.ap.00006

Campbell, D. & Fiske, D., 1959, 'Convergent and discriminant validation by the multitrait-multimethod matrix', *Psychological Bulletin* 56(2), 81–105. https://doi.org/10.1037/h0046016

Cho, E. & Kim, S., 2015, 'Cronbach's coefficient alpha: Well known but poorly understood', *Organizational Research Methods* 18(2), 207. https://doi.org/10.1177/1094428114555994

Choi, B.K., Moon, H.K. & Ko, W., 2013, 'An organization's ethical climate, innovation, and performance: Effects of support for innovation and performance evaluation', *Management Decision* 51, 1250–1275. https://doi.org/10.1108/MD-Sep-2011-0334

Clark, L.A. & Watson, D., 1995, 'Constructing validity: Basic issues in objective scale development', *Psychological Assessment* 7, 309–319. https://doi.org/10.1037/1040-3590.7.3.309

Cohen, J., 1988, *Statistical power analysis for the behavioural sciences*, 2nd edn., Lawrence Erlbaum Associates, Hillsdale, NJ.

Cohen, R.J., Swerdlik, M.E. & Sturman, E.D., 2013, *Psychological testing and assessment: An introduction to test and measurement*, 8th edn., McGraw-Hill, New York, NY.

Crespell, P. & Hansen, E., 2008, 'Work climate, innovativeness, and firm performance in the US forest sector: In search of conceptual framework', *Canadian Journal for Forest Research* 38, 1703–1715. https://doi.org/10.1139/X08-027

Cronbach, L.J., 1951, 'Coefficient alpha and the internal structure of tests', *Psychometrika* 16(3), 297–334.

Cronbach, L.J. & Gleser, G.C., 1965, *Psychological tests and personnel decisions*, University of Illinois Press, Urbana, IL.

Cronbach, L.J. & Shavelson, R.J., 2004, 'My current thoughts on coefficient alpha and successor procedures', *Educational and Psychological Measurement* 64(3), 391–418. https://doi.org/10.1177/0013164404266386

De Jong, J. & den Hartog, D., 2010, 'Measuring innovative work behaviour', *Creativity and Innovation Management* 19(1), 23–36. https://doi.org/10.1111/j.1467-8691.2010.00547.x

DeVellis, R .F., 2012, *Scale development: Theory and applications*, 3rd edn., Sage, Thousand Oaks, CA.

De Villiers-Scheepers, M.J., 2012, 'Antecedents of strategic corporate entrepreneurship', *European Business Review* 24(5), 400–424. https://doi.org/10.1108/09555341211254508

Doane, D.P. & Seward, L.E., 2009, *Applied statistics in business and economics*, McGraw-Hill, Boston, MA.

Durán-Vázquez, R., Lorenzo-Valdés, A. & Moreno-Quezada, G.E., 2012, 'Innovation and CSR impact on financial performance of selected companies in Mexico', *Journal of Entrepreneurship, Management and Innovation* 8(3), 5–20.

Field, A., 2009, *Discovering statistics using SPSS*, 3rd edn., Sage, Los Angeles, CA.

García-Morales, V.J., Lloréns-Montes, F.J. & Verdú-Jover, A.J., 2008, 'The effects of transformational leadership on organizational performance through knowledge and innovation', *British Journal of Management* 19(4), 299–319. https://doi.org/10.1111/j.1467-8551.2007.00547.x

Golla, E. & Johnson, R., 2013, 'The relationship between transformational and transactional leadership styles and innovation commitment and output at commercial software companies', *The Business Review Cambridge* 21(1), 337–343.

Grant, R., 2012, *Contemporary strategy analysis: Text and cases*, Blackwell, Malden, MA.

Gregory, R.J., 2011, *Psychological testing: History, principles, and applications*, 6th edn., Pearson, Boston, MA.

Grobler, P., Wärnick, S., Carrell, M.R., Elbert, N.F. & Hatfield, R.D., 2006, *Human resource management in South Africa*, 3rd edn., Thomson Learning, London.

Guilford, J.P. & Benjamin, F., 1978, *Fundamental statistics in psychology and education*, 6th edn., McGraw-Hill, New York, NY.

Gunday, G., Ulusoy, G., Kilic, K. & Alpkan, L., 2011, 'Effects of innovation types on firm performance', *International Journal of Production* 133(2), 662–676. https://doi.org/10.1016/j.ijpe.2011.05.014

Hair, F.J., Black, W.C., Babin, B.J. & Anderson, R.E., 2010, *Multivariate data analysis*, 7th edn., Pearson/Prentice Hall, Upper Saddle River, NJ.

Hajipour, B. & Mas'oomi, S., 2011, 'A survey on the relationship between financial performance and corporate venturing', *Interdisciplinary Journal of Contemporary Research in Business* 2(12), 890–901, viewed 16 November 2016, from http://search.proquest.com/docview/876011441?accountid=14648

Hind, C. & Steyn, R., 2015, 'Corporate entrepreneurial activity: Distilling the concept', *The Southern African Journal of Entrepreneurship and Small Business Management* 7, 69–87. https://doi.org/10.4102/sajesbm.v7i1.7

Holt, D.T., Rutherford, M.W. & Clohessy, G.R., 2007, 'Corporate entrepreneurship: An empirical look at individual characteristics, context, and process', *Journal of Leadership & Organizational Studies* 13(4), 40–54. Viewed 16 November 2016, retrieved from http://search.proquest.com/docview/203135466?accountid=14648; https://doi.org/10.1177/10717919070130040701

Hornsby, J.S., Kuratko, D.F., Holt, D.T. & Wales, W.J., 2013, 'Assessing a measurement of organizational preparedness for corporate entrepreneurship', *The Journal of Product Innovation Management* 30(5), 937. https://doi.org/10.1111/jpim.12038

Hornsby, J.S., Kuratko, D.F. & Zahra, S.A., 2002, 'Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale', *Journal of Business Venturing* 17(3), 253–273. https://doi.org/10.1016/S0883-9026(00)00059-8

Kaiser, H.F. & Michael, W.B., 1975, 'Domain validity and generalizability', *Educational and Psychological Measurement* 35, 31–35. https://doi.org/10.1177/001316447503500103

Kamffer, L., 2004, 'Factors impacting on corporate entrepreneurial behaviour within a retail organization: A case study', Master's degree dissertation, University of South Africa, Pretoria.

Karimi, A., Malekmohamadi, I., Daryani, M.A. & Rezvanfar, A., 2011, 'A conceptual model of intrapreneurship in the Iranian agricultural extension organization', *Journal of European Industrial Training* 35(7), 632–657. https://doi.org/10.1108/03090591111160779

Kleysen, R.F. & Street, C.T., 2001, 'Toward a multi-dimensional measure of individual innovative behaviour', *Journal of Intellectual Capital* 2(3), 284–296. https://doi.org/10.1108/EUM0000000005660

Kuratko, D.F. & Audretsch, D.B., 2013, 'Clarifying the domains of corporate entrepreneurship', *International Entrepreneurship and Management Journal* 9(3), 323–335. https://doi.org/10.1007/s11365-013-0257-4

Kuratko, D.F., Hornsby, J.S. & Covin, J.G., 2014, 'Diagnosing a firm's internal environment for corporate entrepreneurship', *Business Horizons* 57(1), 37–47. https://doi.org/10.1016/j.bushor.2013.08.009

Lawshe, C.H., 1975, 'A quantitative approach to content validity', *Personnel Psychology* 28, 563–575. https://doi.org/10.1111/j.1744-6570.1975.tb01393.x

Lord, F. & Novick, M., 1968, *Statistical theories of mental test scores*, Addison-Wesley, Reading, MA.

Martuza, V.R., 1977, *Applying norm-referenced and criterion-referenced measurement in education*, Allyn & Bacon, Boston, MA.

Marzban, S., Seyed, M.M. & Ramezan, M., 2013, 'The effective factors in organizational entrepreneurship climate', *Journal of Chinese Entrepreneurship* 5(1), 76–93. https://doi.org/10.1108/17561391311297897

Moerdyk, A., 2015, *The principles and practice of psychological assessment*, 2nd edn., Van Schaik, Pretoria.

Muenjohn, N. & Armstrong, A., 2008, 'Evaluating the structural validity of the MLQ, capturing the leadership factors of transformational-transactional leadership', *Contemporary Management Research* 4(1), 3–14. https://doi.org/10.7903/cmr.704

Newton, P.E., 2012, 'Clarifying the consensus definition of validity', *Measurement* 10, 1–29. https://doi.org/10.1080/15366367.2012.669666

Nicholls, A.R., Madigan, D.J., Backhouse, S.H. & Levy, A.R., 2017, 'Personality traits and performance enhancing drugs: The Dark Triad and doping attitudes among competitive athletes', *Personality and Individual Differences* 112, 113–116. https://doi.org/10.1016/j.paid.2017.02.062

Nikolov, K. & Urban, B., 2013, 'Employee perceptions of risks and rewards in terms of corporate entrepreneurship participation', *SA Journal of Industrial Psychology* 39(1), 1–13. https://doi.org/10.4102/sajip.v39i1.1047

Novick, M.R. & Lewis, C., 1967, 'Coefficient alpha and the reliability of composite measurements', *Psychometrika* 32(1), 1–13. https://doi.org/10.1007/BF02289400

Nunnally, J.C. & Bernstein, I.H., 1994, *Psychometric theory*, 3rd edn., McGraw-Hill, New York, NY.

Nusair, T.T., 2013, 'The role of climate for innovation in job performance: Empirical evidence from commercial banks in Jordan', *International Journal of Business and Social Science* 4, 208–217.

Nyawose, M., 2009, 'The relationship between human resources management practices, organisational commitment and turnover intentions amongst engineering professionals', Master's degree dissertation, University of South Africa, Pretoria, South Africa.

Nybakk, E. & Jenssen, J.I., 2012, 'Innovation strategy, working climate, and financial performance in traditional manufacturing firms: An empirical analysis', *International Journal of Innovation Management* 16, 1–26. https://doi.org/10.1142/S1363919611003374

Overstreet, R.E., Hanna, J.B., Byrd, T.A., Cegielski, C.G. & Hazen, B.T., 2013, 'Leadership style and organizational innovativeness drive motor carriers toward sustained performance', *The International Journal of Logistics Management* 24(2), 247–270. https://doi.org/10.1108/IJLM-12-2012-0141

Pallant, J., 2010, *SPSS survival manual*, 5rd edn., McGraw-Hill, Berkshire.

Panuwatwanich, K., Stewart, R.A. & Mohamed, S., 2008, 'Enhancing innovation and firm performance: The role of climate for innovation in design firms', in *Proceedings of the 5th International Conference on Innovation in Architecture, Engineering and Construction*, Antalya, Turkey.

Peterson, R.A., 1994, 'A meta-analysis of Cronbach's coefficient alpha', *Journal of Consumer Research* 21(2), 381. https://doi.org/10.1086/209405

Polit, D.F. & Beck, C.T., 2006, 'The content validity index: Are you sure you know what's being reported? Critique and recommendations', *Research in Nursing and Health* 29, 489–497. https://doi.org/10.1002/nur.20147

Schaufeli, W.B. & Bakker, A.B., 2004, 'Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study', *Journal of Organizational Behavior* 25(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W.B., Bakker, A.B. & Salanova, M., 2006, 'The measurement of work engagement with a short questionnaire: A cross-national study', *Educational and Psychological Measurement* 66(4), 701–716. https://doi.org/10.1177/0013164405282471

Shaughnessy, J.J., Zechmeister, E.B. & Zechmeister, J.S., 2009, *Research methods in psychology*, 8th edn., McGraw-Hill, New York, NY.

Sijtsma, K., 2009, 'On the use, the misuse, and the very limited usefulness of Cronbach's alpha', *Psychometrika* 74(1), 107–120. https://doi.org/10.1007/s11336-008-9101-0

Spatz, C. & Kardas, E.P., 2008, *Research methods: Ideas, techniques, & reports*, McGraw-Hill, New York, NY.

Steyn, R., 2010, *The development and validation of the quality of performance appraisal systems questionnaire*, a paper presented at the 27th International Congress of Applied Psychology, Melbourne, Vic, Australia, 11–16 July.

Steyn, R., 2012, 'Human resource practices and employee attitudes: A study of individuals in ten South African companies', *Alternation* 5 184–167.

Strydom, A.S., 2013, 'The influence of organizational behaviour variables on corporate entrepreneurship', Doctoral degree thesis, University of South Africa.

Tredoux, C. & Durrheim, K., 2013, *Numbers, hypotheses & conclusions: A course in statistics for the social sciences*, 2nd edn., Juta, Cape Town.

Van Wyk, R. & Adonisi, M., 2011. 'An eight-factor solution for the Corporate Entrepreneurship Assessment Instrument', *African Journal of Business Management* 5(8), 3047–3055.

Wilson, F.R., Pan, W. & Schumsky, D.A., 2012, 'Recalculation of the critical values for Lawshe's content validity ratio', *Measurement and Evaluation in Counselling and Development* 45(3), 197–210. https://doi.org/10.1177/0748175612440286

Using experiential marketing to leverage the small and medium-sized enterprises' brand repositioning and revitalisation

Author:
Boniface Okanga[1]

Affiliation:
[1]Department of Business Management, University of Johannesburg, South Africa

Corresponding author:
Boniface Okanga,
boniokanga@gmail.com

Background: It is easily discernible from theories that experiential marketing spawns frequent brand diagnosis, repositioning and revitalisation. However, the question as to how it can be used to leverage the repositioning and revitalisation of the usually struggling small and medium-sized enterprises (SMEs') products is an area that has not been explored in most of the contemporary studies on how to improve SMEs' market performance.

Aim: This research explores how experiential marketing can be effectively utilised to facilitate the repositioning and revitalisation of the usually struggling SMEs' products.

Setting: The study was based on the SMEs in the Gauteng and Western Cape provinces in South Africa.

Method: The study used an inductive–exploratory–qualitative research paradigm to explore the opinions of 30 SMEs' marketing managers on the values and challenges of using experiential marketing to undertake relevant brand diagnosis, repositioning and revitalisation. It is through such analysis that the study aimed to discern how experiential marketing can be effectively used to facilitate the repositioning and revitalisation of the usually struggling SMEs' products.

Results: However, most of the SMEs were only found to use experiential marketing to leverage not only their promotion and marketing capabilities, as well as sales and profitability maximisation, but also the minimisation of the costs of marketing. Such approach was found to limit SMEs' capabilities to proactively undertake brand diagnosis to identify the inhibitors of a brand's effective market performance that must be addressed to turn around the performance of their struggling products or business concepts.

Conclusion: Considering that not much research has been conducted in this area, the study concludes with the experiential marketing framework that explicates how experiential marketing leverages brand diagnosis, repositioning and revitalisation.

Introduction

Experiential marketing leverages frequent brand repositioning and revitalisation. As experiential marketing uses intense customer–product interactions to facilitate promotion and sale of the product to the target market segments, it also enhances in-depth evaluation and understanding of the degree of customers' emotional attachments to a brand. This aids brand diagnosis and the identification of the areas of customer dissatisfaction that must be reviewed and modified to bolster a brand's repositioning and revitalisation (Murane 2012:3). Brand repositioning refers to the process of diagnosing, identifying and correcting quality, attributes, functionality, distribution and marketing strategies' issues that could be affecting a brand's effective market performance, so as to turn around the performance of the struggling brands (Jain & Lohia 2014:197). Brand repositioning also edifies brand revitalisation. Brand revitalisation is the process of diagnosing and refreshing brands that could have turned obsolete to ensure that they are effectively responsive to the changes in the market trends that could have unfolded since the brand's inception (Zarantonello & Schmitt 2014:255). As brand repositioning and revitalisation require intense brand diagnosis and evaluation, experiential marketing, therefore, offers a framework against which such evaluations are undertaken.

Experiential marketing is a postmodern strategic marketing paradigm that uses intense customer–product–salesforce interactions as a marketing approach for promoting the sale and consumption of a product among the selected market segments. It relies on the cognitive six senses of smell, vision, taste, hearing, touch and balance to identify and activate customer touchpoints and

triggers that ignite customers' emotional attachment to a brand (Gronlund 2013:19). It is during such a process that experiential marketing aids brand diagnosis and identification of how the struggling brands can be repositioned and revitalised. This is attributable to the fact that it stimulates marketing executives' abilities to gain detailed insights into customers' level of appreciation or dissatisfaction with the brand. If customer experience and emotional attachments are not supportive of the identified brands, experiential marketing enhances acquisition and assimilation of new information that aids relevant review and modification of a product's designs, features, attributes and quality of the associated customer services to reposition and revitalise more struggling brands (Alkilani, Ling & Abzakh 2013:262). This bolsters marketing executives' abilities to sense symptoms of eminent brand declines and to undertake pro-active intervention strategies to avoid such declines. It also minimises risks of brand obsolescence to subsequently spur improvement of a firm's overall sustainability. However, as the leveraging effects of experiential marketing on a firm's marketing and promotional capabilities have been widely explored by most of the contemporary studies (Day 2011:183; Gronlund 2013:19; Lee & Chang 2012:103), only little seems to have been undertaken to evaluate its leveraging effects on brand repositioning and revitalisation. It is against that backdrop that this study explores how experiential marketing can be effectively utilised to facilitate the repositioning and revitalisation of the usually struggling small and medium-sized enterprises' (SMEs') brands or products. Considering that leveraging SMEs' sustainability is a challenge that still confounds most of the contemporary business executives, this research is of significant importance on the basis that it offers new insights on how experiential marketing can be used to encourages SMEs' effective market performance.

Literature review

The logic that experiential marketing edifies brand evaluation and review to spur brand repositioning and revitalisation is implicitly discernible in most of the contemporary theories on experiential marketing and brand repositioning and revitalisation (Adeosun & Ganiyu 2014:21; Day 2011:183; Dev & Chekitan 2012:5; Fang-Chao 2015:52; O'Guinn, Semenik & Scheinbaum 2015:19; Russo et al. 2012:21).

Experiential marketing

Experiential marketing does not only facilitate intense customer interactions with the product but also provide opportunities for firms to interact and engage with customers (Day 2011:183). This enables thorough evaluations of their overall actual experience with the product. It is through such an approach that marketing executives are often able to understand and identify the areas they could have scored it wrongly or rightly, so as to undertake relevant modifications to reposition or revitalise the struggling brands. Such areas of customer experience often constitute of experiential subject, experiential object and experiential process (Russo et al. 2012:21). Experiential subject refers to the process of undergoing the actual experience of the product. It is in such process that experiential effects that often instigate the decision to buy or not to buy reside. Experiential object is what is actually experienced. Experiential process arises from the acts of sensorially, emotionally, intellectually, imaginatively, physically, socially and spiritually experiencing the experiential object by the experiential subject (Russo et al. 2012:21). To create different experiences that influence purchase decisions, Schmitt's (1999) *Strategic Experiential Modules (SEMs)* propose five experiences that businesses can create for their customers. These integrated Schmitt's (1999) five experiences include sensory, affective, creative, cognitive and physical behaviours and lifestyles, and social identity experience. Failure of a product to offer all these forms of experience implies that its market performance may not be that impressive. Such insights should, therefore, cause the need for the review and repositioning of such a product. Sensory experience uses sense marketing to instigate and improve a product's appeal to customers through any of the five senses that encompass sight, sound, touch, taste or smell. It creates and adds values that excite a customer to in turn instigate emotions that influence the formation of positive judgements of behavioural, emotional, cognitive, relational and symbolic values about the product or services being offered (Crain & Abraham 2008:29). Through this process, sensory marketing aids the merging of emotional with rational mental attributes for a customer to develop a more positive perception and attitude towards the brand. Affective experience marketing focuses on exploring and developing customers' moods and feelings from less positive moods to strong emotions that are often characterised by joy and satisfaction (Anderson, Kumar & Narus 2007; Schmitt 1999).

However, improvement of customers' moods and feelings from the weakest to the strongest levels may require in-depth analysis and understanding of customers' behaviours on marketing the product, purchase, consumption and disposal of the product (Aronne & Vasconcelos 2009:19; O'Guinn et al. 2015:19; Schmitt 1999). Critical analysis and understanding of these processes enable firms to add or modify attributes that leverage improvement of customer moods and feelings to excitement, joy and satisfaction as they undergo the product's purchase and consumption processes (Anderson et al. 2007; Schmitt 1999). As it is often at the consumption level that customer moods and feelings about the product improve, it is often of essence that intense customer interactions and contacts with the product are facilitated during the marketing stage. This enables customer's evaluation of all the aspects of the product. If positive, it may instigate joy and excitement that in turn also influence immediate customers' purchase decisions (Xu et al. 2015:53). However, that may still depend on how creative cognitive experience marketing is integrated in such a process to permit customer's free thinking and formation of mental judgement as he or she undergoes through relevant search, purchase and consumption processes (Lefi & Gharbi 2011:187; Merchant & Ford 2008:13).

Such approach improves the level of customer involvement, as well as feedback for the executives to re-evaluate how the existing products and brands are able to instigate positive customer experience, joy and satisfaction (Xu et al. 2015:53). To evoke enormous customer feedbacks, thought-provoking marketing that creatively relies on technologies may be used to surprisingly, intriguingly and provocatively instigate customers to think and evaluate a product. This elicits critical customer information for marketing executives in order to understand how customers feel prior to the consumption of the product or after (O'Guinn et al. 2015:19). To accomplish this, physical experience, behaviours and lifestyles, as well as the relational and social identity of the customers, are often further evaluated and targeted to instigate and improve customers' emotional attachments and attractions to the product. Such a view seems to echo the reasoning in Carù and Cova's (2008:33) theory that heralds consumption experience to unfold over time according to four stages that encompass pre-consumption, purchasing, core consumption, and memories and nostalgic experience. It is the customer's experience along these four stages that influences his or her decisions and future actions in as far as the purchase and consumption of a particular brand are concerned (Carù & Cova 2008:33; Yu et al. 2014:757). However, effective response to the initial stages of customer experience in which expectations are created to influence search and planning decisions may require investment in social media videos to permit customers to experience, interact, question and test product functionalities (Russo et al. 2012:21). The application of such technologies is often accompanied by the use of events in which prospective customers are encouraged to physically test, try and interact with the product (Jonk, Handschuh & Niewiem 2008:24). This creates opportunities for businesses to undertake brand diagnosis to identify and correct the areas that customers are not satisfied with. It is at that level that experiential marketing may leverage brand repositioning and revitalisation.

However, Masterman and Wood (2008:1) herald seven attributes that often entice customer experience to arise from customer involvement with the event, experience and brands that instigate customer emotions, interactions with the brand and immersion of all senses. The other attributes are often associated with the development and nurturing initiatives that cause high impact intensity. In turn, such high impact intensity instigates pleasurable memories, customer individuality of experience, innovative improvements of contents, locations, timing and the overall operational efficiency (Masterman & Wood 2008:1). These attributes are often accompanied by the initiatives for improving the overall integrity of the business by offering real, authentic and genuine benefits to customers. As firms apply such measures to achieve the desired experiential marketing outcomes, customer immersion is often used as one of the critical techniques for experiential marketing (Masterman & Wood 2008:1). Customer immersion refers to the process of exposing customers to the product or the brand as much as possible to influence improvement of customers' understanding of the brand as well as to discern how they connect to the brand (Dev & Chekitan 2012:5).

To ensure the process of immersion improves customer's connection with the brand, it is of essence to improve the flow of immersion processes according to three main steps: nesting, investigating and stamping (Dev & Chekitan 2012:5). Nesting refers to the stage where opportunities are created for customers to interact, question and understand the brand until they feel comfortable and satisfied. This process of familiarisation often leads to the investigation stage where customers tend to explore further values that not only ignite their emotions but also further connect them to the brand. As the customer gets more connected to the product, stamping stage arises to influence the use of the experience gained as points of reference to make necessary decisions (Zarantonello & Schmitt 2014:255). To accomplish that, businesses may also have to invest in relevant online marketing technologies as well as multimedia videos that permit customers to evaluate information and ask questions (Zarantonello & Schmitt 2014:255). It is through such questions that businesses can be able to identify common igniters of customers' emotions that must be capitalised on to catalyse a product's overall effective market performance.

Effective use of customer immersion as part of the techniques for experiential marketing is also often further edified by the use of hedonistic and instrumental events (Hu, Ho & Hsieh 2014:55; Masterman & Wood 2008:1). Hedonistic events constitute of activities such as sports, art and music that are often directed to the largely younger segments of the market that tend to construe pleasure as the most important thing (Masterman & Wood 2008:1). Quite often, events of instrumental purposes constitute of activities such as sampling, trade shows and consumer shows. It is the use of these events that enhances thorough evaluation and diagnosis of customer's attachments to the brand. In other words, if undertaken well, all these imply that experiential marketing not only aids brand diagnosis to improve the market performance and repositioning of the existing brands but also aids revitalisation of the older brands that could have turned obsolete (Canniford 2011:591; Crain & Abraham 2008:29; Marzocchi, Morandin & Bergami 2013:93).

Brand repositioning

Brand repositioning refers to the process of diagnosing, identifying and correcting quality, functionality, attributes, distribution and marketing strategy issues that could be affecting a brand's effective market performance, so as to turn around the performance of the struggling brands (Kolbl, Konecnik & Kolar 2015:5; Zdravkovic & Till 2012:113). Quite often, brand repositioning requires a product's review and modification, as well as the review and adoption of new marketing strategies such as distribution, promotion and pricing to target the appropriate market segments (Dev & Chekitan 2012:5; Kolbl et al. 2015:5). It also requires brand re-evaluation and redesign, reinventing brand identity,

innovative advertising, refreshing of the visual aspect of the brand and expansion of the brand's portfolio of products (Dev & Chekitan 2012:5; Zarantonello & Schmitt 2014:255). However, conventional theories on brand repositioning imply whether or not the application of such strategies is required, depending on the results of the analysis of the overall level of brand maturity (Kolbl et al. 2015:7; Zarantonello & Schmitt 2014:255).

The level of brand maturity is best diagnosed by assessing brand, price, sales, and technology and investment dimensions (Kolbl et al. 2015:7). The analysis of brand dimension enhances the understanding of whether the level of brand awareness, points-of-differentiation, long-held heritage and brand association with the target market are narrowing down (Kolbl et al. 2015:7; Zarantonello & Schmitt 2014:255). Narrowing brand dimension suggests the brand is losing its market relevance. However, it is usually still of essence to analyse in conjunction with the evaluation of the sales dimension. Sales dimension's analysis facilitates the assessment of whether sales have started to stagnate or decline. It also requires the evaluation of the effectiveness of the distribution networks of the brand, a brand's ability to generate profits and the extent to which it is or it is not losing most of its loyal customers. Quite often, such analysis may also encompass price dimension evaluation to assess whether a brand's poor performance is arising from poor pricing or under-investments in the appropriate marketing strategies (Gupta & Ramachandran 2010:4).

Technology and investment dimension diagnoses whether a brand's declining market performance is arising from the outdatedness of the technology being used, not upgrading product quality, poor management focus and limited investments in the required sales and marketing activities (Gupta & Ramachandran 2010:4). Through experiential marketing and other forms of survey, marketing executives are often able to understand the extent to which the market relevance of a particular brand is increasingly being eroded. If a particular brand is found to have reached the maturity level to an extent that it can no longer generate the required returns on shareholders' value, some of the brand repositioning strategies often entail expanding brand awareness and usage, improving brand image and uniqueness of brand association, and managing how the existing users select mature brands (Keller 2013a:19).

Expanding brand awareness and consumption may require increment of investment in promotional and marketing budgets, changing packaging, identification of new market segments to target and introduction of the mature brand either as supplementing another product or as being supplemented by another brand (Keller 2013b:19). Improvement of brand image and uniqueness of brand association are often effected by identifying and targeting new customer segments. It may also require the development and utilisation of multiple marketing communication strategies that use array of messages that reposition the brand in a new away. Alternatively, businesses that are facing challenges of brand maturity may also have to conceptualise and apply new strategies such as loyalty programmes to retain the existing customers while also attracting new ones. Such initiatives are usually undertaken in conjunction with the evaluation and management of how the existing customers choose mature brands, so as to improve the market performance of the existing brands through improvement of the brand's availability and use of multiple or alternative shelf placements.

Development of new distribution outlets may be accompanied by the improvement of the features, designs and quality of the existing brand to ensure that it compares more superiorly with the other brands (Aronne & Vasconcelos 2009:5). Besides altering packaging to increase usage, the other strategies would be the association of the brand with certain unique specific values, decreasing price per unit and developing sub-brands through brand extension to increase the consumption and sale of more mature brands (Qader 2013:331). Although the application of such strategies can edify brand repositioning and revitalisation, the notions of brand repositioning and revitalisation are still cyclical processes that must be frequently undertaken to ensure that brands are repositioned and revitalised to remain relevant to the unfolding market and industry changes (Qader 2013:331).

Brand revitalisation

Brand revitalisation is the strategic process of re-awakening brands that are expressing significant declines or that are on the verge of fading away from the market (Iglesias, Singh & Batista-Foguet 2011:570). Brand declines are often caused by the changes in the market and industry trends, emergence of better brands and changes in technology that may render the existing technologies obsolete (Iglesias et al. 2011:570). In certain instances, brand declines are also instigated by the application of poor marketing strategies that may require the introduction of new brands that would probably also fail to impress the market. This causes a negative brand image that affects not only the extended brands but also the brand that previously enjoyed a positive brand image (Keller 2013b:33). In the event of brand decline, Light and Kiddon's (2009) brand revitalisation model which is replicated from the McDonald's model of brand revitalisation highlights the process of brand revitalisation to take six steps. These six steps entails refocusing the business, restoring brand relevance, reinventing brand experience, reinforcing a result culture, rebuilding brand trust and global realignment of the brand.

However, Murane's (2012) model for brand revitalisation suggests the process of brand revitalisation to require the use of seven main steps that entail developing a consensus on the problems that are affecting the brand's performance, negotiating the time horizon to fix the problem, resource acquisition and trends' alignment. It also entails investment in technology replenishment, reframing brand image and

strategy, and the use of effective marketing communication strategies (Keller 2013a:10). On the contrary, other authors share similar views that the development and application of seven steps is critical for enhancing the effectiveness of brand revitalisation (Adeosun & Ganiyu 2014; Chao & Kuo 2013:33; Kotler & Armstrong 2010:114). These seven steps that significantly differ from the seven steps in Murane's (2012) model for brand revitalisation are repeated to require brand audit, evaluation of brand positioning, developing a brand platform, establishing brand beliefs, evoking brand experience, developing a brand voice with launching a new brand. Brand audit often requires the evaluation of the unique historical facts that distinguished and set the product and the company apart vis-à-vis the current brand's current operations, communications and positioning. Such an analysis enhances the diagnosis and identification of the sources of paradoxes marring the effectiveness of a brand's performance. This leads to the analysis and identification of a new brand positioning, platform, beliefs, experience, voice and launch that must be created to revitalise the brand (Herrmann, Walliser & Kacha 2011:259).

Certainly, it is implicitly evident that experiential marketing edifies diagnosis and understanding of the level of customer attachments, emotions and feelings of the brand. Lack of emotional attachments and positive feelings among most of the customers signifies that the brand is not competitive against most of its rivals (Kanth, Maheswar & Venkatesulu 2016:321). Symptoms of these are often easily discernible in the increasing rates of customer defection, complaints, declining sales, revenues and profitability. Through experiential marketing, the identification of these symptoms often offers warning signs that imply firms need to reposition and revitalise the struggling products or brands in order to remain sustainable (Kanth et al. 2016:321). Unfortunately, despite evidence of the fact that most SMEs struggle to operate sustainably, only mundane evidence seems to suggest that most of the SMEs have often explored how experiential marketing can be used to leverage the repositioning and revitalisation of their usually struggling brands (Lekhanya 2015:37; Rootman & Zeka 2013:1). Such an approach often affects the initiatives of turning around the performance of the brands that could have been repositioned and revitalised to improve not only the brand's effective market performance and sustainability but also the competitiveness and sustainability of the entire enterprise. Even though brand repositioning and revitalisation establish a firm's sustainability, the feasibility of SMEs doing so seems yet elusive in most of the contemporary studies.

Small and medium-sized enterprises' brand repositioning and revitalisation

Certainly, enormous studies have been conducted on how to improve SMEs' performance (Day 2011:183; Gronlund 2013:19; Ward, Runcie & Morris 2009:78). However, only limited attempts seem to have been undertaken to explore the strategies for leveraging the repositioning and revitalisation of the SMEs' struggling products. Yet, increasingly, the major threats to SMEs' sustainability often arise from the difficulties of their products or business concepts to withstand the often volatile competitive market forces. In effect, frequent brand diagnosis is critical for understanding the dynamics that could be affecting a brand's effective market performance. In Gang's (2011:11) research on the strategies for brand management in SMEs, brand management was found to be critical for bolstering SMEs' sustainability. It aids the evaluation of the attributes that influence brand performance. As such evaluations are being undertaken, it also enhances discerning the strategies for improving customer's attachment to different brands. As most SMEs struggle to operate more competitively in the midst of the more intense competitive modern markets, Gang (2011:11) suggests the importance for brand awareness and brand extension to minimise risks of brand obsolescence. Gang's (2011:11) views on the importance of brand management also seem to be echoed in Lockwood's (2010:10) argument for the use of the appropriate branding strategies. Lockwood (2010:10) argues that most of the entrepreneurs in most of the SMEs are increasingly recognising branding as one of their most valuable assets which seek to set reputation that distinguish their products from those of the competitors. As businesses increasingly recognise such values of branding, a number of SMEs are also increasingly investing in the creation of distinctive benefits that go beyond the price to distinguish their products or services from those of rivals. It is such strong brands that not only simplify customer decision-making processes but also reduce risks of the SMEs' vulnerability to high levels of industry competition and volatilities (Day 2011:183). In effect, the development and application of the appropriate strategic brand management initiatives is critical for bolstering the competitiveness of SMEs' brands. Such initiatives must be accompanied by the evaluation of the overall connection between the brand and the consumers.

Initiatives must also be undertaken to explore the extent to which customer expectations and perceptions are matched, not only by the product but also by the other complementary factors such as the product's packaging, promotion and pricing (Day 2011:183). Strong branding is also critical for leveraging SMEs' customer relationship management capabilities that in turn induce improved loyalty in the midst of more fierce competition among the masses of SMEs and big businesses. In contrast to such a view, Matthews and Bucolo (2014:5) also reveal that most of the SMEs are increasingly engaging in innovations as a strategy for enriching and modifying the features and attributes of their existing brands to leverage their overall effective market performance. With significant funds committed on research and innovation, Matthews and Bucolo (2014:5) argue that it turns easier for SMEs to engage in brand audit and discern the features and attributes that can be refreshed to turn around the performance of the struggling brands. Despite such values of branding, challenges often still tend to arise from the adequacy of the financial resources that

SMEs can commit to branding, as well as to the promotional and marketing activities that bolster their brand image (Lockwood 2010:10).

Frequent brand repositioning and revitalisation may require the complete dismantling of the existing products and the development of new ones to respond to the changes that are emerging from the unfolding market trends. Brand repositioning and revitalisation may also require the use of new strategies and intensive advertisements and marketing (Lockwood 2010:10). All these may tend to induce hefty deterring costs that affect the capabilities of the SMEs to reposition and revitalise the performance of their struggling brands. This implies that even if some of the SMEs may recognise frequent brand repositioning and revitalisation as critical for leveraging their continuity and sustainability, the associated required costs may tend to be deterring. However, despite such hefty costs, the values of successful brand repositioning and revitalisation still often offset the hefty costs that they induce (Ward et al. 2009:78). That implies brand diagnosis; repositioning and revitalisation are part of the critical strategies that can be used to establish SMEs' continuity and sustainability in the increasingly competitive modern business environment. However, as such an area has not been widely explored by most of the previous studies, discerning the experiential marketing model that can be used to aid brand diagnosis, repositioning and revitalisation remains a challenge. It is such a challenge that this research seeks to address.

Problem statement

Using experiential marketing to leverage the repositioning and revitalisation of the usually struggling SMEs' products is an area that has not yet been widely explored by most of the contemporary studies on how to improve SMEs' effective market performance.

Research purpose

The purpose of this research is to explore how experiential marketing can be effectively utilised to reposition and revitalise the performance of the SMEs' struggling products. To accomplish this, the entire research process was guided by the fundamental research questions that entailed the evaluation of:

- How do SMEs utilise the opportunities availed by experiential marketing to undertake relevant brand diagnosis to reposition and revitalise the performance of their struggling brands?
- What types of changes are usually undertaken as a result of customer opinions and perceptions that are acquired during experiential marketing to aid the repositioning and revitalisation of SMEs' struggling products?
- What challenges do SMEs experience when seeking to undertake changes that are required to reposition and revitalise the performance of their struggling brands and businesses?

Methodology

To respond to these research questions, the study used the inductive–exploratory–qualitative research paradigm (Chen, Shek & Bu 2011:129; Wynn & Williams 2012:787).

Research paradigm

The application of the inductive–exploratory–qualitative research paradigm was considered critical for responding to the fundamental research question that sought to explore whether, when using experiential marketing, SMEs also utilise such opportunities to undertake relevant brand diagnosis to reposition and revitalise the performance of their struggling brands. The inductive research paradigm often commences with problem identification and subsequently secondary and primary data collection to discern the theory that can be extracted to respond to such a problem (Babbie & Mouton 2008:11). In contrast, the deductive research approach which is mainly hypothetically-driven often commences with the formulation of a theory that subsequently guides secondary and primary data collection and analysis to discern whether such a theory is confirmed or contradicted by the findings (Babbie 2008:23). The rationale for the application of the inductive–exploratory–qualitative research approach is accentuated by the fact that certainly, important studies have been conducted on experiential marketing as well as on brand repositioning and revitalisation. However, in most of such studies not much seems to have been undertaken to explore whether experiential marketing generates brand diagnosis, repositioning and revitalisation.

In effect, the application of the inductive–exploratory–qualitative research approach was considered critical for eliciting detailed insightful underlying information on whether, when using experiential marketing, SMEs also utilise such opportunities to undertake relevant brand diagnosis to reposition and revitalise the performance of their struggling brands. While using the inductive research paradigm to accomplish that, the study also used the exploratory–qualitative research methodology. The exploratory–qualitative research methodology refers to the research approach that applies a combination of the techniques such as observation, content analysis and interviews to aid eliciting critical, underlying, detailed information that offers insightful explanation of the phenomenon being researched (Bryman & Bell 2007:133). Using interviews as the primary data collection technique, the exploratory–qualitative research methodology probed the fundamental research questions that aimed to explore whether SMEs' experiential marketing behaviours enhance brand diagnosis, repositioning and revitalisation, the types of the often undertaken changes, as well as the challenges of undertaking such changes to aid repositioning and revitalisation of the struggling brands. It was from such an analysis that the study was able to discern whether experiential marketing aids brand diagnosis, repositioning and revitalisation.

Sampling

To access relevant primary data on SMEs' experiential marketing behaviours, convenience and purposive sampling were used in conjunction with snowballing to identify and draw 30 sample participants that constituted of the marketing managers, as well as senior sales and marketing personnel from 30 SMEs in the Gauteng and Western Cape provinces (Cohen, Manion & Morrison 2011:19). By the very nature of their work, marketing managers and senior sales and marketing personnel from the marketing departments in the selected 30 SMEs were construed to possess holistic knowledge and understanding of what experiential marketing entails, as well as the value of its application. In effect, from these 30 SMEs, it was the marketing managers and senior sales and marketing personnel that were the focus of the study. In the research which was conducted in the period between July 2016 and January 2017, convenience and purposive sampling techniques were used in conjunction with snowballing to draw 15 SMEs from the Gauteng province and 15 SMEs from the Western Cape province to make a total of 30 SMEs. Convenience sampling was used for determining the provinces in which the study could be based. Applying criteria such as costs, ease of data collection and availability of personal contacts in the designated provinces, a decision was undertaken to select the Gauteng and the Western Cape provinces. Basing the study in two or more provinces was considered critical for gaining critical insights and generalisation about the common SMEs' experiential marketing behaviours, as well as whether such behaviours also aid brand diagnosis to enhance the repositioning and revitalisation of the struggling brands. For each of the 30 SMEs to be drawn into the study, purposive sampling required the business to have about 200 employees, a net annual turnover of R5 million or more, 10 years of existence and a presence in either Gauteng or the Western Cape province or in both.

The application of such criteria was aimed at accessing only the SMEs with significant years of relative success and understanding of the industry, as well as how the application of experiential marketing methodologies could have been critical for leveraging their market performance. To ensure compliance with such criteria, thorough analysis of the websites, media reports, grey literature and media reports about 50 SMEs, located in the Gauteng and the Western Cape, were selected. This was followed by the identification and utilisation of any of the previously established contacts in any of the SMEs that exhibited features that met such criteria. It is the brief interviews with such contacts that influenced not only the understanding of whether or not their businesses complied, but also whether some of their business acquaintances and colleagues met the criteria to participate in the study. In the Gauteng, it was 10 of such previously established contacts that influenced additional 5 of their acquaintances and colleagues in the other SMEs to participate in the study. In the Western Cape, 5 previously established contacts influenced additional 10 marketing managers or senior personnel in the SMEs that met the designated criteria to participate in the study. Such previously established contacts made it easier to get consent from others suitable to participate in the study but also enhanced the authorisation and consent for the identified businesses to be used or to participate in the study. This process of snowballing led to the identification of a total of 30 sample participants that constituted of the marketing managers as well as senior sales and marketing personnel from 30 SMEs which were also in turn drawn from 50 SMEs which were analysed for compliance with relevant purposive sampling criteria. The 30 SMEs were mainly drawn from the industries and sectors such as hotel and hospitality, finance, insurance, manufacturing, retail, distribution and logistics handling, clothing retail and fast-foods retail.

Data collection

In the research which was conducted in the period between July 2016 and January 2017, the methodologies for data collection mainly entailed telephonic and face-to-face interviews. Because of distance, all 15 senior sales and marketing personnel from the Western Cape, as well as five from Gauteng with busy schedules opted for telephonic interviews, while others preferred to do face-to-face interviews on weekends and public holidays. Whether it was telephonic or face-to-face interviews, all interview responses were transcribed as each of the participants offered different narratives on the utilisation of the various experiential marketing methodologies in their businesses. Upon consenting and agreement on the principles of anonymity and confidentiality, all the interviews commenced with brief explanations of the concept of experiential marketing to each of the 30 participants. Even though most of the participants already had a clear understanding of the concept of experiential marketing, this enabled the reaching of the common points of views on what the concept of experiential marketing entails. Thereafter, each of the 30 participants was asked to respond to each of the following interview questions:

- What types of experiential marketing methodologies does your business use quite frequently?
- Why do you prefer to use such experiential marketing methodologies?
- What are the values of experiential marketing?
- Do you use experiential marketing to gain insights into customer opinions and perceptions about certain aspects of your products and business approaches? If yes, how? If no, why?
- How do the customer opinions and perceptions, gained during experiential marketing, influence any review and change of the product and the business approach that your business subsequently adopts? If no, why not?
- What types of changes are usually influenced by the customer opinions and perceptions gained during experiential marketing?
- What challenges do you usually experience when undertaking necessary changes to revitalise the performance of your products and business that are not doing well?

The design of the interview guide was based on the fundamental research questions that aimed to explore whether SMEs' experiential marketing behaviours enhance brand diagnosis, repositioning and revitalisation, as well as the types of the undertaken changes and the challenges of undertaking such changes. Interviews were semi-structured on the basis that even though such predetermined, structured, open-ended questions were used, further probe and reprobe were permitted. Probe and reprobe were used to enrich the understanding of relevant new insights that were emerging from the interview responses. The obtained interview findings were analysed using the inductive thematic approach.

Data analysis

Conventionally, qualitative data may be analysed using the deductive thematic approach or the inductive thematic approach (Bryman & Bell 2007:133). In the application of the deductive thematic approach, the process of analysing and extracting relevant themes and sub-themes is often guided by some predefined theoretical framework. That implies that there is often a greater preponderance to focus on identifying and extracting contracts and discourses that support the assertions in such predefined frameworks. In contrast, the inductive thematic analysis is an open-minded approach that focuses on permitting the natural emergence of relevant themes and sub-themes which offer coherent explanations of the phenomenon being researched. While using the inductive thematic approach in this research, the analysis of the obtained interview findings were undertaken in the context of the research questions with the motive of permitting the organic emergence of relevant themes and sub-themes. In line with the fundamental research questions for this study, the motive of such analysis was to diagnose whether the emerging themes and narratives offer critical insights to whether experiential marketing enhances brand diagnosis, repositioning and revitalisation, as well as the types of changes undertaken and the challenges of undertaking such changes. In the first instance, thorough reading and re-reading each interview transcripts were undertaken; thereafter, analysis was undertaken to extract themes and discourses as well as to map themes, sub-themes and their associated narratives across different discourses.

Extraction of themes

Fetterman's (2009) approach for inductive thematic analysis was used to identify and extract key themes and sub-themes as well as their associated narratives from each participant's responses to each interview question. Such analysis aimed at assessing how experiential marketing enhances brand diagnosis, repositioning and revitalisation, as well as the types of changes made and the challenges of those changes. However, comparison and contrasting of key themes and sub-themes as well as their associated narratives from each participant's responses to identify and extract common themes from all 30 the participants led to the identification of the other values of experiential marketing. Such values of experiential marketing did not only include brand diagnosis and the essence to undertake the required changes to reposition and revitalise the performance of SMEs' struggling brands but also include values such as leverage of the effectiveness of promotion and marketing capabilities, sales and profitability maximisation as well as costs of marketing's minimisation. Other values also encompassed the analysis of the causes of poor performance, declining sales, declining profitability, customer dissatisfaction, and the diagnosis of the effectiveness of the internal capabilities and marketing strategies. Most participants' narratives also indicated that it is often such similar themes that also instigate the need for the use of experiential marketing to either boost sales or undertake necessary diagnosis of customer opinions and perceptions. Because of the complexity of the emerging patterns of themes, categorisation and mapping of themes and their narratives according to their common inherent meanings in as far as the concept of experiential marketing is concerned were undertaken to discern how the emerging themes offered coherent explanations of how experiential marketing enhances brand diagnosis, repositioning and revitalisation, as well as the types of changes and the challenges of making such changes.

Extraction of discourses

Such classification and categorisation of themes influenced the extraction of three discourses that encompassed the motives, values and challenges of experiential marketing discourses. The discourse of experiential marketing motives was extracted from the common meaning that was attributed to themes such as sales and profitability maximisation, leverage of marketing capabilities, costs of marketing, one-on-one marketing, personal selling, shows, demonstrations, online marketing and turning around declining sales. This is attributable to the fact that from the participants' narratives, these themes were found to constitute the major motives for SMEs to use experiential marketing. The discourse of experiential marketing's values emerged from the common meaning that was attributed to the category of themes, like the analysis of the causes of poor performance, declining sales, declining profitability, customer dissatisfaction, and diagnosis of internal capabilities and marketing strategies' effectiveness according to their common meanings as the values of experiential marketing. It also included themes and their associated narratives on the review and change of product quality, features, pricing, costs, product or service accessibility and distribution strategies' effectiveness. However, drawing from the associated participants' narratives on such themes, the interpretation and linking of the meaning of the themes under the discourse of experiential marketing's values indicated that it is also themes such as poor performance, declining sales, declining profitability and customer dissatisfaction which often instigate SMEs to use experiential marketing to either boost sales or to do the necessary analysis of customer opinions and perceptions. Whereas boost of sales was found to fall under the discourse of experiential marketing motives, the analysis of customer's opinions and perceptions was found to clarify their

satisfaction and/or dissatisfaction with the product or with a firm's internal capabilities and strategies. Such an analysis influenced the extraction of the discourse on the value of experiential marketing and dividing it in two sub-discourses that encompassed satisfiers and/or dissatisfiers and the firm's various strategies. In effect, common meaning that was attributed to themes and sub-themes on the analysis of the causes of customer dissatisfaction with product quality, features and pricing, costs and product or service accessibility enhanced the extraction of the discourse of satisfiers and/or dissatisfiers' diagnosis. However, from the participants' narratives, the mapping of themes indicated such themes to also arise from the corresponding types of changes or strategies, such as the review of pricing, cost variables and product attributes that some of the SMEs use to respond to such challenges. Sub-discourse of a firm's strategies' diagnosis was extracted from the common meaning that was attributed to the class of themes such as the analysis of the causes of poor performance, costs, internal deficiencies, marketing strategies' deficiencies, declining sales and profitability as well as customer dissatisfaction. From the participants' narratives, the mapping of themes indicated such themes to also link with the corresponding types of changes or strategies such as the review of distribution strategies, marketing approaches and the overall effectiveness of internal capabilities that some of the SMEs use to respond to such challenges.

Mapping

Despite the categorisation of themes according to three such discourses, mapping still indicated intricate linkage of themes across all discourses. The effect was that the discourse on experiential marketing motives was also explained by some of the themes in the discourse of experiential marketing values such as revitalisation of poor performance, declining sales, profitability and customer dissatisfaction that motivate the aggressive use of online marketing to counter the associated declining performance. Most participants' narratives indicated that it is often such similar themes that instigate the need for experiential marketing to either boost sales or make necessary diagnosis. The discourse of experiential marketing challenges emerged from the common meaning that was attributed to themes such as the costs of marketing, costs of change, complexities of understanding customers' opinions, lack of relevant technologies, management and executives' commitment to change and lack of understanding of the concept of experiential marketing. However, mapping indicated most of the challenges to emerge from the participants' narratives on how such constraints hamper the use of experiential marketing to achieve different business objectives or to undertake relevant diagnosis to reposition and revitalise the performance of the declining products. In effect, themes from the discourse of experiential marketing challenges such as costs of marketing were more discernible from the participants' narratives on why some SMEs opt to use different experiential marketing methodologies as compared to the traditional television, FM radio and newspaper marketing. On the contrary, themes on experiential marketing challenges such as the complexities of understanding customers' opinions, lack of relevant technologies, management and executives' commitment to change and lack of understanding the concept of experiential marketing were more linked to most of the participants' narratives on why SMEs fail to diagnose satisfiers and/or dissatisfiers, as well as SMEs' capabilities to make the required changes. Based on such analysis, findings were structured according to two sections that encompassed the motives of SMEs' experiential marketing and the value of SMEs' experiential marketing. However, as the study was being undertaken, measures were also undertaken to enhance the overall validity and reliability of the study.

Validity and reliability

In a qualitative research, the validity and reliability are often enhanced by the credibility, dependability and transferability of the study (Lincoln & Guba 2005:69). Whereas credibility connotes the veracity and plausibility of the findings, dependability refers to the extent to which the findings of the study can be relied on for making relevant decisions. Transferability measures the replicability of the study in another situation that exhibits similar characteristics under which the study was conducted (Bryman & Bell 2007:133). In this research, credibility, dependability and transferability of the study were enhanced by upholding descriptive, interpretive and theoretical validity and reliability of the study. Descriptive validity was undertaken to improve the factual accuracy of the findings. This entailed ensuring that only the participants with critical understanding of the traditional marketing and experiential marketing approaches were drawn into the sample population. Combined with fact checking, this improved the overall veracity and credibility of the findings (Cohen et al. 2011:19). To further enhance the credibility, dependability and transferability of the findings, descriptive and content validity were enhanced by using an objective approach to eliminate risks of biasness during the process of the accomplishment of the study. Such an initiative was accomplished by exploring both the values and risks of using experiential marketing to undertake brand diagnosis, repositioning and revitalisation. This implies that if the findings of this research are to be used, the understanding of such values, as well as risks would aid in the modifications of the decisions on how experiential marketing can be used to leverage brand diagnosis, repositioning and revitalisation. Such initiatives were accompanied by extension of the periods of data collection to do more interviews until all the desired information about experiential marketing had been gained from the field research. This is accentuated by the fact that although the original major research was conducted in the period between July 2016 and January 2017, further field research was undertaken in the period between March and May 2018 to ensure that all the critical views on SMEs' use of

experiential marketing were extracted. To further improve the descriptive and content validity of the study, comparison and contrasting the responses from different participants were also undertaken to check the veracity of the findings. Such an approach also improved the interpretive validity and reliability of the findings. Yet, as the findings were being analysed and discussed, further initiatives of leveraging interpretive validity and reliability were undertaken by ensuring that it was mainly the narratives from the participants that were used to avoid the distortion of the messages that the participants aimed to convey. At the same time, corroboration in the views of the participants in the study, as well as the triangulation of the interview findings with theories were also used as one of the methods for improving the interpretive as well as theoretical validity of the study (Bryman & Bell 2007:133). This also improved the confirmability of the study as well as its credibility and dependability. It also implies that if a similar study was to be conducted again, it is most likely that the findings would still be obtained. Against this backdrop, the details of the interview results are as presented and discussed in the next sections.

Results

Deriving from the analysis of the interview findings where the categorisation of the emerging themes and their common meanings influenced the extraction of three discourses that encompassed the motives, values and challenges of experiential marketing, the findings are presented:

- motives of SMEs' experiential marketing
- values of SMEs' experiential marketing.

In this analysis and presentation of the findings, themes in the discourse of experiential marketing challenges are integrated as part of the themes that explain the motives or values of experiential marketing. It is through such analysis that the study sought to respond to the fundamental research questions that aimed to explore how SMEs' experiential marketing enhances brand diagnosis, repositioning and revitalisation, as well as the types of the often undertaken changes and the challenges of undertaking such changes. The details are as follows.

Motives of small and medium-sized enterprises experiential marketing

It is the fundamental view in most theories that experiential marketing offers intense customer-product-salesforce interactive methodologies that can enable businesses to diagnose and improve customer's attachment to the brand. However, in contrast to such a view, most of the SMEs were only found to use experiential marketing to aid the achievement of basic fundamental business outcomes such as sales and profit maximisation, leverage of marketing capabilities and costs of marketing's minimisation. The details of these themes are evaluated as follows.

Sales and profitability maximisation

Even though the term experiential marketing did not emerge from the views of some of the participants, it was still evident from the findings that some of the SMEs use some form of experiential marketing methodology. Some of the SMEs reiterated that such an experiential methodology entails the use of multimedia videos to augment product demonstration or the demonstration of the services offered by the business. As other SMEs indicated using one-on-one marketing in which the use of the product is demonstrated to the potential customers. Such views were mainly common in most of the responses to the interview question that explored the types of experiential marketing methodologies that SMEs frequently use. However, in the responses to the interview questions that explored why SMEs use such experiential marketing methodologies, experiential marketing was found not to be necessarily used for aiding brand diagnosis, revitalisation and repositioning. Instead, some of the marketing managers revealed that the main purpose of using experiential marketing is usually for stimulating sales and profit maximisation. In the instances of declining sales and revenues, some of the marketing managers reiterated that they have often used an array of multimedia videos and online advertisements to increase customers' awareness of the product's availability. The communication in such multimedia videos often convey messages that inform customers about discounts or the introduction of new products. In such instances, experiential marketing was found to ignite the interests of new customers to visit the store and try out the product. Even if it does not cause retention and loyalty of such new customers, some of the marketing managers still argued that the immediate desired positive effects of experiential marketing are often still easily latent in the increment of sales and revenues. Such a view was corroborated in the opinions of a 37 years old female marketing manager with the work experience of 11 years in foods and beverage manufacturing plant who stated that:

> 'When sales are less impressive, we usually try to use our online advertisements that constitute of several multimedia videos to inform the public about the discounts or the availability of such products across different stores. This is important for arousing customer interests as well as for reaching out the customers who may not be aware about the availability of such products.' (Female, 37, marketing manager)

As some of the SMEs use experiential marketing to stimulate sales by announcing discounts and price reductions, other marketing managers indicated using multimedia videos only to inform the public about the introduction of new products. They explained that in most of the cases that new products are introduced, the general public except those who frequently visit their stores are usually not aware of the availability of such products. This causes the initial poor market performance of such products. To turn around such poor performance, multimedia videos that demonstrate the use of such new products are usually used in conjunction with newspaper or television advertisements to inform the

public about the existence of such products. As such information is accompanied by the message of where the products can be found, some of the marketing managers revealed that they often do not go an extra length to find out how customers feel about the product. Even if some of the SMEs do so, findings indicated some of the sales personnel to just often do so as a matter of formality of interacting and building relationship with the customers and not for the purpose of any major anticipated change. In contrast, other marketing managers noted soliciting customers' views on whether they like the product or not to be critical for determining whether or not more of such products can be restocked. It further emerged from the findings that whereas those in the retail sector just abandon the ordering of the poorly performing products, those in the manufacturing sector argued that they often attempt to discern the further changes in strategies or the product's ingredients that can be undertaken to catalyse the improvement of the product's market performance. Such a finding was echoed in the opinions of a marketing manager with work experience of five years in the retail sector who stated that:

> 'If the response from the customers is not positive and the product continues to perform poorly, we often just discontinue ordering. In most of the cases, when it is a new product, we just take very limited quantity to test what the customers would say. If they are not impressed, we discontinue, if they are impressed, we commit more resources to order more.' (Female, 27, marketing manager)

Such a finding implies that experiential marketing influences change and modifications of the sourcing strategies in the retail enterprises. However, further analysis of the findings indicated that some of the SMEs just use some of the multimedia videos to enrich and improve a product's branding. They attributed this to the fact that through online multimedia videos, it is often easy to cost-effectively illustrate the use and the values of the product to a wider audience. This renders it easy for some of the SMEs to differentiate their products from rival products. Such a finding was mainly common in some of the narratives to the interview question that evaluated the values of experiential marketing. In the quests to leverage customers' brand attachment, some of the marketing managers explained that the motive of such communication is often just to adore and praise the product so that the general public can get aroused and more attached to the brand. As some of the SMEs use such an approach, it was, however, not evident from the findings that any initiatives are undertaken to discern how customers feel about the product. Instead, businesses that use such approach seem to only focus on influencing the improvement of customer attachment to the brand rather than for discerning the changes that can be undertaken. Such findings certainly imply that as businesses strive to bolster their sales and revenues, the motive of experiential marketing is usually just to accomplish that and not to diagnose and identify any new information that can be used for brand revitalisation and repositioning. From the thematic analysis of the findings, such a view was also shared by some the marketing managers who noted that their experiential marketing initiatives are often only aimed at leveraging marketing capabilities.

Leverage marketing capabilities

Instead of using experiential marketing to bolster brand revitalisation and repositioning, it emerged from the findings that some of the SMEs just tend to use experiential marketing to leverage their marketing capabilities. Explanations from some of the marketing managers indicated that experiential marketing is often used to supplement the roles played by the traditional marketing mechanisms such as television (TV), newspaper and FM radio advertisements. In such analysis, one of the marketing managers from the clothing retail sector argued that their marketing approach is designed in the way where television advertisements are aimed at reaching 'home lovers' that like to spend their evenings or weekends watching television. Whereas newspaper advertisements are aimed at reaching the elites and affluent working class, she argued that FM advertisements are meant for the motorists because it is increasingly emerging as a habit of the population to rather listen to FM radio when driving than when at home or work. As such advertisement and marketing strategies are being used, she noted that a huge market that constitutes of the young 'tech-savvy' and the growing online market is often ignored. To respond to such a gap, she explained that most businesses often apply a strategy of developing multimedia videos through which different products are demonstrated and marketed through the retail outlet's website or using social media platforms. Such a finding was also common in most of the responses to the interview question that explored the reasons why SMEs prefer to use certain experiential marketing methodologies.

In such responses, some of the marketing managers pointed out that the use of experiential marketing methodologies such as online product demonstrations enabled the business reach several consumers that cannot easily be reached through the traditional television and newspaper marketing mediums. In such explanations, most of the marketing managers pointed to online groups such as the youths that can best be reached through online marketing because of their constant online presence. Online marketing using different web applications was also reiterated to enable people to relate to the product better during their private hours, as compared to personal selling and demonstration that tend to bother and inconvenience customers at wrong hours. Such findings imply the use of experiential marketing methodologies such as online marketing as well as multimedia videos to demonstrate the product's usage and to create an awareness that supplements the roles of the traditional television, newspaper and radio marketing to leverage a firm's overall marketing capabilities. This view was accentuated in the opinions of a marketing manager

with the work experience of eight years in the electronics assembling and manufacturing plant who stated:

> 'In addition to newspaper advertisements, we also use a combination of online marketing and social media marketing videos to create awareness about the availability of our products. That means if we cannot get you in the newspaper, we shall get you on the web. With web advertisement, the advantage is that most of the people are now on the web. Hence, it is the best place to advertise and search for customers.' (Male, 33, marketing manager)

Although the use of online experiential marketing methodologies was found to be common in the findings, there was also glaring evidence that some of the SMEs did not recognise that they were using experiential marketing. As most of the SMEs explore and discern the best ways for advertising and marketing their products, they were found to accidently engaged in the use of different experiential marketing methodologies without recognising that they are actually using one. This lack of understanding of the concept of experiential marketing affects most SMEs' capabilities to optimise experiential marketing to not only promote sales and profit maximisation but also gain insights into customer perceptions of their products. This limits the discerning of the product or strategy modifications that can be further undertaken to bolster the effective market performance of the struggling products. Such a finding was accentuated in one of the responses to the interview question that examined the challenges that SMEs' usually experience when using experiential marketing. In such responses, one of the marketing managers noted that there is a challenge of understanding the concept of experiential marketing in even a single marketing department. He explained that whereas some of the senior sales personnel and marketers interpret experiential marketing to only require the use of social media demonstration videos, to some, experiential marketing can also be used in the traditional television advertisements. He stated that this can be accomplished by making the advertisements real to arouse the connections and emotional attachments between the product and the customer. Even though such an interpretation of the concept of experiential marketing may be correct, there, was, however, also little evidence that most of the SMEs seize such opportunities to explore what customers are thinking about their products. After using more attractive and emotionally connecting advertisements, most of the SMEs were found to be more concerned about the sales. If the sales are positive, some of the SMEs were found not to be much concerned about what the customers are thinking or saying. Such a view was echoed in one of the responses to the interview question that explored how SMEs use the customer opinions and perceptions gained during experiential marketing to influence any review and change in the product, and the business approach that the business subsequently adopts. In that response, one of the marketing managers with work experience of 12 years in the retail sector noted that:

> 'Quite often, it is not what the customer is saying or thinking that matters. It is the sales. Good advertisements are measured by the immediate sales that they produce. If the sales are good, we do not focus much on getting inputs from customers because we know that almost most of the customers are satisfied. A business cannot satisfy everybody, somehow, someone will complain even when everything seems fine. But if sales are bad, we try to listen to customers to see the areas that can be changed and improved.' (Female, 36, marketing manager)

Even if that is not the challenge, some of the marketers still emphasised the difficulty of the challenge to overcome the lack of a system for tracking and collecting data on customer opinions. Investment in such a system was found to be costly for SMEs. Yet, as some of the SMEs accidentally use experiential marketing methodologies like multimedia videos to create awareness about different products, such advertisements were found not to be accompanied by a system for gathering and tracking customer opinions. On the contrary, one of the marketing managers revealed that even if such data are collected in conjunction with the customer views that are gathered from shows and demonstrations, constraints often still arise from how such data are utilised. In such instances, the collected data are often destroyed, either because the business is mainly focusing on sales or because they do not have the capacity to make the necessary changes, as they are not the manufacturers of the products that the customers are concerned about. These findings certainly signify that as some of the SMEs use different experiential marketing methodologies to leverage their marketing capabilities and boost sales, there seems to be less focus on understanding the experiential marketing methodology being used or how such methodologies can be used to gain insight into customer touchpoints that can be used to make the necessary brand diagnosis and changes to catalyse improvement of a firm's overall effective market performance. Yet, besides leverage of marketing capabilities and boost of sales, findings also revealed most SMEs to use different experiential marketing methodologies not because it aids understanding of the critical customer touchpoints, but because of the enormous cost advantages that it induces.

Lower costs of marketing

It emerged from the findings that some of the SMEs use experiential marketing as a strategy for reducing the overall marketing costs. In such initiatives, experiential marketing is often not used to aid the understanding of customer feelings and attachment to different brands, but just as a mere mechanism for lowering the often hefty costs of marketing. Even if some of the SMEs indicated to often utilise experiential marketing to gain insights into customers' feelings about the product, some of the marketing managers still argued that the fundamental motive for the application of experiential marketing methodologies such as online multimedia videos that promote the product or promotion shows, is usually to lower the overall costs of marketing. As compared to the costs of the traditional television, FM radio and newspaper advertisements and marketing, experiential marketing using mainly online multimedia videos that promote the product or promotion shows was found to lower the overall costs of marketing. This enlarges the overall profitability margins.

Such a finding was corroborated in the opinions of a marketing manager with the work experience of 10 years in the sanitary manufacturing plant who stated that:

> 'The use of online multimedia videos or promotion shows to promote the product is less costly as compared to television or newspaper advertisements that ask for a lot.' (Male, 44, marketing manager)

In such an instance, experiential marketing tends to be more cost-effective for some of the SMEs that are often constrained by the challenge of lack of critical financial resources. Such views were mainly common in the responses to the interview question that explored why SMEs prefer to use different experiential marketing methodologies. In such responses, the traditional television, FM radio and newspaper advertisements and marketing were reiterated by some of the marketing managers to be quite costly for a limited round of advertisements. In effect, when undertaken over a long period of time, it tends to affect cost savings as well as the profitability levels. To reduce costs, one of the marketing managers stated that the emergence of the internet offered some of the experiential marketing methodologies where information and details about the products and other value offerings of the business are recorded in multimedia videos. These videos are subsequently loaded onto the company's website, social media or YouTube where the videos are spread to billions of consumers almost instantly at relatively very low costs. Yet, as such online multimedia videos keep on playing and getting shared by customers all the time, the business incurs no additional costs for billions of customers to watch and re-watch the videos several times. As customers keep on sharing such advertisement videos, one of the marketing managers argued that it also tends to 'cause more persuasive effects on customers' decisions to visit the stores to make purchase'.

In effect, for some of the SMEs that do not have sufficient funds, online multimedia advertisements were found to be more preferable not as the strategy for understanding customer perceptions and feelings about the product, but as a medium for promoting the product. In contrast, for SMEs that are prepared to commit sufficient funds to an advertisement, experiential marketing entailing the use of multimedia videos and promotion shows was mainly found to be preferable as a back-up strategy. In such an approach, a marketing manager with the work experience of 9 years in the housing utensils' manufacturing plant elaborated that:

> '...the business uses some bit of television, newspaper or FM advertisements, and thereafter takes the opportunity to refer the public to its online videos that are on its website, social media or any online platform for more details.' (Female, 37, marketing manager)

This form of integrated advertisement and marketing approach was noted by some of the marketing managers to significantly persuade customers to make a purchase. At the same time, findings indicated the use of experiential marketing methodologies such as promotional shows to enable customers experience the product without bothering the customer in any way.

However, as much as the motive for all these initiatives is to boost sales, profitability, lower costs and leverage a firm's overall marketing capabilities, only a few SMEs indicated that they also use experiential marketing as a means of understanding customers' feelings to determine the necessary product or strategy modifications that can be undertaken.

Value of small and medium-sized enterprises experiential marketing

As most of the SMEs tend to use experiential marketing to aid sales and profitability maximisation, findings still indicated risks of brand maturity and declining sales that threaten a business' sustainability to spur some of the SMEs to use experiential marketing to diagnose critical satisfiers or dissatisfiers, as well as the overall effectiveness of a firm's internal capabilities and strategies to determine product or strategy modifications that can be undertaken to reposition and revitalise the performance of the struggling brands. Such a view emerged from the second discourse that was extracted from themes that indicated meanings that were analogous to the values of SMEs' experiential marketing. Based on the results of the analysis where the discourse of experiential marketing's values was divided in two sub-discourses that encompassed satisfiers' and/or dissatisfiers', as well as the firm's strategies diagnosis, the details of the findings are as follows.

Diagnosis of satisfiers or dissatisfiers

Findings revealed experiential marketing to aid diagnosis of the satisfiers that attract customers to the product or dissatisfiers that repel customers from the product. While using experiential marketing methodologies such as shows and demonstrations, one-on-one marketing or interactive online multimedia systems, experiential marketing was found to enhance the initiation of interactive conversations with customers. Through these interactive conversations, findings indicated that marketers are often able to easily discern symptoms of satisfaction or dissatisfaction with the product. Yet, as customers are allowed to touch and feel the product when using experiential marketing methodologies such as shows and demonstrations or one-on-one marketing, some of the marketing managers noted that it also often becomes easier to not only gauge customers' emotional attachments to the product but also identify dissatisfiers. This creates the basis for exploring and probing further the reasons why some customers feel satisfied or dissatisfied with the product. It is through such a diagnosis of the satisfiers or dissatisfiers that some of the SMEs are often able to discern how the existing products can be improved or augmented to attract dissatisfied customers. Such views were mainly common in most of the participants' narratives to the interview question that explored whether SMEs use experiential marketing to gain insights into customer

opinions and perceptions about certain aspects of their products and business approaches. However, one of the marketing managers noted that even if customers are impressed with the product, the reasons why they are contented with the product is still often critical for identifying the critical customer touchpoints that the business must focus on to catalyse the positive effects of experiential marketing on sales increment. Such a finding was common in most of the responses to the interview question that examined how the customer opinions and perceptions gained during experiential marketing influence any review and change of the product and the business approach that the business subsequently adopts. Even though some of the SMEs indicated that they often tend not to utilise such results to make any necessary change and modifications of their brands or marketing strategies, a marketing manager with 13 years' work experience in the chocolate and dairy products' manufacturing plant explained that:

> 'Experiential marketing offers sort of a survey for the business to understand the needs and demands of its customers. Using direct demonstration of the products, a business is able to initiate conversation with the customers as they interact with different products. Even when customers are not honest in their opinions, it is often easy to assess from their body language how they feel about the product. One can also over hear them converse about the product. As for the online multimedia videos that demonstrate different products, it is usually easy to gain insight on how the general public feels about the product. This is because they are able to watch the videos from any place of their comfort and in effect they are usually free to comment. This renders it easy for the business to gauge the general response of the public to the product. If it is positive, then, the business thrives, if it negative, it may require change of a few things to change things around.' (Male, 44, marketing manager)

As marketers use such interactive platforms as survey mechanisms to understand customer opinions and touchpoints, it also offers opportunities for marketers to discern aspects of the product features, designs, attributes and quality that the customers are not that very much impressed with. It is through such an analysis that the SMEs are often able to reconceptualise and review how the overall attractiveness of the existing product features, design and quality can be modified to entice and instigate the required customer emotional attachments. This leverages brand repositioning by reviewing and modifying the product to respond to market needs and demands that were previously not anticipated. It also enhances the review and revitalisation of the performance of the poorly performing brands. From the analysis of the findings, such an approach was found to be quite evident among the SMEs that are involved in the development of products. In the development of products, some of the marketing managers reiterated experiential marketing to offer critical real-time customer feedback that enables businesses to undertake the often cyclical process of developing and market testing the product until the final acceptable version is reached. Such a view was echoed in one of the narratives in the responses to the interview question that explored the types of changes that are usually influenced by the customer opinions and perceptions that are gained during experiential marketing. In one of such narratives, a sales' representative who had worked for a baby formula manufacturing SME which is based in Midrand, Gauteng for seven years, stated that:

> 'In our experience as the developers and manufacturers of baby formulas, we have found that each time a new formula is developed; experiential marketing using shows and demonstrations often play critical roles towards highlighting major customer concerns that may be impressive or not impressive about our formulas. So, using such findings, we often go back to the drawing board to assess how the concerns raised by the customers can be integrated in the redesign and new quality considerations and features. Experiential marketing helps not only in the cases of new innovations, but also for discerning the causes of the declining market performance of our older brands. In case, some of the older brands are not performing well, we often conduct promotions and shows at malls in which we not only give certain products for free or at reduced prices, but also get our sales personnel to intensely engage with customers, so as to identify their feelings about our products. In this process, such interactions aid the analysis of whether customers' feelings have changed positively or negatively or it has since remained constant. If customers' feelings have changed negatively, sales personnel are often further instructed to probe why it is so. Is it because of a new rival brand, or new negative developments that the customers have discovered about the consumption of our product?' (Male, 36, sales' representative)

Such a finding corroborates the views of the other SMEs that indicated that they use experiential marketing not only to assess customer feelings and emotional attachments to the products but also as a framework for diagnostic factors explaining a brand's poor market performance. Even if the brand was found to be performing well, some of the participants reiterated that their businesses often still use the results of experiential marketing to assess the extent to which the features and quality of the product can be improved to leverage its overall market competitiveness. It is such brand modifications that reposition the brand to attract more customers from the existing as well as new market segments. It also aids revitalisation of the performance of the brands that are almost sliding into declines. However, one of the marketing managers argued that as much as most initiatives for brand repositioning and revitalisation arise from the negative points that customers have raised across different interactive platforms, in some of the cases, such negative comments may tend to be unreliable. He explained that it is not advisable for businesses to rely on such comments without correlating them with sales to assess whether the sales are also affected. He attributed this to the fact that in some of the cases, positive comments may be received about a particular product which is being marketed using online multimedia videos, but such positive comments often never translate into sales increment. In contrast, he stated that there are also instances where despite negative comments about the product, sales have often not been affected. In such cases, if positive comments do not translate

into higher sales, the marketing manager with work experience of nine years in the glass products' manufacturing plant stated that:

> 'It is critical to assess the actual causes of such situations. It could be arising from the fact that the videos have been over-augmented to reflect the product in a way which is different from its actual physical appearance. Hence, when customers see the video and rush to buy the product, they find something else. In effect, for us, whether it is positive or negative comments, we usually wait for sales to be affected before taking actions to address the areas of customer dissatisfactions or concerns.' (Male, 42, marketing manager)

Meanwhile, some of the other marketing managers noted that even though they often strive to integrate customer views from experiential marketing to undertake relevant product modifications, major constraints have often still arisen from the cost of implementing the required product modifications. Such views were common mainly in some of the responses to the interview question that explored how SMEs use the views from experiential marketing to make changes that influence the improvement of their performance. In such responses, experiential marketing was reiterated in certain cases to reveal customer perceptions and expectations that are totally at variance with the design, quality and features of most of the existing product offerings. In effect, capabilities to respond to such customer opinions and perceptions were noted by some of the marketing managers to require significant change that not only disrupts the normal flow of activities but also requires enormous financial resources. Such a view was corroborated, not only by some of the themes in the third discourse on experiential marketing challenges, but also by some of the narratives in the responses to the interview question that explored the challenges that SMEs usually experience when undertaking necessary changes to revitalise the performance of their products or businesses that are not doing well. Even if some of the SMEs have sufficient finances to implement the required product changes and modifications, it still emerged from such narratives that executives' inflexibility and lack of agility often emerge as major constraints. The implications are often latent in the fact that even if brand modifications are required, they are often only undertaken when it is quite late to reposition or revitalise the performance of the struggling brands. However, if SMEs are not using the results of experiential marketing to undertake necessary to diagnose satisfiers and dissatisfiers in order to review and modify the product, they were found to use such results to turn around not only the performance of the struggling brands but also the performance of the entire business.

Diagnosis of a firm's strategies

As experiential marketing offers insights that explain a product's poor performance, it was also found to instigate the diagnosis of the effectiveness of a firm's strategies. Such a view is accentuated by the fact that during discourse analysis and extraction, some of the narratives were found to indicate that as the motives of the application of experiential marketing methodologies are often to improve marketing capabilities to turn around poor performance as well as declining sales and profitability, quite often, it is similar themes that instigate the use of experiential marketing to make necessary diagnosis. If the cause of a brand's poor market performance arises from pricing that may not be relatively competitive, views from some marketing managers were found to instigate the review and modification of a firm's cost variables. As one of the marketing managers noted, such reviews and changes may encompass process changes, reduction of personnel as well as advertisement costs or undertaking any change that would unlock cost advantages. Such cost advantages can be passed on to customers in the form of lower prices to revitalise the performance of the struggling brand. Such views were mainly common in some of the responses to the interview question that explored the types of changes that are usually influenced by the customer opinions and perceptions that are gained during experiential marketing. However, as contrasted to the SMEs in the retail sector, such an approach was found to be commonly undertaken by the SMEs in the manufacturing sector. Small and medium-sized enterprises in the manufacturing sector are often more able to easily modify and change their cost variables as compared to those in the retail sector. Such views were corroborated in the opinions of a marketing manager with five years' work experience in the retail sector who explained that:

> 'If customers are complaining about the high prices of the products, there is nothing much that we in the retail sector can do. In most of the cases, our prices are calculated to include all the costs that we incur. Hence, the solution is usually to go back to the manufacturers and request for more discounts. If they don't accept, the only option is to clear and discontinue the product. As compared to us, manufacturers can easily change prices because they have so many things that they can do to reduce costs and lower prices.' (Female, 26, marketing manager)

In contrast, findings indicated that if the results of experiential marketing indicate declining level of brand maturity, then it influences decisions about the modifications of the existing marketing strategies or conceptualisation of new marketing strategies that can be applied. For declining brands, findings imply that some of the marketing strategies' review and modifications have often entailed that the review and modification of some of the marketing strategies have often entailed lowering prices to clear out declining brands. Alternatively, some of the marketers suggested that it may also involve approaching new markets in new geographical locations where such brands may still be perceived as relatively new. If all these are not able to revitalise the performance of the declining brands, then product change and modifications are often undertaken to add new features and attributes that render the product more responsive to the changes in market trends that have unfolded since the product's launch. They attributed this to the argument that from intense interactions with customers during experiential marketing, they are often able to identify whether customers are already tired of the existing product versions or they are still more interested in them. Such views were mainly

common in the responses to the interview question that explored how the customer opinions and perceptions gained during experiential marketing influence any review and change of the product and the business approach that the business subsequently adopts. In such an analysis, it was reiterated that if the poor market performance of the brand is not arising from customers' dissatisfaction with the product's features and attributes, then the challenge could be emanating from the poor marketing strategies being used. Such poor marketing strategies may arise from poor distribution where, although products are required by certain customer segments in a particular region, the distribution system and networks being used often do not aid the distribution of products to such locations. This often aids the review and modification of particular segments to target, as well as that of the distribution, promotional and pricing strategies. This view was accentuated in the opinions of a sales representative with eight years of work experience in a shoe manufacturing SME in the Western Cape, who stated that:

> 'From the interactions with customers, some of the customers may appreciate or complain about the quality, features and designs of the products. Others may raise issues about the pricing of the product that may be unreasonably too high or the poor accessibility of the customers to the product, and incompetencies of the sales force causing poor service quality. While others may complain about lack of awareness of the product's existence as compared to rival brands. Using this information, it is usually for the marketing manager to assess the intervention measures that can be undertaken. From my experience, I feel that experiential marketing is of significant importance because it enables one to understand not only the product and the customer, but also the overall market.' (Male, 38, sales' representative)

However, it also emerged from the findings that experiential marketing aids not only the review and modification of the external marketing strategies to reposition and revitalise the product but also review and modification of a firm's internal marketing strategies. To accomplish this, the participants noted that in-store marketing is one of the techniques that they use. In this process, factors such as lighting, display, smell, cleanliness and attractiveness of the overall in-store environment are often used as part of the initiatives for gauging customers' experience and satisfaction, not only regarding a product's quality but also the environment in which such products are offered. If customers are found not to be impressed, this enhances the review and modification of the in-store facilities and environment as part of the strategies for repositioning the product as offering new value. In case, the brand was declining, it also offers opportunities to revitalise brands that are almost sliding into declines. In other words, such a finding suggests experiential marketing can offer the foundational information that can enable the executives to sense threats and undertake necessary pro-active measures to thwart such threats. However, the effective application of such pro-active intervention measures would require management flexibility and agility which most of the marketing managers emphasised that most of the SMEs to lack. This undermines the values that experiential marketing offers to highlight the future threats that SMEs need to thwart if they are to operate more sustainably. Such a view is corroborated in most of the responses to the interview question that evaluated the challenges that SMEs' experience when using experiential marketing. In such responses, the marketing manager with 13 years' work experience in the retail sector reiterated that:

> 'Management is used to hearing customers say this and that about the product and the business. As time goes on they become immune to the extent that even when the customers are raising valid points, they tend to ignore it until the product is being bought just by a very few groups of customers. It is at that point that they start to think about clearing such a product and introducing new ones. They want to be sure that the product or the business is no longer performing very well before discontinuing it or making the required changes.' (Male, 47, marketing manager)

Some of the participants revealed the rationale behind such approach to be latent in the executives' fear to make changes that cause uncertainties and interfere with sales and revenues. In effect, findings revealed most of the executives to be quite slow, inflexible and less agile when seeking to conceive and implement new strategies that can cause brand repositioning and revitalisation. Yet, as the executives remain largely inflexible and less agile, evidence of brand declines that are often identified during experiential marketing tends to worsen over time, thereby rendering it not reasonably possible for the executives to intervene and undertake strategies that could reposition and revitalise the struggling brands. Despite such challenges, there was nonetheless mundane evidence from the findings that indicated that SMEs' experiential marketing behaviours often enhance product review and modification, as well as marketing strategies' review and modifications to edify the repositioning and revitalisation of the struggling brands.

Discussion

Experiential marketing is critical for bolstering a firm's performance. It supplements the role of the traditional television, newspaper and radio advertisements and marketing. As businesses use experiential marketing methodologies such as online marketing and multimedia videos that demonstrate a product's overall value offerings, experiential marketing catalyses the market's awareness of the product, as well as the locations where such products can be obtained. This generates not only sales and profitability increment but also enrichment of customers' brand attachment. Such a view is at tandem with Gronlund's (2013:19) argument that experiential marketing aids the identification of customers' emotional triggers and attachment to the product that can be used to catalyse a product's overall effective market performance. The use of experiential marketing methodologies such as online marketing and multimedia videos also lowers the overall marketing costs. It enables less financially resourced businesses such as SMEs to avoid the often hefty costs of

television and newspaper advertisements. All these may leverage returns on the shareholders' value. Experiential marketing also offers the interactive interface between the salesforce, customers and products. This enables businesses to diagnose the overall level of customer feelings and attachment to its different brands.

Unfortunately, in most of the enterprises, the use of experiential marketing methodologies such as shows and demonstrations, as well as online marketing and multimedia videos are often only limited to influencing the achievement of the basic business outcomes such as sales and profitability increment. Such experiential marketing methodologies are also often used in the quests to aid minimisation of the traditionally often hefty cost of marketing. Limiting experiential marketing to only the achievement of such basic business outcomes renders it difficult to discern and identify the igniters or the inhibitors of a brand's performance. Yet, survival in the increasingly precarious contemporary business environment requires SMEs to constantly evaluate and understand the overall effectiveness of the market performance of their different brands (Kolbl et al. 2015:7; Zarantonello & Schmitt 2014:255). Such analysis edifies identification of the areas that entice or constrain customer experience and satisfaction with the brand. It is through the identification of such areas of dissatisfaction that SMEs are often able to undertake new strategies or modify the existing strategies to reposition and revitalise declining brands.

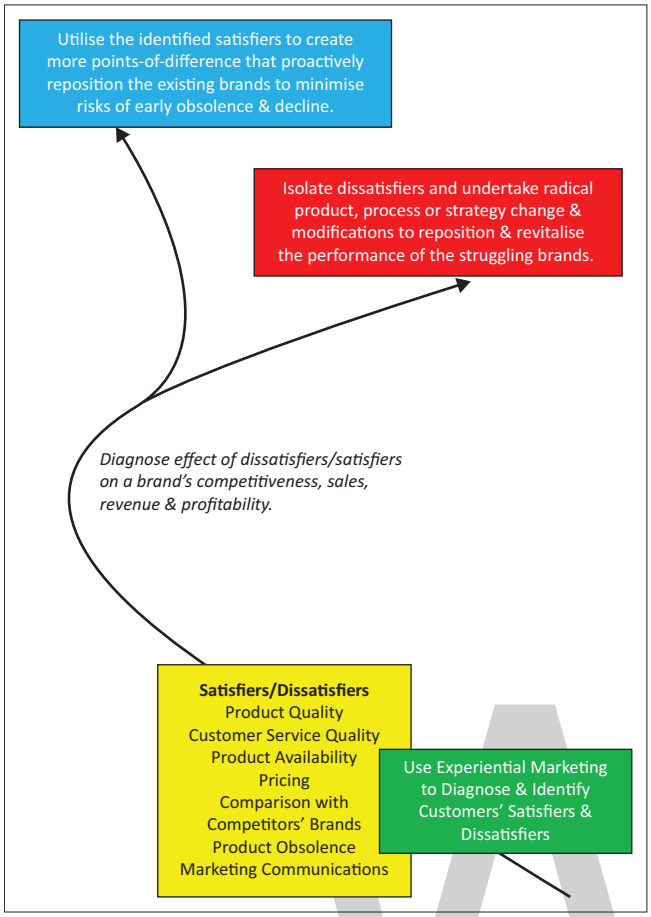
Even though in such analysis, most businesses often rely on brand evaluation, the use of experiential marketing is still critical for marketing executives to gain insight into the overall level of customer experience, emotional attachments and satisfaction with the brand. Conventionally, the motive of experiential marketing is to promote and sell a product to the target market segments. However, as it uses intense customer–product interactions to diagnose and improve customers' emotional attachment to the product, experiential marketing also aids real-time analysis of the overall state of a brand's effective market performance. From such analysis, it often turns evident whether the brand is performing poorly or about to slide into decline even. If the brand is performing poorly or about to slide into decline even, it enhances brand review and the eliciting of critical information that in turn aids brand reinvention, innovation, replenishment and improvement of the performance of the struggling brands (O'Sullivan, Richardson & Collins 2011:891; Sugimori, Matsuda & Kusumi 2011:42). It is the application of such strategies that leverages a brand's repositioning and revitalisation.

Information gained from experiential marketing also tends to be critical for repositioning and revitalising a brand through relevant modifications to match the emerging changes in customer tastes and preferences. It also leverages brand redesign, reinvention of brand identity and innovative advertising (Gronlund 2013:19). Experiential marketing methodologies such as one-on-one marketing and the use of interactive multimedia also elicit critical insights that businesses can use to refresh the visual aspect of the brands considered to be declining. Yet, as marketing personnel interact with different customer groups, their views often also influence how strategies such as the development of new distribution networks, marketing of the brand in new markets or market segments, and expansion of the brand's portfolio of products can be used to revitalise the performance of the struggling brands (Brown 1999; Cova & White 2010:256; Toledo & Evandro 2013:33). In other words, it is quite evident that experiential marketing not only aids brand diagnosis but also aids acquisition of critical information that influences how the struggling or the poorly performing brands can be repositioned or revitalised. Based on such analysis, it seems the study has responded to its fundamental research questions which were to explore whether SMEs' experiential marketing behaviours enhance brand diagnosis, repositioning and revitalisation, as well as the various types of changes undertaken and the challenges of bringing about such changes. However, considering that only little seems to have been undertaken to evaluate the leveraging effects of experiential marketing on brand repositioning and revitalisation, a challenge still arises from the inadequacy of the model that SMEs can replicate.

Contribution of the research

To deal with the challenge of an inadequate framework which SMEs can replicate when using experiential marketing to leverage brand diagnosis, repositioning and revitalisation, Figure 1 offers valuable practical insights on what the SMEs need to do to utilise their experiential marketing mechanisms to diagnose how their struggling brands can be repositioned and revitalised. It is argued in Figure 1 that as experiential marketing is being used to promote sales and profitability increment, the SMEs can also use experiential marketing to diagnose and identify customer satisfiers and dissatisfiers. Diagnosis and identification of satisfiers and dissatisfiers are pillars for discerning how each of the brands is performing. To accomplish this, it is critical to use the interactive salesforce–customer interface to assess whether the major customer satisfiers or dissatisfiers are arising from product quality, customer service quality, product availability, pricing, comparison with competitors' brands, product obsolescence and marketing communications. Such analysis must still be accompanied by the diagnosis of the effects of such dissatisfiers or satisfiers on a brand's competitiveness, sales, revenue and profitability. This is attributable to the fact that in certain cases, a majority of customers may express negative opinions about a particular product, but such negative perceptions often never translate into factors that undermine a brand's competitiveness, sales, revenue and profitability.

In effect, such analysis aids the evaluation and identification of the struggling brands as well as the well-performing brands. This paves the way for the identification of the brands that must be subjected to a thorough analysis during experiential marketing to assess the reasons that are causing



Source: As derived from the interpretation and triangulation of the interview findings in theories on experiential marketing and brand repositioning and revitalisation of Iglesias, O., Singh, J.J. & Batista-Foguet, J., 2011, 'The role of brand experience and affective commitment in determining brand loyalty', *Journal of Brand Management* 18(8), 570–582.

FIGURE 1: Experiential marketing framework as a basis for brand repositioning and revitalisation to enhance small and medium-sized enterprises sustainability.

the declining performance of such brands. In such an analysis, some of the experiential marketing techniques may require the use of in-store marketing, the use of sales personnel, online interactive multimedia videos and query platforms, telemarketing, as well as shows and promotional marketing (Zarantonello & Schmitt 2014:255). The application of these experiential marketing techniques may be accompanied by the creation of an environment and systems that facilitate customer–product interaction, customer immersion, as well as the use of experiential marketing events.

For brands that are identified to be performing poorly, it is critical to isolate major customer dissatisfiers and undertake radical product, process or strategy change and modification to reposition and revitalise the performance of the struggling brands. Brand repositioning and revitalisation strategies that the SMEs' marketing executives can undertake to ensure the brand matches the changes in customer tastes and preferences may require brand redesign and reinventing brand identity. It may also require innovative advertising, refreshing of the visual aspect of the brand and development of new distribution networks. As derived from Light and Kiddon's (2009) brand revitalisation model, the other strategies may also have to entail marketing of the brand in new markets or market segments, and expansion of the brand's portfolio of products. As SMEs' marketing executives also review and redesign product features, design and quality to delight and entice customer experience, it is however also critical that sufficient financial resources is dedicated in conjunction with the development and entrenchment of a culture of flexibility and agility to support constant brand review and modification. Even if some of the brands are identified to be performing well, it is still of significant importance that the customer satisfiers that influence such a brand's performance are identified and further modified to create more points-of-difference that proactively reposition the existing brands to minimise risks of early obsolescence and decline.

Conclusion

In this study, the fundamental research questions were to explore whether SMEs' experiential marketing behaviours enhance brand diagnosis, repositioning and revitalisation as well as the types of changes made and the challenges of such changes. From the analysis of the findings, it seems the study has succeeded to respond to such questions. It was easily discernible that experiential marketing leverages not only marketing effectiveness but also the diagnosis of customer opinions and perceptions about the various other aspects of the business. Through such an analysis, it also aids diagnostic brand reviews. Constant brand review and modification are pivotal to leveraging SMEs' performance in the increasingly changing modern markets. It aids a firm's capabilities to respond to the constantly changing customer tastes and preferences as well as the proliferation of increasingly disruptive innovations. Constant brand review and modification also minimise the often inherent risks of product obsolescence. In the quests to bolster a firm's continuity and sustainability, constant brand diagnosis is critical for understanding and identifying the critical aspects of the brand that must be changed and modified to turn around the market performance of the declining brands. Even though some of the SMEs often use surveys, experiential marketing is increasingly emerging, not only as a marketing strategy for promoting sales and profitability maximisation but also as a mechanism for diagnosing the causes of a brand's poor market performance. As experiential marketing is being used to leverage sales and profitability increment, it also enhances the analysis and identification of the major customer touchpoints and triggers that can be improved to stimulate customer emotional attachment to the product. It also influences the identification of the incremental improvement of the initiatives that can incrementally improve the level of customer loyalty, as well as sales, revenues and profitability. Experiential marketing unearths underlying constraints that are undermining a brand's effective market performance. It explores the level of positive emotional attachment to different brands that customers experience. However, as it

aids such an analysis, experiential marketing also offers SMEs the opportunities to undertake brand diagnosis to identify a combination of strategies that can be utilised to reposition and revitalise the performance of the poorly performing brands. Such constant brand repositioning and revitalisation may, however, require the use of an appropriate experiential marketing model. Unfortunately, findings revealed that the issue of such a model is a challenge that still confounds most of the contemporary SMEs' marketing executives. In effect, by suggesting the experiential marketing framework in Figure 1, this research sought to address such a challenge. However, future studies can still explore the critical factors for edifying SMEs' brand repositioning and revitalisation in the increasingly precarious contemporary global markets.

Acknowledgements

Competing interests

The author declares that he has no financial or personal relationships which may have inappropriately influenced him in writing this article.

References

Adeosun, L.P.K. & Ganiyu, R.A., 2014, 'Experiential marketing: An insight into the mind of the consumer', *Asian Journal of Business and Management Sciences* 2(7), 21–26.

Alkilani, K., Ling, K.C. & Abzakh, A.A., 2013, 'The impact of experiential marketing and customer satisfaction on customer commitment in the world of social networks', *Asian Social Science* 9(1), 262–270.

Anderson, J.C., Kumar, N. & Narus, J.A., 2007, *Value merchants: Demonstrating and documenting superior value in business markets*, Harvard Business School, Boston, MA.

Aronne, C.V. & Vasconcelos, M.C.R.L., 2009, *The impact of experiential marketing on the customer's perception of a brand's essence*, Encontro da ANPAD, Autoria, Brazil.

Babbie, E., 2008, *The basics of social research*, Thomson Wadsworth, Belmont, TN.

Babbie, E. & Mouton, J., 2008, *The practice of social research*, Oxford University Press, Cape Town.

Brown, S., 1999, 'Retro-marketing: Yesterday's tomorrows, today', *Marketing Intelligence and Planning* 17(7), 363–376. https://doi.org/10.1108/02634509910301098

Bryman, A. & Bell, C., 2007, *Business research*, MacMillan, London.

Canniford, R., 2011, 'How to manage consumer tribes', *Journal of Strategic Marketing* 19(7), 591–606. https://doi.org/10.1080/0965254X.2011.599496

Carù, A. & Cova, B., 2008, 'Small versus big stories in framing consumption experiences', *Qualitative Market Research: An International Journal* 11(2), 166–176. https://doi.org/10.1108/13522750810864422

Chao, R.F. & Kuo, T.Y., 2013, 'The influence of experiential marketing and brand image on consumers' revisit intention: A case study of E-DA Theme Park', *Journal of Tourism and Leisure Management* 1(1), 33–55.

Chen, Y.Y., Shek, D.T. & Bu, F.F., 2011, 'Applications of interpretive and constructionist research methods in adolescent research: Philosophy, principles and examples', *International Journal of Adolescent Medicine and Health* 23(2), 129–139. https://doi.org/10.1515/ijamh.2011.022

Cohen, L., Manion, L. & Morrison, K., 2011, *Research methods in education*, Routledge, London.

Cova, B. & White, T., 2010, 'Counter-brand and alter-brand communities: The impact of Web 2.0 on tribal marketing approaches', *Journal of Marketing Management* 26(3), 256–270. https://doi.org/10.1080/02672570903566276

Crain, D.W. & Abraham, S., 2008, 'Using value-chain analysis to discover customers' strategic needs', *Strategy & Leadership* 36(4), 29–39. https://doi.org/10.1108/10878570810888759

Day, G.S., 2011, 'Closing the marketing capabilities gap', *Journal of Marketing* 75(2), 183–195. https://doi.org/10.1509/jmkg.75.4.183

Dev, L.S. & Chekitan, S., 2012, *Hospitality branding*, Cornell University Press, Ithaca, NJ. https://doi.org/10.7591/cornell/9780801452031.001.0001

Fang-Chao, R., 2015, 'The impact of experimental marketing on customer loyalty for fitness clubs: Using brand image and satisfaction as the mediating variables', *The Journal of International Management Studies* 10(2), 52–60.

Fetterman, D.M., 2009, *Ethnography: Step by step*, Sage, Newbury Park, CA.

Gang, W., 2011, *Brand management in SMEs*, Department of Social Sciences, Midwest University, Midwest, Sweden.

Gronlund, J., 2013, *Basics of branding: A practical guide for managers*, Business Expert Press, New Delhi, India.

Gupta, S. & Ramachandran, J., 2010, *The Park Hotels: Designing communications*, Indian Institute of Management, Bangalore.

Herrmann, J.L., Walliser, B. & Kacha, M., 2011, 'Consumer consideration of sponsor brands they do not remember: Taking a wider look at the memorisation effects of sponsorship', *International Journal of Advertising* 30(2), 259–281. https://doi.org/10.2501/IJA-30-2-259-281

Hu, T.L., Ho, Y.H. & Hsieh, W.C., 2014, 'A study on the relationship among trust, brand image, experiential marketing, and customer loyalty for department stores', *Journal of the National Taipei College of Business* 25(6), 55–75.

Iglesias, O., Singh, J.J. & Batista-Foguet, J., 2011, 'The role of brand experience and affective commitment in determining brand loyalty', *Journal of Brand Management* 18(8), 570–582. https://doi.org/10.1057/bm.2010.58

Jain, S. & Lohia, S., 2014, 'Experiential marketing: Emerging issues and suggestions', *International Journal of Advances in Management and Economics* 3(2), 197–203.

Jonk, G., Handschuh, M. & Niewiem, S., 2008, 'The battle of the value chains: New specialised versus old hybrids', *Strategy & Leadership* 36(2), 24–29.

Kanth, K.P.S.R., Maheswar, D.U.R. & Venkatesulu, K., 2016, 'Brand revitalisation', *International Journal of Science Technology and Management* 5(1), 321–326.

Keller, K., 2013, *Managing brands over time. Strategic brand management*, Pearson, Upper Saddle River, NJ.

Keller, K.L., 2013a, *Strategic brand management: Building, measuring, and managing brand equity*, Prentice-Hall, Upper Saddle River, NJ.

Kolbl, Z., Konecnik, R.M. & Kolar, T., 2015, 'Brand revitalization: Don't let your brands turn into sleepyheads', *Central European Business Review* 4(2), 5–11. https://doi.org/10.18267/j.cebr.121

Kotler, P. & Armstrong, G., 2010, *Principles of marketing*, Pearson, Upper Saddle River, NJ.

Lee, T.H. & Chang, Y.S., 2012, 'The influence of experiential marketing and activity involvement on the loyalty intentions of wine tourists in Taiwan', *Leisure Studies* 31(1), 103–121. https://doi.org/10.1080/02614367.2011.568067

Lefi, L. & Gharbi, A., 2011, 'Nostalgia and brand attachment: Theoretical framework and application in the case of a Tunisian advertising', *Journal of Business Studies Quarterly* 3(1), 187–200.

Lekhanya, L.M., 2015, 'An exploration of the impact of digital marketing on SMEs growth and brand popularity in rural South Africa', *Journal of Economics and Behavioural Studies* 7(5), 37–42.

Light, L. & Kiddon, J., 2009, 'Six rules for brand revitalization: Learn how companies like McDonald's can re-energize their brands', Pearson Education, Upper Saddle River, NJ.

Lincoln, Y.S. & Guba, E.G., 2005, *Paradigmatic controversies, contradictions, and emerging confluences*, Sage, Thousand Oaks, CA.

Lockwood, T., 2010, *Design thinking: Integrating innovation, customer experience and brand value*, Allworth Press, New York.

Matthews, J. & Bucolo, S., 2014, *Continuous innovation in SMEs: How design innovation shapes business performance through doing more with less*, Queensland University of Technology, Brisbane, Queensland.

Marzocchi, G., Morandin, G. & Bergami, M., 2013, 'Brand communities: Loyal to the community or the brand?', *European Journal of Marketing* 47(1), 93–114. https://doi.org/10.1108/03090561311285475

Masterman, G. & Wood, E.H., 2008, *Innovative marketing communication strategies for the events industry*, Heinemann, Oxford.

Merchant, A. & Ford, J., 2008, 'Nostalgia and giving to charity: A conceptual framework for discussion and research', *International Journal of Nonprofit and Voluntary Sector Marketing* 13(1), 13–30. https://doi.org/10.1002/nvsm.300

Murane, P., 2012, *7 steps to revitalize your brand*, BrandJuice, New Delhi, India.

O'Guinn, T., Allen, C.H.T., Semenik, R.J. & Scheinbaum, A.C., 2015, *Advertising and integrated brand promotion*, Cengage Learning, New York, NY.

O'Sullivan, S.R., Richardson, B. & Collins, A., 2011, 'How brand communities emerge: The Beamish conversion experience', *Journal of Marketing Management* 27(9), 891–912. https://doi.org/10.1080/0267257X.2011.565684

Rootman, C. & Zeka, B., 2013, 'The brand image and performance of small and medium enterprises: How can social responsibility activities help?', *Acta Commercii* 13(1), 1–9. https://doi.org/10.4102/ac.v13i1.171

Qader, I.K.A., 2013, 'The evolution of experiential marketing: Effects of brand experience among the millennial generation', *International Journal of Academic Research in Business and Social Sciences* 3(7), 331–340.

Russo, S.T., Carida, A., Colurcio, M. & Melia, M., 2012, 'Store experience and co-creation: The case of temporary shop', *International Journal of Retail and Distribution Management* 40(1), 21–40. https://doi.org/10.1108/09590551211193586

Schmitt, B., 1999, 'Strategic experiential modules (SEMs)', *Journal of Marketing Management* 15(2), 53–67. https://doi.org/10.1362/026725799784870496

Sugimori, E., Matsuda, K. & Kusumi, T., 2011, 'The contradictory effects of nostalgic advertisements on nostalgia for products and on remembering advertisements', *Japanese Psychological Research* 53(1), 42–52. https://doi.org/10.1111/j.1468-5884.2010.00454.x

Toledo, A.C. & Evandro, L.L., 2013, 'Effect of nostalgia on customer loyalty to brand post-merger/acquisition', *Bar* 13(1), 33–55.

Ward, A., Runcie, E. & Morris, L., 2009, 'Embedding innovation: Design thinking for small enterprises', *Journal of Business Strategy* 30(2/3), 78–84. https://doi.org/10.1108/02756660910942490

Wynn, D. & Williams, C.K., 2012, 'Principles for conducting critical realist case study research in information systems', *MIS Quarterly* 36(3), 787–810.

Xu, H., Larry, L., Harry, A. & Dishman, P., 2015, 'Managers' perceived risk, experiential knowledge, marketing capability and international performance: A study of Chinese international enterprises', *Journal of Marketing Development and Competitiveness* 10(1), 53–65.

Yu, H.S., Zhang, J.J., Kim, D.H., Chen, K.K., Henderson, C., Min, S.D. et al., 2014, 'Service quality, perceived value, customer satisfaction, and behavioral intention among fitness center members aged 60 years and over', *Social Behavior and Personality an International Journal*, 42(5), 757–767.

Zarantonello, L. & Schmitt, B.H., 2014, 'The impact of event marketing on brand equity: The mediating roles of brand experience and brand attitude', *International Journal of Advertising* 32(2), 255–280. https://doi.org/10.2501/IJA-32-2-255-280

Zdravkovic, S. & Till, B.D., 2012, 'Enhancing brand image via sponsorship: Strength of association effects', *International Journal of Advertising* 31(1), 113–132. https://doi.org/10.2501/IJA-31-1-113-132

Coaching as a support function for potential entrepreneurs

Authors:
Maddison-Lee Brinkley[1]
Ingrid le Roux[1]

Affiliations:
[1]Department of Business Management, University of Pretoria, South Africa

Corresponding author:
Maddison-Lee Brinkley,
maddy.brinkley@gmail.com

Background: There is a longstanding debate on whether the practice of coaching support is useful for entrepreneurs who lack the skills and assistance needed to make a success of their businesses.

Aim: To gain a better understanding of the benefits derived from coaching support, this study explores the debate on whether coaching is useful as a support function for entrepreneurs.

Setting: Entrepreneurs who participated in a support intervention programme to assist them with the development or growth of their business.

Methods: This study employed a qualitative research design and used 12 semi-structured, face-to-face interviews that were conducted with entrepreneurs from the Pretoria region, who received support intervention for business purposes between August and October 2015.

Results: The study found that confusion still exists around the concepts of coaching and mentoring. Furthermore, it was found that both mentoring and coaching are useful as a support function for entrepreneurs, as evidenced through the benefits derived from the intervention. These benefits mainly include the development of skills, particularly of 21st-century skills, new perspectives, enhanced communication, increased self-awareness and learning, and were facilitated by learning.

Conclusion: Both mentoring and coaching can benefit potential entrepreneurs; however, each form contributes different benefits. Coaching contributes to the self-development of entrepreneurs, whilst mentoring assists in the development of managerial functions needed to successfully start and grow a business. It is clear that these different forms of support intervention aid in developing different skills, and therefore, entrepreneurs should articulate their required needs before engaging support.

Introduction

It is well documented that entrepreneurial skills are becoming increasingly important for survival and future entrepreneurial and business success as well as job creation. This is especially true in today's dynamic and competitive environment in which entrepreneurs are faced with greater market and competitive pressures (Dobrea & Maiorescu 2015:249). Entrepreneurs often lack the tools and support needed to grow a successful business and turn to coaching to provide support for the future success of their business (Audet & Couteret 2012:516; Crompton & Smyrnios 2011:11). Coaching is used as a support function for entrepreneurs and an important development tool for entrepreneurs (Dobrea & Maiorescu 2015:248; Fielden & Hunt 2011:354; Saadaoui & Affess 2015:56). However, there is little research on the perceived benefits derived from a coaching as a support intervention in the small-to-medium enterprise or emerging entrepreneurial environment (Audet & Couteret 2012:516; Crompton & Smyrnios 2011:2; Saadaoui & Affess 2015:55). Furthermore, it is important to note that previous academic research has explored coaching on a theoretical basis more than on an empirical basis (Kutzhanova, Lyons & Lichtenstein 2009:195), and more research is needed to investigate the effectiveness of coaching specifically in the entrepreneurship and small and medium-sized enterprises (SME) realm (Kim & Kuo 2015:169; Mühlberger & Traut-Mattausch 2015:199).

Coaching is seen as a support function for individual support, based on an interpersonal relationship that facilitates learning (Audet & Couteret 2012:516; Kutzhanova et al. 2009:207). Literature on coaching also highlights the fact that coaching only provides a support structure and does not to do the work for the entrepreneur (Audet & Couteret 2012:520). Furthermore, coaching is used as a means to empower the entrepreneur and encourage the entrepreneur to think more strategically and arrive at solutions on their own (Audet & Couteret 2012:528; Wakkee, Elfring &

Monaghan 2010:6). Coaching is thus used in the skills development process and ultimately to improve organisational growth, financial performance and firm performance through derivation of the practical benefits of coaching (Crompton & Smyrnios 2011:18; Dobrea & Maiorescu 2015:258; Kutzhanova et al. 2009:195–196). However, literature also outlines the roles of coaching which include coaches acting as sounding boards, listeners, advisors, counsellors, skill enhancers and facilitators of learning and development (Crompton & Smyrnios 2011:4; Dobrea & Maiorescu 2015:245). Such roles aid in the processes of development and goal setting and provide focus and direction for entrepreneurial focus on processes and issues relating to their business (Wakkee et al. 2010:7).

Previous research has focused mostly on executive coaching and mentoring rather than business coaching for entrepreneurs (Dobrea & Maiorescu 2015:248; Koopman 2013:3; Kutzhanova et al. 2009:196). Therefore, it created a platform for a debate on whether coaching is useful in skills development and as a support function for the small-to-medium enterprise, as well as emerging entrepreneurs. The aim of this study was to address and develop a better understanding of the gap that exists in the literature on whether coaching is useful as a support function for entrepreneurs and to better understand the perceived benefits derived from coaching support. The study adds value by contributing to the debate on coaching as a support function and is qualitative in nature. The study aimed to answer the following two research questions, namely:

- What perceived coaching support was received by participants?
- What perceived benefits were derived from the support intervention received?

The rest of the article is structured as follows: Firstly, existing literature that focuses on the entrepreneur, the nature and importance of coaching and the perceived benefits of coaching as a support function is reviewed. A discussion of the methodology with particular reference to the research design, sampling, the data collection method, method of data analysis and the criteria to ensure trustworthiness follows. The findings of this study are then reported and discussed. This section of the paper reports on the participants' reflection on their support intervention experiences. Lastly, the article is concluded with a summary of the findings and theoretical implications, managerial implications, and limitations and recommendations for future research.

Literature review

The nature and importance of entrepreneurship

An entrepreneur can be defined as a person who starts a business venture through the identification and exploitation of an opportunity, by gathering resources and bearing the risk of failure (Nieuwenhuizen & Nieman 2009:9). Similarly, entrepreneurship is a venture undertaken by an entrepreneur who assumes the risk of the discovery and exploitation of an opportunity (Wolf, Kaudela-Baum & Meissner 2011:243). Entrepreneurship is important for economic development and performance as it relates to productivity, wealth and job creation, innovation and competitiveness (Adekunle 2011:363; Kuratko, Morris & Schindehutte 2015:1; Spencer, Kirchhoff & White 2008:9). However, despite the importance of entrepreneurship, entrepreneurial ventures are susceptible to failure. Entrepreneurial ventures fail because of a lack of business knowledge or learning, poor planning, a lack of appropriate skills, poor management, poor finance management and inability to reach goals (Freiling & Laudien 2013:2–3; Hammer 2012:3; Urban 2012:17). Entrepreneurs are facing rapid changes in environmental, economic, market and competitive pressures and, because of these pressures, they seek faster and better ways of keeping up with the pace of change (Crompton 2012:22; International Coach Federation n.d.).

Entrepreneurs want to receive advice on matters such as planning, strategy and marketing, and learn how to engage in high-level thinking (Crompton 2012:20). Furthermore, it is essential for entrepreneurs to continuously develop their skill set in the face of changing environmental pressures (Mazra & Guy 2012:293). Companies are no longer achieving results through traditional management approaches and need to develop inclusive and collaborative working environments. As a result, entrepreneurs seek support to assist them in overcoming these various challenges, improving efficiency, achieving future success and developing necessary skills (Audet & Couteret 2012:516; Crompton & Smyrnios 2011:11; International Coach Federation n.d.; Lamine, Mian & Fayolle 2014:537). Coaching is used by entrepreneurs as a development tool and a mechanism for support that encourages the high-level thinking necessary to be successful in their endeavours now and in the future (Audet & Couteret 2012:516; Crompton & Smyrnios 2011:11; Dobrea & Maiorescu 2015:248; Fielden & Hunt 2011:354; Saadaoui & Affess 2015:56).

The nature and importance of coaching

The notion of coaching is not a new phenomenon. Previous literature highlights definitions of coaching as a means to assist people in developing the necessary knowledge, opportunities and tools needed for adequate growth (Feldman & Lankau 2005:830). The International Coach Federation (ICF) (n.d.) defines coaching as 'partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential'. Similarly, Vidal-Salazar, Ferrón-Vilchez and Cordón-Pozo (2012:424) define coaching as a management practice that encourages personal development and fosters sustainable economic growth. Audet and Couteret (2012:516) offer a conceptualised definition of coaching as a support structure that facilitates learning and development of potential. Other definitions of coaching include coaching as a process of facilitating growth and change (Moore et al. n.d.:33) and coaching as a tool for self-development for increased effectiveness and fulfilment (Centre for Coaching 2015). For the purpose of this paper, coaching is defined as

the support for emerging entrepreneurs in the start-up phase of their business, with the aim of development or improvement of the necessary skills required for independence and future success (Audet & Couteret 2012:516; Saadaoui & Affess 2015:55).

Coaching differs from other managerial tools used to aid the entrepreneur such as consultancy and mentoring. It is important that a distinction be made between these terms. Consultancy does not facilitate learning, unlike coaching which creates and facilitates a learning environment. Coaching does not provide 'ready-made answers to specific problems' (Audet & Couteret 2012:516) but rather allows and encourages the entrepreneur to overcome problems through their own problem-solving processes (Audet & Couteret 2012:516; Mühlberger & Traut-Mattausch 2015:202; Rosha 2013:124). Coaching and mentoring are often used interchangeably in literature (Crompton 2012:33; Koopman 2013:11), owing to the fact that the two methods are almost the same. Both these methods encourage an individual to solve problems themselves (Audet & Couteret 2012:516). However, mentoring is perceived as a voluntary relationship with a long-term focus on the overall business endeavour. The purpose of mentoring is to assist entrepreneurs in broadening their personal horizons and teaching them how to be an entrepreneur. For the purpose of this paper, mentoring is defined as a formal process of advice or support given by a person who has experience and knowledge to another person who is lacking in such experience and knowledge (Arkün Kocadere 2015:1). Coaching, on the other hand, is perceived as a business relationship with a short-term focus on assisting entrepreneurs in improving business performance through the development of specific skills and goal achievement, for the purposes of growth and success (Audet & Couteret 2012:516–517; Crompton 2012:33; Koopman 2013:3; McKevitt & Marshall 2015:264).

Several types of coaching exist in literature and needs mentioning. These types can be categorised as executive coaching, business coaching, personal coaching and entrepreneurial coaching. However, the focus of this study is on entrepreneurial coaching. Nevertheless, the concept of coaching generally remains the same regardless of the context (Wilson 2014:8). Therefore, for the motivation of this paper, theory was drawn from all contexts to provide supporting arguments.

The roles of the coach

The roles of coaching, as well as the roles of coaches, are highlighted throughout literature. A coach can perform various roles such as improving job performance, assisting in the development of strategic plans, inspiring entrepreneurs to reach higher levels of personal and professional potential, assisting the entrepreneur in defining his or her limitations, and providing guidance, support, accountability and encouragement (Crompton & Smyrnios 2011:4; Kutzhanova et al. 2009:207; Lavryk 2013:142; Lawless 2009:41; Rosha 2013:124). The coach provides support that creates the opportunity for an entrepreneur to acquire or enhance skills for specific tasks (Bax, Negrutiu & Calota 2011:5; Crompton & Smyrnios 2011:4; Rosha 2013:124), by facilitating learning and development, and assisting an individual in the formation of new strategies for thinking (Bax et al. 2011:5; Crompton & Smyrnios 2011:4; Kutzhanova et al. 2009:207). The aim is to help the entrepreneur develop the critical ability to step back from a situation and to think about the learning process (Audet & Couteret 2012:518).

Coaches provide guidance towards a better focus on organisational issues and processes and facilitate change (Botma 2012:7; Wakkee et al. 2010:7) by guiding the entrepreneur into a situation where he or she becomes aware of his or her incompetencies, which becomes necessary for implementing corrective measures. Entrepreneurs are taught to see themselves realistically and reflect on their behaviour and how others perceive their actions, which is achieved through inner potential exploration, learning and self-awareness (Bachkirova, Arthur & Reading 2015:185; Crompton 2012:28; Lawless 2009:10; Vidal-Salazar et al. 2012:426). The coach provides a structure that does not allow the coach to do work for the entrepreneur, but rather a structure that will facilitate problem-solving and encourage entrepreneurs to derive their own solutions (Audet & Couteret 2012:516; Koopman 2013:5). This solution-focused approach uses thought-provoking questioning that encourages entrepreneurs to change their thinking by challenging their underlying assumptions and allowing entrepreneurs to work through challenges that they perceive as opportunities rather than as problems (Crompton 2012:50; Crompton, Smyrnios & Bi 2014:17; Nikolova et al. 2014:86). The coach may act as a sounding board for entrepreneurs with the purpose of challenging their thinking and encouraging more strategic thinking for the exploration of alternative perspectives (Gray, Ekinci & Goregaokar 2011:864–865). In this way, coaches are expected to listen and create a safe space for sharing and discussion of problems and opportunities (Crompton 2012:150; Nikolova et al. 2014:86).

Perceived benefits of coaching

Coaching has an important place in the world of business as a useful tool in jobs that require learning (Saadaoui & Affess 2015:55; Vidal-Salazar et al. 2012:426). However, there is little research on the effect of or usefulness of coaching in the small-to-medium enterprise or emerging entrepreneurial environment (Audet & Couteret 2012:516; Crompton & Smyrnios 2011:2; Gray et al. 2011:865; Saadaoui & Affess 2015:55). However, literature does acknowledge that coaching is effective, specifically because of its ability to meet the unique needs and expectations of entrepreneurs. Coaching increases the effectiveness of improvement procedures, efficiency, development of entrepreneurial behaviours, self-confidence, capacities, new knowledge and skills and ultimately assists in achieving desired ends (Saadaoui & Affess 2015:55; Vidal-Salazar et al. 2012:430; Wakkee et al. 2010:3). Entrepreneurs are more open to innovation and

change within their business, which may be essential for the growth and sustainability of the business (Chaudhry 2015). Other benefits include new perspectives, increased productivity and performance, goal attainment, life and work satisfaction and fulfilment, better quality of work, increased adaptability, enhanced communication, increased self-awareness and increased leadership effectiveness (Centre for Coaching 2015; International Coach Federation n.d.; London Deanery 2014; Mineur 2012:12). Coaching works to execute planning and preparation, define expectations and responsibilities and provide support in an attempt to positively, effectively and permanently influence entrepreneurs and their businesses (Centre for Coaching 2015; Crompton & Smyrnios 2011:7). Literature further shows that coaching has an important bearing on important factors such as self-efficacy, growth and performance, skills development, goal setting and planning, and personal and work life.

Self-efficacy

Entrepreneurial self-efficacy refers to the strengths of an individual's belief that he or she has the capability of performing the roles and tasks of an entrepreneur and represents what the individual thinks he or she can realise with his or her skills (Bullough & Renko 2013:345; Saadaoui & Affess 2015:56; Urban 2013:6–7). Higher levels of self-efficacy result in higher levels of performance (Bachkirova et al. 2015:179; Wakkee et al. 2010:5). The reason for this is that individuals with higher levels of self-efficacy perceive their environment as having more opportunities and fewer risks, and are more inclined to put more effort into overcoming challenges and achieving their goals (Hechavarria, Renko & Matthews 2012:689; Urban 2013:4). Self-efficacy increases the competence to identify and discover new opportunities, facilitates learning and contributes to improving the quality of planning and the development of both human and conceptual skills. The entrepreneur develops the capability of overseeing, managing and motivating employees, as well as the capacity to improve working conditions and business performance (Hechavarria et al. 2012:688; Saadaoui & Affess 2015:59; Urban 2006:3). Self-efficacy can be enhanced as a result of learning facilitated through coaching and includes transferring knowledge and empowering the entrepreneur as a way of enhancing the individual's belief in the possibility of success (Audet & Couteret 2012:516; Urban 2006:3; Wakkee et al. 2010:6).

Growth and performance

Business coaching has an impact on the growth and performance of an entrepreneur's business (Crompton et al. 2014:25). Dobrea and Maiorescu (2015:248) demonstrated that a company's growth and financial performance were indeed an outcome of coaching. This is furthermore confirmed in the study conducted by Crompton and Smyrnios (2011:8–18). The participants revealed that between 5% and 50% of growth was attributable to coaching. The participants revealed that growth resulted because coaching provided them with the opportunity to consider other perspectives and options. Coaching also contributed wisdom, experience, help and guidance. They concluded that coaching is positively related to growth and performance. Further evidence is offered by The ICF (n.d.), who claims that coaching maximises performance through improvement in business management and improved work performance.

Skills development

Skills can be viewed as the integration of knowledge and ability, within a perceived environmental area of application (Kutzhanova et al. 2009:194). The concept of skill describes specific abilities of the entrepreneur. Entrepreneurs develop different skills because of different experiences. Skill development involves the transition of knowledge into behavioural processes of learning. Coaching is important in the facilitation of learning to expand the knowledge of entrepreneurs. Additionally, coaching is used as a development tool to teach the entrepreneur how to expand, learn and acquire skills and to develop and refine the skills and capabilities of the entrepreneur (Anzengruber 2015:33; Kutzhanova et al. 2009:194–205; Lawton-Smith 2007:2).

Goal setting and planning

Participating in coaching is associated with enhanced goal attainment (International Coach Federation n.d.). In the study conducted by Lawless (2009:86–125), participants divulge that goal setting and planning made significant differences to their business. For these participants, planning was a means of prevention to the overreaction to daily events and assisted individuals in the control of their businesses. Furthermore, the study revealed that coaching influences goal planning and achievement. Coaching was used to narrow down goals to provide the entrepreneur with a more specific focus. Mühlberger and Traut-Mattausch (2015:218) supported this notion in their study which reinforced the fact that coaching is effective for goal-related results and further revealed that coaching positively influenced goal attainment, and not only goal setting.

Personal and work life

Coaching can improve mental health, enhance the entrepreneur's quality of life and increase job satisfaction and fulfilment (Centre for Coaching 2015). Coaching affords entrepreneurs the opportunity to develop a broader perspective of the roles they should fulfill in their businesses and allows them to reflect on their existing knowledge. This reflection reveals limitations in the entrepreneurs' skills and, consequently, their inability to cope with problems. Coaching plays an important role in the self-learning process and includes features such as self-management (Gray et al. 2011:877; Kutzhanova et al. 2009:205). Coaching helps participants manage change and carry out cognitive and emotional tasks, as it allows entrepreneurs to divulge confidential concerns, deficiencies and doubts (Gray et al. 2011:874–877), which is found to be useful for entrepreneurs

in the reduction of stress or loneliness (Botma 2012:48–55). Success in personal areas of an entrepreneurs' life may provide the entrepreneur with greater organisational focus for long-term success (Gray et al. 2011:874).

Summary of literature review

It can be assumed that coaching is useful as far as it assists entrepreneurs in improving their self-efficacy; contributes to growth and performance; provides a positive learning environment that facilitates skills development; provides an effective means to planning, goal setting and goal achievement; and provides balance in the personal and work life of entrepreneurs. However, Crompton (2012:169) notes that the benefits derived from coaching are difficult to express in quantifiable terms. Rather than a measure of firm growth, benefits are generally determined by the satisfaction felt by the entrepreneur about the coaching experience and by his or her personal development throughout the process, and outcomes are generally difficult to quantify (Bachkirova et al. 2015:178). Therefore, for the purpose of the study, qualitative data are collected through semi-structured interviews to determine the benefits as perceived by the entrepreneurs.

Methodology

As a result of the qualitative nature of this research and in order to understand how entrepreneurs interpret, construct and make meaning from their experiences, a generic qualitative research design was applied. This design was useful in developing and understanding the usefulness of coaching support and the benefits thereof. This study also sought to describe the coaching experience from an entrepreneur's perspective and expand the current available knowledge on the usefulness of coaching as a support function (Cooper & Schindler 2014:15; Vogt 2005:22). The questions included in the discussion guide can be found in Appendix 1.

The unit of analysis in this study was individuals who received support intervention for the purposes of learning and development. The sample consisted of 10 entrepreneurs (incubatees) who had received (perceived) coaching as a support intervention for business purposes from an incubator. An incubator can be defined as an environment that fosters the creation and the development of entrepreneurial businesses (Anholon et al. 2016:66). Two additional participants, who had received life coaching support from a professional coach, were included to form an experimental group. One was also an entrepreneur, whilst the other merely received life coaching. The reason for the inclusion of the experimental group is that the researchers noticed that there was confusion between mentoring and coaching, such that the 10 incubatees had the perception that they were receiving coaching support, but had actually received mentoring support from the incubator, as noted in the findings section of the paper.

A total of 12 individuals from Pretoria participated. Snowball sampling and purposive criterion sampling were employed to identify and specify particular predetermined criteria to be possessed by participants (Guest, Bunce & Johnson 2006:61; Plano Clark & Creswell 2015:334; Polit & Beck 2012:519–523). Participants were chosen based on prior experiences with coaching for business purposes and being an entrepreneur. Twenty-one letters of introduction were sent out to potential participants. Fourteen participants responded. Semi-structured interviews were conducted with 12 of the 14 participants who responded to the invitation to participate.

Thematic analysis was used to systematically identify, organise, analyse and report patterns or themes within the data and allowed the researchers to make sense of the coaching experiences of entrepreneurs (Braun & Clarke 2006:79, 2012:57). The data were coded by inductively assigning codes or labels to describe text segments of the transcripts. Each code identified was relevant to the research questions. Each theme in this paper can be defined using the sub-themes and respective codes, which reflect any meaningful patterns evident from the data.

Findings and discussion

The aim of this study was to address and develop a better understanding of the gap that exists in literature on whether coaching is useful as a support function for entrepreneurs and to better understand the benefits derived from the received support intervention. Figure 1 shows the total number of responses that correspond with each theme, as well as the number of coded responses that were contributed by the incubatees and those that were contributed by the experimental group.

The graph shows the main themes that emerged in this research, namely: coaching, mentoring, the confusion between coaching and mentoring, 21st-century skills and learning. Furthermore, the graph also shows the contributions of the incubatees and the experimental group to each theme.

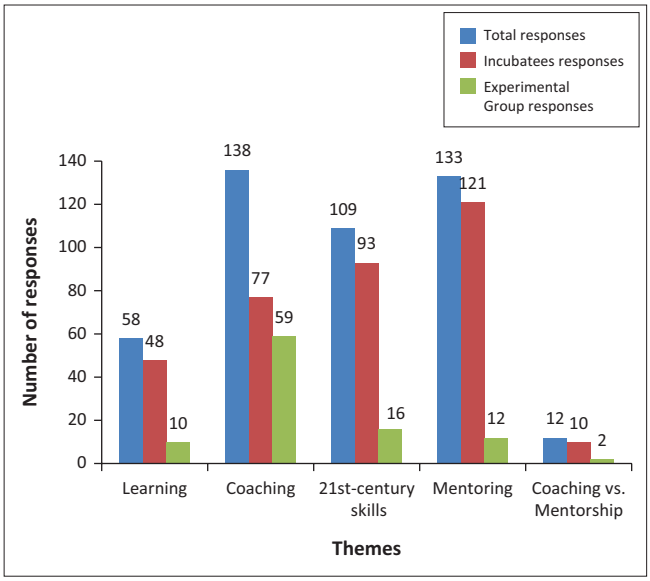


FIGURE 1: Graph showing total coded responses per theme.

The section following the graph discusses the findings of this research.

Coaching

The finding in this section deals with the coaching support contribution that participants received. In analysing the 448 coded responses, it was found that 140 were applicable to coaching, which can be described as a self-development tool for increased effectiveness and fulfilment (self-velopment), and as a support intervention that assists in the maximisation of personal and professional development (coaching contribution) (Centre for Coaching 2015; International Coach Federation n.d.). Therefore, the main theme of coaching is supported by the sub-themes of coaching contribution and self-development.

The coaching intervention included participants telling their coach about what was going on in their lives, what they were struggling with and what they were trying to achieve in terms of improvement. In addition to this, and in line with literature, the data showed that coaching was an open conversation that provided participants with a person who listened to them and a safe space where participants were able to speak freely without fear of judgement (Crompton 2012:15; Kim & Kuo 2015:154; Nikolova et al. 2014:86). The coaching intervention worked to provide direction to participants and empower them through a process of self-learning that allowed them to find their own solutions. This is also in line with literature that suggests that coaching does not merely provide the answer to the problem, but rather allows the individual to derive their own solution (Audet & Couteret 2012:516; Mühlberger & Traut-Mattausch 2015: 201–202; O'Flaherty 2003:2; Rosha 2013:124). One participant reported on this process:

> 'With coaching, it's all about you … your own steps … your own outcomes... You are in control ... Not exactly telling you how to do it … you set your own goals and how you want to go about it, they (the coach) are just there to support.' (P12, female, experimental coachee)

Furthermore, and in line with literature, the intervention revolved around building specific competencies or skills that assisted participants in the discovery of limitations that prevented improvements and developing a self-correcting ability whilst removing self-doubt (Kim & Kuo 2015:157; Lawless 2009:10; O'Flaherty 2003:2). One participant identified the use of coaching on limiting behaviour:

> 'Receiving coaching … is actually to get rid of those inhibitions and limitations that limit you to operate at your highest ability…. I realised there was certain ways I acted that was limiting to my business and my behaviour, and through coaching I could remove those.' (P11, male, experimental coachee)

Thus, as the literature suggests, self-awareness was created by providing the participants with the opportunity for reflection about limiting behaviours and the effect of such behaviours on those around them (Bachkirova et al. 2015:185; Crompton 2012:28; Lawless 2009:10; Vidal-Salazar et al. 2012:426). Deriving one's own solutions and increased self-awareness were two reported outcomes of the self-development process experienced by participants. Participants also reported self-development through increased responsibility and emotional intelligence, improved communication skills and higher levels of confidence, all of which support coaching literature (Bachkirova et al. 2015:185; Mühlberger & Traut-Mattausch 2015:200; International Coaching Federation n.d.). Participants reported improved confidence on abilities such as risk-taking, decision-making, leadership, talking to people and in one's own capabilities. For example, one participant reported gaining confidence in various ways:

> 'Confidence in your capabilities…. I am very much confident in the decisions I'm making right now because ... I am well informed…. Before coaching, I'll doubt myself, but now I'm more confident in my leadership skills.' (P12, female, experimental coachee)

Although these findings suggest that coaching is useful as a support function and offers several benefits such as self-development and increased confidence, it should be noted that 59 out of the 138 coded responses that contributed to the theme of coaching were responses from the two experimental participants (P11 and P12) who received coaching from a qualified coach using a specific growth model to develop the person. This suggests that the group of incubatees were not the recipients of a coaching intervention.

Mentoring

Mentoring was identified as a second main theme in the study, with a total of 133 coded responses. The three sub-themes, namely: structure, mentorship contribution and generic lessons, supplement the definition of mentoring which can be defined as a formal process (structure) of advice or support given by a person who has experience and knowledge to another person who is lacking in such experience and knowledge (mentorship contribution) (Arkün Kocadere 2015:1). In addition, mentoring is focused around teaching entrepreneurs in general and does not address individual-specific needs that teach specific skills (generic lessons) (Audet & Couteret 2012:516–517). The majority of the participants of the study reported that the formal intervention was an organised and structured process that assisted them with planning and management, developing goals and visions and provided them with focus that they were able to achieve through particular steps. A formal intervention provides such structure (Desimone et al. 2012:104). One participant confirmed that the formal intervention provided structure and assisted in planning:

> '… helps you to be organised, to be structured, and to optimise your resources and your talents…. It's (intervention) helped me quantify certain processes in business…. Planning, for example.' (P4, male, incubatee)

The participants also referred to the various characteristics of mentorship that they encountered during the intervention process. These characteristics are evident from literature and included receiving idea feedback and development,

advice, guidance, encouragement and motivation, and a business world perspective from someone with knowledge and experience (Gordon 2015:7–10; Koopman 2013:3; Mühlberger & Traut-Mattausch 2015:202; O'Flaherty 2003: 1–3). The following quote sums up some of these mentorship characteristics:

> 'Sharing with us what other successful entrepreneurs that went through this process have done and where they have been … we see that it's possible … makes us believe more and become more motivated.' (P6, male, incubatee)

In addition, most of the incubatees reported receiving generic lessons in which they all attended the same classes, and their one-on-one sessions with their mentor followed the same general process. One participant reported that all incubatees received lectures on the following:

> 'Introduction into the business incubator and then the business model canvas … on financial stuff like the budget, the statement of financial position and everything, looking at the financial components of the business … on marketing skills, and then that also further in included presentation skills.' (P3, female, incubatee)

The data suggest that the intervention did not necessarily teach specific skills to address specific needs of the participants. Rather, the intervention taught skills in a more general sense by teaching the participants how to be entrepreneurs and how to start up and run their businesses, unlike coaching, which according to literature, aims to teach specific skills to address specific needs of the participants (Audet & Couteret 2012:516–517; Centre for Coaching 2015; Crompton & Smyrnios 2011:7). Almost all the coded responses for this theme were responses from the incubatees. Therefore, it is evident that what the incubatees received was synonymous with mentoring in that they took part in a structured and somewhat generic process, which offered several benefits such as idea feedback and support, encouragement, motivation and advice, in addition to receiving a real business world perspective from individuals with industry experience. Thus, it can be concluded that mentoring played a significant role in teaching the participants what it takes to be an entrepreneur and was therefore useful to the incubatees in this regard. Although the incubatees received mentoring, they referred to the intervention support as coaching; this suggests that there is confusion between the two concepts.

Confusing coaching and mentoring

Upon analysis of the data, the researchers found that in the open question asked to define coaching and mentoring, it was evident that four of the incubatees were able to describe the terms mentorship and coaching as separate concepts that are in line with the literature. Mentorship is described as a long-term voluntary relationship in which the mentor takes the mentee 'under their wing' to teach the mentee from the mentor's own experience. The focus is on the overall business endeavour, in this case, the endeavour of starting up a business. On the other hand, coaching is described as an intervention with a more short-term focus with the aim of providing individual support and guiding an individual through a thought-provoking process of self-development (Crompton 2012:50; Kim & Kuo 2015:157; McKevitt & Marshall 2015:264; O'Flaherty 2003:3). For example, one participant explained this difference:

> 'Coaching … is a sort of intimate instruction … we're talking about a guided experience ... a mentor is someone with industry experience who takes you under the wing to actually teach you the ropes … they don't do it for a profession.' (P4, male, incubatee)

However, when the incubatees reported on their actual experience of the support intervention they had received, it was evident that some confusion exists. Of the 111 coded responses regarding the support intervention contribution for incubatees, 72 described mentoring experiences whilst only 39 described coaching. These findings support the literature on the confusion between the definitions and the purposes of coaching and mentoring. Generally, there is a lack of consensus about the meaning of coaching and mentorship, and the two terms are often used interchangeably throughout literature (Crompton 2012:33; Koopman 2013:10–11). Six of the incubatees reported that they believed that there was no difference between mentorship and coaching, for example, when asked if participants had different definitions of the two terms, one incubatee said:

> 'No, I don't think so. I think a *mentor* and a *coach* for me would be quite similar.' (P7, male, incubatee)

Interestingly enough, although the four other incubatees could accurately describe the difference between mentorship and coaching, the data suggest that they believe that they had received coaching, when in fact, they mostly received mentoring support. Furthermore, these four incubatees also used the terms interchangeably. The following quote summarises the interchangeable use of coaching and mentoring by an incubatee who was initially able to explain the difference:

> 'Whether in the form of *mentorship* or structured *coaching* … you require *coaching* … we had private sessions with the incubator *mentors* or *coaches*.' (P4, male, incubatee)

It can be deduced that there is still some confusion around the difference in meaning of coaching and mentoring support because participants referred to mentorship as coaching and vice versa, even when they believed that they knew the difference. It is possible that confusion stems from the fact that according to participants, the two forms of intervention are almost the same, because both forms of intervention encouraged them to solve problems and do the work themselves. However, according to the literature, coaching differs in the regard that coaching is focused on finding the reason behind the problem (Audet & Couteret 2012:33; Koopman 2013:4), whilst mentoring in this study places more of a focus on improving business activities.

Twenty-first-century

The fourth theme and an unexpected finding that emerged from the coding was that of 21st-century skills. Although participants were not specifically asked about these skills, they were a by-product of the interview conversation. The number of coded responses for this theme totalled 109 responses, making it the third most often occurring theme. As the name suggests, 21st-century skills are the specific skills needed for survival in the 21st century. These skills include creativity, collaboration, critical thinking, communication skills, social and cultural skills, problem-solving, entrepreneurial skills, and information and technological skills (Allen & van der Velden 2012:12–13; Barell 2010:197; Boyles 2012:42). Participants reported on collaborations, problem-solving, critical thinking and entrepreneurship. These four skills are the sub-themes that make up the main theme of 21st-century skills.

Collaborations result from cooperative encounters that could potentially result in new innovations (Boyles 2012:47–48). Participants reported that they were given the opportunity to share their ideas with other incubatees, with other like-minded individuals at the innovation hub, and with potential investors. Problem-solving requires the identification, interpretation and inquiry (Barell 2010:188; Boyles 2012:51). Participants reported improved decision-making and applying lessons learned during the intervention in their daily lives, for example:

> '… now I take informed decisions now, very informed decisions…. So I think I will think things through before I decide, and I will be more objective when I do things.' (P12, female, experimental coachee)

Participants were able to develop entrepreneurial skills and capabilities needed for the success of their business. These skills are essential to entrepreneurial ability and include the ability to better identify opportunities and increase or improve the risk-taking ability to pursue opportunity (Boyles 2012:42; Nieuwenhuizen & Nieman 2009:9; Wolf et al. 2011:243). Participants reported developing risk-taking ability and the ability to see an opportunity through increased confidence. Finally, critical thinking provides the opportunity to take a step back from a situation and analyse the situation to clarify the learning process (Audet & Couteret 2012:58; Barell 2010:189). Participants' thinking was challenged in this way so that they think more critically. Critical thinking was developed when participants were given the opportunity to think differently, outside of the box and more realistically. One participant reported that the intervention:

> 'It helps you to just see past the problem and say: listen, what are we trying to achieve?' (P7, male, incubatee)

However, it seems that because most of the coded responses emerged from the incubatee group, mentoring contributed to the development of 21st-century skills, more than that of coaching. Nevertheless, all participants benefited from the development of several skills regardless of the intervention received. Literature supports the notion that the development of skills is transferred through knowledge that can be expanded by intervention support which facilitates learning (Anzengruber 2015:33; Kutzhanova et al. 2009:194–205; Lawton-Smith 2007:2).

Learning

Learning was the final theme identified by the researchers. All 12 participants reported learning as an outcome of the intervention. Learning contributed 58 of the responses. Learning is an important reason for seeking support intervention because it assists in decreasing gaps in knowledge and developing or acquiring new skills that will further capabilities (Anzengruber 2015:33; Kutzhanova et al. 2009:194–205; Lawton-Smith 2007:2; Mühlberger & Traut-Mattausch 2015:200). Participants reported learning from people with experience, learning by expanding their knowledge, learning in a more practical way and repetitive and continuous learning. The following quote reports one participant's reason for seeking support intervention:

> 'I wanted to learn more on how it is in the field, and not necessarily a textbook…. I can read a textbook, so I wanted to hear from someone in the business.' (P10, female, incubatee)

It is evident that the support that participants received during the intervention process was supplemented by learning, an important development tool for adult learners who were able to broaden their knowledge horizons and develop new skills. The data show that practical learning was achieved through the classroom experience and one-on-one sessions, confirming that adult learners would prefer to learn from someone who has additional insights and experience rather than learn from a textbook. Based on the findings presented above, the researchers concluded that the support intervention resulted in a definite overlap between mentoring, coaching, 21st-century skills and learning. Figure 2 shows the resulting overlap.

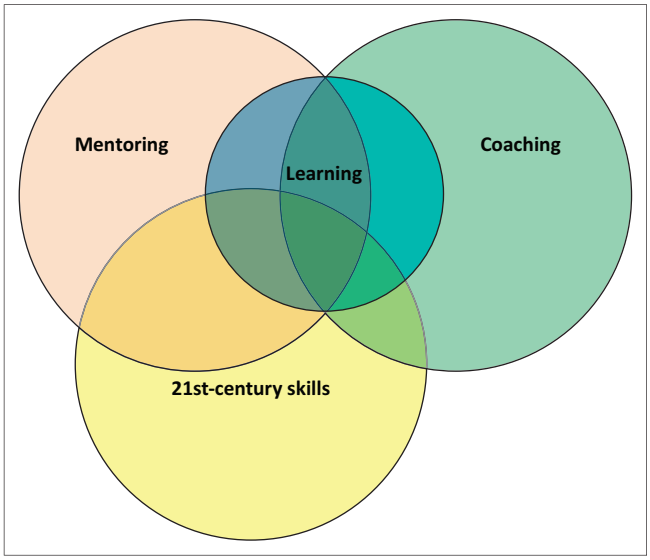


FIGURE 2: Overlap framework.

The overlap between coaching and mentoring provides evidence that there is a lack of consensus between the two forms of intervention which stems from the confusion in literature and possibly the lack of understanding about the different approaches of the facilitators of the intervention. Furthermore, the overlap also indicates that support intervention programmes may draw from the contexts of other types of support interventions to support or strengthen the process. For example, the 10 incubatees who received mentoring also reported increased confidence and more enhanced emotional intelligence, which are characteristics synonymous with self-development and ultimately coaching. Although coaching and mentoring addressed different issues, both forms of interventions contributed to learning. Learning was achieved through a structured process with a set of steps (mentoring) and through a self-exploration process in which participants took their own steps through the process (coaching). What is interesting is that, all the learning that was gained from the support interventions in this study can be linked to 21st-century skills. The researchers developed the framework shown in Figure 3 to show the link between coaching, mentoring and 21st-century skills, as well as the main benefits reported by the participants.

Another interesting finding in this study is the fact that mentoring, which provided structure that assisted with planning, management and organisation skills through guidance, feedback and motivation from the mentor was largely associated with 21st-century skills, more than that of coaching; this overlap is shown in Figure 2. Mentoring has the ability to quickly transfer and integrate 21st-century skills into an entrepreneurial business (Le Roux 2015:15). Mentoring played a large role in the development of 21st-century skills such as critical thinking, problem-solving, collaborating and entrepreneurial skills, which have become increasingly important for survival in the rapidly changing environment that entrepreneurs are faced with today. Furthermore, and although it was not an intention of the study, the two forms of support interventions contributed to the development of seven of the eight main 21st-century skills. Therefore, the value of coaching and mentoring as support functions in assisting start-ups and novice entrepreneurs, linking governmental goals of creating a new business, can no longer be ignored. However, a clear distinction must be made between coaching and mentoring. Furthermore, developing a business without focusing on self-development is not going to be beneficial in creating successful businesses. The role of coaching can no longer be underestimated and therefore incubatee managers should ensure both functions.

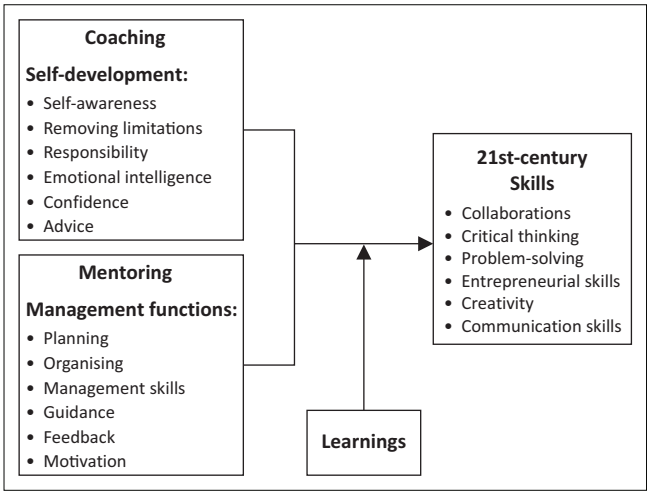


FIGURE 3: Linking framework.

Conclusion

This paper aimed to provide a better understanding of whether coaching is useful as a support function for entrepreneurs and to better understand the benefits derived from the received support intervention. Based on the responses from 12 interviews, the researchers identified five predominant themes by exploring and understanding the support intervention experiences of the participants to determine what perceived coaching support was received. The study discovered that the participants, particularly the incubatees, perceived that they had received coaching support. However, upon comparison to the two participants from the experimental group, it is clear that the incubatees actually had received mentoring support. Therefore, this research offers evidence for the notion that confusion still exists around the concepts of coaching and mentoring (Koopman 2013:3).

In addition, this study found that it was mostly mentoring that facilitated the development of the ever important 21st-century skills. This research illustrated that, regardless of the support intervention, learning was always an outcome, irrespective of whether it was through mentoring, coaching or the development of various skills (Anzengruber 2015:33; Bachkirova et al. 2015:185; Kim & Kuo 2015:157; Kutzhanova et al. 2009:194–205; Lawton-Smith 2007:2; Mühlberger & Traut-Mattausch 2015:220). This research provides valuable insight into the various benefits derived from learning that was facilitated by two separate types of support intervention. The study is one of few pieces of research that explored the effectiveness of coaching for entrepreneurs and showed that both coaching and mentoring were useful to the entrepreneurs of this study and has, therefore, contributed to the literature on both coaching and mentoring, the development of 21st-century skills, as well as the resulting overlap that suggests there might be a need for both mentoring and coaching. This study has provided positive evidence regarding the effectiveness of coaching, given the context of the study.

This research shows that intervention is in fact useful as a support function and, therefore, has implications for consultants, managers and practitioners who can use the empirical evidence provided in this study to select an appropriate form of support intervention for either the development of practical skills through mentoring or self-development through coaching. Furthermore, those who choose to use support intervention should be aware of the various types and different phases of intervention, as they

serve different purposes and aid in the development of different skills (Bachkirova et al. 2015:178; Koopman 2013:2).

Limitations and recommendations for future research

There is no study without limitations and it is the case in this study. Firstly, the sample used is not representative of all entrepreneurs who have received support intervention. Secondly, the results from the two participants who received coaching only support the notion that confusion exists amongst the concepts of coaching and mentoring and it cannot be used to generalise the usefulness of coaching as a support function for entrepreneurs. Thirdly, the majority of the participants in this study were in the start-up phase of their businesses, had not yet completed the intervention programme or were still studying. The implication here is that participants were sometimes unsure of the potential benefits of the intervention, because they may not have yet transferred learning developments from the support intervention into their daily business lives. Therefore, future research should consider expanding the selection of participants from other geographical areas and consider exploring the usefulness of the support intervention across different phases of coaching and incubation, for example, before, during and after the intervention (Bachkirova et al. 2015:187; Kim & Kuo 2015:171; Mühlberger & Traut-Mattausch 2015:217–221). Future research should also consider using participants from different incubation programmes to determine whether the derived benefits are consistent across different programmes (Bachkirova et al. 2015:178). Furthermore, more comprehensive research to explore the usefulness of mentoring in the development of 21st-century skills should be considered.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

I.L.R. was the research supervisor, made conceptual contributions and contributed substantially to the research design, and M.B. made some conceptual contributions, conducted all the interviews and was largely responsible for the preparation and write up of the research.

References

Adekunle, B., 2011, 'Determinants of microenterprise performance in Nigeria', *International Small Business Journal* 29(4), 360–373. https://doi.org/10.1177/0266242610369751

Allen, J. & van der Velden, R.K.W., 2012, *Skills for the 21st century: Implications for education*, ROA, Maastricht University School of Business and Economics, Maastricht University, Netherlands.

Anholon, R., Novaski, O., Pinto, J.S. & Porto, G.S., 2016, 'Knowledge management in incubated companies: Proposal of a model to enhance managerial skills', *International Journal of Knowledge Management Studies* 7(1–2), 63–86. https://doi.org/10.1504/IJKMS.2016.080234

Anzengruber, J., 2015, 'Time perspectives and perceived effectiveness of peer coaching interventions between managers in an organisational context', *International Journal of Evidence Based Coaching and Mentoring* 9, 30–44.

Arkün Kocadere, S., 2015, 'The development of a scale on assessing peer mentoring at the college level', *Mentoring & Tutoring: Partnership in Learning* 23(4):1–13. https://doi.org/10.1080/13611267.2015.1090283

Audet, J. & Couteret, P., 2012, 'Coaching the entrepreneur: Features and success factors', *Journal of Small Business and Enterprise Development* 19(3), 515–531. https://doi.org/10.1108/14626001211250207

Bachkirova, T., Arthur, L. & Reading, E., 2015, 'Evaluating a coaching and mentoring programme: Challenges and solutions', *International Coaching Psychology Review* 10(2), 175–189.

Barell, J., 2010, 'Problem-based learning: The foundation for 21st century skills', in J. Bellanca & R. Brandt (eds.), *21st century skills: Rethinking how students learn*, Solution Tree Press, Bloomington, IN.

Bax, J., Negrutiu, M. & Calota, T.O., 2011, 'Coaching: A philosophy, concept, tool and skill', *Journal of Knowledge Management, Economics and Information Technology* 1(7), 1–9.

Botma, F.J., 2012, 'Development of a coaching framework for the business manager acting in an informal coaching role in the workplace', Doctoral dissertation, Stellenbosch University, Stellenbosch.

Boyles, T., 2012, '21st century knowledge, skills, and abilities and entrepreneurial competencies: A model for undergraduate entrepreneurship education', *Journal of Entrepreneurship Education* 15, 41–55.

Braun, V. & Clarke, V., 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology* 3, 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V. & Clarke, V., 2012, 'Thematic analysis', in H. Cooper (ed.), *APA handbook of research methods in psychology: Volume 2 Research designs*, pp. 57–71, American Psychological Association, Washington, DC.

Bullough, A. & Renko, M., 2013, 'Entrepreneurial resilience during challenging times', *Business Horizons* 56(3), 343–350. https://doi.org/10.1016/j.bushor.2013.01.001

Centre for Coaching, 2015, FAQ. [Online], viewed 16 April 2015, from http://centreforcoaching.co.za/faq/

Chaudhry, A.M., 2015, *The advantages and disadvantages of adopting a coaching and mentoring system in an organisation*, viewed 16 April 2015, from https://www.academia.edu/9704658/The_advantages_and_disadvantages_of_adopting_a_coaching_and_mentoring_system_in_an_organization

Cooper, D.R. & Schindler, P.S., 2014, *Business research methods*, 12th international edn., McGraw-Hill, New York.

Crompton, B.M., 2012, 'The effect of business coaching and mentoring on small-to-medium enterprise performance and growth', Doctoral dissertation, RMIT University, Melbourne, Australia.

Crompton, B.M. & Smyrnios, K.X., 2011, 'What difference does business coaching make to entrepreneurs' firm performance and future growth', paper presented at the 56th Annual International Council of Small Business World Conference, Stockholm, Sweden, 15–18th June, pp. 1–20.

Crompton, B.M. & Smyrnios, K.X. & Bi, R., 2014, 'Measuring the influence of business coaching on fast-growth firms', *Small Enterprise Research* 19(1), 16–31. https://doi.org/10.5172/ser.2012.19.1.16

Desimone, L.M., Hochberg, E.D., Porter, A.C., Polikoff, M.S., Schwartz, R. & Johnson, L.J., 2014, 'Formal and informal mentoring complementary, compensatory, or consistent?', *Journal of Teacher Education* 65(2), 88–110. https://doi.org/10.1177/0022487113511643

Dobrea, M. & Maiorescu, I., 2015, 'Entrepreneurial outcomes and organisational performance through business coaching', *Amfiteatru Economic* 17(33), 247–260.

Feldman, D.C. & Lankau, M.J., 2005, 'Executive coaching: A review and agenda for future research', *Journal of Management* 31(6), 829–848. https://doi.org/10.1177/0149206305279599

Fielden, S.L. & Hunt, C.M., 2011, 'Online coaching: An alternative source of social support for female entrepreneurs during venture creation', *International Small Business Journal* 29(4), 345–359. https://doi.org/10.1177/0266242610369881

Freiling, J. & Lauden, S.M., 2013, 'Explaining new venture failure: A competence-based approach', paper presented at the *AIMS International Conference*, Nice, France, 11–12th April, pp. 1–7.

Gordon, E.J., 2015, 'Exploring the dyad: Novice physical education teachers' and their mentor's perspectives of the mentoring process', Doctoral dissertation, Texas Tech University, Lubbock, TX.

Gray, D.E., Ekinci, Y. & Goregaokar, H., 2011, 'Coaching SME managers: Business development or personal therapy: A mixed methods study', *The International Journal of Human Resource Management* 22(4), 863–882. https://doi.org/10.1080/09585192.2011.555129

Guest, G., Bunce, A. & Johnson, L., 2006, 'How many interviews are enough: An experiment with data saturation and variability', *Field Methods* 18(1), 59–82. https://doi.org/10.1177/1525822X05279903

Hammer, M.H., 2012, 'Why entrepreneurs fail and how to fight it?', *E-journal Onderzoek voor een vitale Region* 1(1), 1–8.

Hechavarria, D.M., Renko, M. & Matthews, C.H., 2012, 'The nascent entrepreneurship hub: Goals, entrepreneurial self-efficacy and start-up outcomes', *Small Business Economics* 39(3), 685–701. https://doi.org/10.1007/s11187-011-9355-2

International Coach Federation, n.d., *Coaching FAQ's*, viewed 16 April 2015, from http://www.coachfederation.org/need/landing.cfm?ItemNumber=978&navItemNumber=567

Kim, S. & Kuo, M.H., 2015, 'Examining the relationships among coaching, trustworthiness, and role behaviors: A social exchange perspective', *The Journal of Applied Behavioral Science* 51(2), 152–176. https://doi.org/10.1177/0021886315574884

Koopman, R.G., 2013, 'Coaching and mentoring entrepreneurs; more definitions won't work', paper presented at 27nd RENT, Vilnius, Lithuania, 20–22 November, pp. 1–14.

Kuratko, D.F., Morris, M.H. & Schindehutte, M., 2015, 'Understanding the dynamics of entrepreneurship through framework approaches', *Small Business Economics* 45(1), 1–13. https://doi.org/10.1007/s11187-015-9627-3

Kutzhanova, N., Lyons, T.S. & Lichtenstein, G.A., 2009, 'Skills-based development of entrepreneurs and the role of personal and peer group coaching in enterprise development', *Economic Development Quarterly* 23(3), 193–210. https://doi.org/10.1177/0891242409336547

Lamine, W., Mian, S. & Fayolle, A., 2014, 'How do social skills enable nascent entrepreneurs to enact perseverance strategies in the face of challenges: A comparative case study of success and failure', *International Journal of Entrepreneurial Behavior & Research* 20(6), 517–541. https://doi.org/10.1108/IJEBR-02-2013-0020

Lavryk, A., 2013, 'Business coaching', *Development Management* (18), 141–142.

Lawless, M., 2009, 'The influence of life coaching on entrepreneurs goal planning and attainment', Doctoral dissertation, Waterford Institute of Technology, Republic of Ireland.

Lawton-Smith, C., 2007, 'Coaching: Is it just a new name for training', *International Journal of Evidence Based Coaching and Mentoring* 1, 1–9.

Le Roux, I., 2015, *The missing link in the 21st century skills debate*.

London Deanery, 2014, *What are the benefits of coaching and mentoring?*, Stewart House, London, viewed 16 April 2015, from http://mentoring.londondeanery.ac.uk/our-scheme/overview/what-are-the-benefits-of-coaching-and-mentoring

Mazra, M. & Guy, O.R., 2012, 'Empirical and explanatory approach of support effect on newly created firms' performance', *Journal of Management and Sustainability* 2(2), 293–304. https://doi.org/10.5539/jms.v2n2p293

McKevitt, D. & Marshall, D., 2015, 'The legitimacy of entrepreneurial mentoring', *International Journal of Entrepreneurial Behavior & Research* 21(2), 263–280. https://doi.org/10.1108/IJEBR-05-2014-0089

Mineur, M., 2012, 'Determining relevant factors of coaching: The development of a questionnaire', Doctoral dissertation, Tilburg University, Tilburg, Netherlands.

Moore, M., Highstein, G., Tschannen-Moran, B. & Silverio, G., n.d., *Coaching behaviour change*, viewed 18 April 2018, from http://downloads.lww.com/wolterskluwer_vitalstream_com/sample-content/9780781772624_Moore/samples/MooreSampChap3.pdf

Mühlberger, M.D. & Traut-Mattausch, E., 2015, 'Leading to effectiveness comparing dyadic coaching and group coaching', *The Journal of Applied Behavioral Science* 51(2), 198–230. https://doi.org/10.1177/0021886315574331

Nieuwenhuizen, C. & Nieman, G., 2009, 'The nature and development of entrepreneurship', in G. Nieman & C. Nieuwenhuizen (eds.), *Entrepreneurship: A South African perspective*, 2nd edn., pp. 1–16, Van Schaik, Hatfield, Pretoria.

Nikolova, N., Clegg, S., Fox, S., Bjørkeng, K. & Pitsis, T., 2013, 'Uncertainty reduction through everyday performative language work', *International Studies of Management & Organization* 43(3), 74–89. https://doi.org/10.2753/IMO0020-8825430305

O'Flaherty, C., 2003, *Coaching versus mentoring versus leading versus managing*, viewed 27 October 2018, from http://www.centreforcoaching.co.za/images/stories/o_vs_vs.pdf

Plano Clark, V.L. & Creswell, J.W., 2015, *Understanding research: A consumer's guide*, 2nd edn., Pearson, Upper Saddle River, NJ.

Polit, D.F. & Beck, C.T., 2012, *Nursing research: Generating and assessing evidence for nursing practice*, 9th edn., Wolters Kluwer Health | Lippincott Williams & Wilkins, Philadelphia, PA.

Rosha, A., 2013, 'The similarities and differences between coaching and other targeted interventions', *Economics and Business* 24, 119–126. https://doi.org/10.7250/eb.2013.015

Saadaoui, S. & Affess, H., 2015, 'Evaluating the role of coaching on developing entrepreneurial self-efficacy', *European Journal of Business and Social Sciences* 3(11), 54–61.

Spencer, A.S., Kirchhoff, B.A. & White, C., 2008, 'Entrepreneurship, innovation, and wealth distribution: The essence of creative destruction', *International Small Business Journal* 26(1), 9–26. https://doi.org/10.1177/0266242607084657

Urban, B., 2006, 'Entrepreneurial self-efficacy in a multicultural society: Measures and ethnic differences', *Journal of Industrial Psychology* 32(1), 2–10. https://doi.org/10.4102/sajip.v32i1.221

Urban, B., 2012, 'A metacognitive approach to explaining entrepreneurial intentions', *Management Dynamics* 21(2), 16–33.

Urban, B., 2013, 'Social entrepreneurship in an emerging economy: A focus on the institutional environment and social entrepreneurial self-efficacy', *International Research Journal* 11(1), 3–25.

Vidal-Salazar, M.D., Ferrón-Vilchez, V. & Cordon-Pozo, E., 2012, 'Coaching: An effective practice for business competitiveness', *Competitiveness Review: An International Business Journal* 22(5), 423–433. https://doi.org/10.1108/10595421211266302

Vogt, W.P., 2005, 'Basic research', in W.P. Vogt (ed.), *Dictionary of statistics & methodology*, 3rd edn., Sage, Thousand Oaks, CA, viewed 03 June 2015, from http://0-www.srmo.sagepub.com.innopac.up.ac.za/view/dictionary-of-statistics-methodology/n131.xml?rskey=afvm2A&row=1

Wakkee, I., Elfring, T. & Monaghan, S., 2010, 'Creating entrepreneurial employees in traditional service sectors: The role of coaching and self-efficacy', *International Entrepreneurial Management Journal* 6, 1–21.

Wilson, C., 2014, *Performance coaching: A complete guide to best practice coaching and training*, Replika Press, India, viewed 19 April 2015, from https://books.google.co.za/books?hl=en&lr=&id=mNVZAgAAQBAJ&oi=fnd&pg=PP1&dq=Wilson,+C.,+2014,+Performance+coaching:+A+complete+guide+to+best+practice+coaching+and+training,&ots=vB_i1AULSc&sig=W6ixcdn-HvOolVPLjcPoF08U9EE#v=onepage&q=Wilson%2C%20C.%2C%202014%2C%20Performance%20coaching%3A%20A%20complete%20guide%20to%20best%20practice%20coaching%20and%20training%2C&f=false

Wolf, P., Kaudela-Baum, S. & Meissner, J.O., 2011, 'Exploring innovating cultures in small and medium-sized enterprises: Findings from Central Switzerland', *International Small Business Journal* 30(3), 242–274. https://doi.org/10.1177/0266242610386666

Self-service banking and financial literacy as prognosticators of business performance among rural small and medium-sized enterprises in Zimbabwe

Authors:
Eugine T. Maziriri[1]
Miston Mapuranga[2]
Nkosivile W. Madinga[3]

Affiliations:
[1]School of Economic and Business Sciences, University of the Witwatersrand, South Africa

[2]The Da Vinci Institute for Technology Management, School of Managerial Leadership, Johannesburg, South Africa

[3]School of Management Studies, Department of Marketing, University of Cape Town, South Africa

Corresponding author:
Eugine Maziriri,
eugine.maziriri@wits.ac.za

Background: This investigation breaks new ground by examining an inventive monetary approach (the utilisation of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy) that, if embraced by rural small and medium-sized enterprises (SMEs), can enhance business performance. Despite the expanded readiness of technology, the significance of rural SMEs has largely been overlooked, particularly in developing countries of Southern Africa. Therefore, the principal objective of this study is to fill this void.

Aim: The current study aims to investigate the impact of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy on the business performance of rural SMEs within the agricultural sector of Zimbabwe.

Setting: In this study, data were collected in the rural area of Bindura, Zimbabwe.

Method: The study utilised a quantitative research design using a structured questionnaire. Data was collected from 151 managers, SME owners and heads of accounting departments within rural SMEs that are operating in the rural area of Bindura. Smart partial least squares was used to analyse the data.

Results: Technology-based self-service banking, borrowing financial literacy and budgeting financial literacy had a positive and a significant impact on business performance. Therefore, all three hypotheses were supported. Hence, the study's findings validate the assertion that prognosticators such as technology-based self-service banking, borrowing financial literacy and budgeting financial literacy are instrumental in stimulating business performance among rural SMEs in Zimbabwe. A robust relationship was also found between budgeting financial literacy and business performance.

Conclusion: This study offers fruitful implications to academics by making a significant contribution to finance, accounting and small business management literature by systematically exploring the impact of technology-based self-service banking, borrowing financial literacy and budgeting financial literacy on business performance. This study stands to add new knowledge to the present body of finance, accounting and small business management literature in Africa – a context that is often ignored by academics in developing countries.

Introduction

In most economies, small and medium-sized enterprises (SMEs) are the largest contributors to economic activity (Burgstaller & Wagner 2015; Struwig & Lillah 2017). Additionally, Abor and Quartey (2010:218) concur that 'small- and medium-sized enterprises (SMEs) form a crucial part of emerging economies'. Gama and Geraldes (2012) elucidate that in Europe, SMEs are seen as key sources of jobs, and almost two-thirds of jobs are produced by SMEs. Small- and medium-sized entities also develop the innovative entrepreneurial spirit of markets (Bishop 2018). Globally, SMEs are seen to be the foundation of economic growth and, as a result, find themselves in a competitive environment as they need to directly compete with larger entities in the same markets (Bishop 2018).

In the contemporary African business environment, the economy of Zimbabwe has struggled to operate on a steady state path since dollarisation in 2009 (Nyoni & Bonga 2017, 2018) and continues to be characterised by company closures, with many workers losing their jobs through retrenchment (Nyathi, Nyoni & Bonga 2018). Sibanda, Hove-Sibanda and Shava (2018) have pointed out that since the collapse of the formal economy in early 2000, Zimbabwe has experienced unprecedented growth of SMEs. In addition, Sibanda et al. (2018) claimed that the sector became

important mainly because the majority of large firms were downsizing and, in the worst scenario, closing shop. However, as a blessing in disguise, the massive loss of jobs has paved the way for the growth and dominance of SMEs in Zimbabwe (Nyoni & Bonga 2018). In addition, Nyathi et al. (2018) are of the view that SMEs have become the safety net where the majority of Zimbabweans have found their means of survival. Further, Mugozhi and Hlabiso (2017) are of the view that, in Zimbabwe, SMEs are indeed a means to many families' survival because of high levels of unemployment and the continual closure of companies as economic conditions continue to deteriorate. The remarkable development of SMEs in Zimbabwe is mostly because of the general population's longing to be self-employed and not because it is easy to establish and manage an SME; rather it is a strategy to survive. Because SMEs are such a vital part of the economy of Zimbabwe, they are assuming a critical role in the recuperation of the Zimbabwean economy.

Given the growing importance of SMEs in Zimbabwe, numerous authors have examined SMEs in different settings by focusing on challenges facing SMEs in Zimbabwe (Gombarume & Mavhundutse 2012); determinants of SMEs' failure in Zimbabwe (Chigusiwa et al. 2011); evaluation of the factors affecting growth of SMEs in Zimbabwe (Chiwara 2016); the influence of innovation on the performance of SMEs in Zimbabwe (Makanyeza & Dzvuke 2015); SME policies and challenges: a comparative analysis of Zimbabwe and South Korea (Majoni, Matunhu & Chaderopa 2016) and Information and Communication Technology (ICT) adoption and use in Zimbabwean SMEs (Makiwa & Steyn 2016).

Deducing from the aforementioned, there is a lacuna in studies that have investigated technology-based self-service banking (TBSSB), borrowing financial literacy and budgeting financial literacy as prognosticators of business performance among rural SMEs within the agricultural sector of Zimbabwe. Therefore, this article suggests a set of variables that are crucial for an SME to enhance business performance among rural SMEs in Zimbabwe. According to Bussmann et al. (2015), executives and owners of SMEs are tracking the many developments in consumer technology in particular, the conveniences brought about by Web-based services and mobile apps, and wondering why such features are not available in their interactions with banks. Hence, there is a need for TBSSB in entrepreneurial ventures to enhance business performance. In addition, Agyei (2018) contends that financial literacy levels of owners of SMEs can influence their financial decisions in the area of control of financial resources, proper allocation of funds and proper selection of investment vehicles and awareness of growth funding options that can enhance the performance of firms. Thus, financial literacy (borrowing financial literacy and budgeting financial literacy) may lead to improved business performance.

The rest of this article is apportioned as follows: the next section outlines the problem statement. This is followed by the review of literature and the development of the conceptual model as well as the hypotheses. The methodology that guides the study is then discussed. Finally, the results of the study, discussions, implications, recommendations and conclusions are provided.

Problem statement

There is an accord among improvement specialists and scholars that the advancement of SMEs in Zimbabwe will launch destitution mitigation and financial development (Olawale & Garwe 2010). Endeavours are being made by the administration and its improvement agents to energise the development of SMEs. The SME is seen as the foundation of the nation's monetary recuperation endeavours and an answer to the national issues of business creation and destitution diminishment. In addition to unemployment and poverty problems, López and Hiebl (2014) illustrate that SMEs require uncommon care in the area of administrative bookkeeping because they have limited capital; additionally, they often have financial and accounting challenges. Be that as it may, there is a need to investigate how innovation-based SMEs can manage an account; get money-related proficiency and money planning education and the effect this has on business execution among rural SMEs inside the agricultural sector. Hence, this article seeks to critically examine the impact of TBSSB, borrowing financial literacy and budgeting financial literacy on business performance among rural SMEs within the agricultural sector in Zimbabwe.

Empirical literature

This section of the literature review discusses the different research variables undertaken as part of this study.

Technology-based self-service banking

The banking sector is the most influential as it searches for methods for relating with clients, to lower costs, enhance effectiveness and separate items and administrations. One pattern in this line is simply the utilisation of self-service technology (Perumal & Shanmugam 2004). Technology is never an idea in retrospect, illuminating and forming association's methodology, yet it is the genuine reason and driver (Kalakota& Robinson 1999). Branch banking is continuously being supplanted by TBSSB. TBSSB alludes to saving banking charges by clients utilising electronic money channels, with no communication with bank employees (Sindwani & Goel 2015). TBSSB involves systems such as ATMs, Internet banking, mobile banking and telebanking.

Borrowing financial literacy

The capacity to make credit decisions consistent with customer inclinations requires an understanding of credit terms and markets. Individuals with more learning can proficiently scan for lower borrowing rates. Money-related information may likewise enhance a borrower's capacity to oversee credit, making them more attractive to loan specialists (Huston 2012). Individuals with lower levels of debt literacy

pay a higher share of fees on credit cards than borrowers with higher levels of debt literacy (Lusardi & Tufano 2009). A credit card market study finds that as respondents learn more about their credit cards, they settle on better decisions (Agarwal et al. 2008). This research suggests that a person's finance-related insight and aptitudes impact the SMEs' business execution. As indicated by Huston (2012), financial literacy is characterised by estimating how well an individual can comprehend and utilise individual bank-related data. Nonetheless, little is known about how borrowing financial literacy influences the execution of SMEs. A few studies incorporate general human capital, estimated through formal training or experience (Kim, Aldrich & Keister et al. 2006), while others incorporate more particular human capital estimated through money-related learning questions (Lusardi & Tufano 2009; Robb & Sharpe 2009). Credit card studies that incorporate financial knowledge, centre essentially around debt levels, as opposed to borrowing financial literacy.

Budgeting financial literacy

Ostergren and Stensaker (2011) stated:

> Budgeting can be characterized as a necessary piece of administration control frameworks that goes for advancing coordination and correspondence among sub-units inside a venture, provides a framework for judging performance and finally motivating managers and other employees. (p. 152)

Warue and Wanjira (2013) additionally depicted a budget as an impression of administration assumption with respect to the association's wage stream and money-related position in fiscal terms. Absence of budgeting financial literacy among SMEs greatly affects their performance. Financial literacy is comprehended as the 'capacity to make educated judgments and to take viable activities with respect to the present and future utilize [*sic.*] and administration of cash' (Basu 2005:2).

Financial literacy incorporates the capacity to comprehend monetary decisions. For example, money-related proficiency likewise calls for astute spending. This implies planning budgets, following consumption, paying bills on time and guaranteeing that credit card accounts are paid every month. Monetary proficiency influences budgetary basic leadership. Obliviousness about fundamental budgetary ideas can be connected to retirement planning, absence of investment in the stock exchange and poor financial conduct (Lusardi 2008). Studies conducted in Zimbabwe by different authors have demonstrated that few SMEs execute proper budgets. These practices might be utilised to characterise private company monetary administration. These incorporate planning and income administration, account possession, utilisation of credit, investment funds conduct and resource gathering (Davis & Lopez-Carr 2014). Budgeting is an essential feature of business and it is viewed as indispensable for administration control. Therefore, Cohen and Karatzimas (2011) contend that constrained utilisation of a budget as a component of execution assessment was the result of a lack of knowledge. Be that as it may, Warue and Wanjira (2013) suggest that one reason why SMEs fail is an absence of budgeting.

Business performance

Understanding the significance of business performance is essential for estimating and overseeing organisational performance (Armstrong et al. 2011). According to Hove, Sibanda and Pooe (2014), business performance alludes to how the total innovation-empowered execution impacts every firm action, for example, cost reduction and income improvement. Vieira (2010) states that business performance may be characterised as far as taking every necessary step, and in addition, as far as the outcomes are accomplished. Reijonen (2008) conducted an empirical study in craft and rural tourism microbusiness. The author characterised business performance as a pointer that measures the business's productivity and adequacy in accomplishing its objectives. Business performance can likewise be examined by a business's capacity to create connections to set targets (O'Regan, Sims & Gallear 2007). Wongrassammee, Gardiner and Simmons (2003) demonstrate that business performance alludes to how well the business fulfils the needs of workers, clients and different partners, as well as its capacity to accomplish its business objectives. Gibson and Cassar (2005) embrace a comparative position by expressing that business performance is concerned with how many goals are accomplished. From the above depictions, it can be noted that business performance includes the viability and effectiveness of a business in accomplishing the set objectives and the degree to which the business can exceed expectations in addressing the requirements of every one of its partners. Therefore, entrepreneurial ventures need to evaluate their performance as often as possible.

Conceptual model

A conceptual model describes the relationship between variables investigated in the study (Gunzler & Morris 2015). In addition, Sekaran and Bougie (2016) add that a schematic diagram of the conceptual model helps the reader to visualise the theorised relationships between the variables in the model and thus to obtain a quick idea about how you think that the management problem can be solved. In this study, the conceptual model suggests that TBSSB, borrowing financial literacy and budgeting financial literacy are the independent or predictor variables. According to Flannelly, Flannelly and Jankowski (2014) the term *predictor* refers to a variable that can predict another variable, that is, the magnitude of the predictor (independent variable) can predict the magnitude of another variable (dependent variable). Moreover, the dependent or outcome variable for the current study model is business performance. A dependent or outcome variable is the variable under investigation and is depicted by the letter γ. It is always the predicted or the estimated variable (Russell & Purcell 2009). Based on a synthesis of the converging literature related to the research variables, a conceptual model was proposed to guide the empirical study as shown in Figure 1.

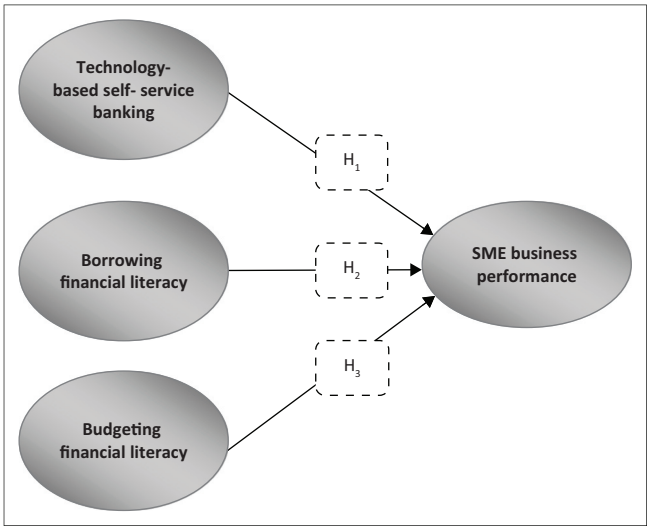


FIGURE 1: Conceptual framework.

Given the discussion above, the following hypotheses can be stated:

H_1: Technology-based self-service banking has a positive impact on business performance.

H_2: Borrowing financial literacy has a positive impact on business performance.

H_3: Budgeting financial literacy has a positive impact on business performance.

Methodology

The study utilised a quantitative research design using a structured questionnaire. The design was suitable to solicit the required information relating to TBSSB, borrowing financial literacy, budgeting financial literacy and business performance. In addition, the approach enabled the examination of the causal relationships with the constructs used in the study.

Data collection

The data for this research was collected from rural SMEs within the agriculture sector of Mashonaland Central Province in Zimbabwe. Specifically, the target population was restricted to managers, SME owners and heads of accounting departments within rural SMEs operating in the rural area of Bindura. In terms of the sampling frame, a list of rural SMEs, registered within the database of small businesses, was used as a sampling frame.

The database of the rural SMEs (small businesses) was obtained from the Bindura Rural District Council (BRDC). Therefore, a simple random sampling technique was used in this study, because each element of the population had an equal and known chance of being selected as part of the sample (Weideman 2014) – for instance, where every name within the list of SMEs registered within the data of the BRDC had an equal chance of selection. The questionnaires clearly stated that the anonymity of the participants would be guaranteed and that the study was purely for academic purposes. The Raosoft calculator for sample size was used to calculate the size of the sample (Raosoft Incorporated 2004). The calculation took into account the population of approximately 301 rural SMEs officially registered with the BRDC in the year 2018, a 5% margin of error, 90% confidence interval and the recommended 50% distribution, and returned a minimum sample size of 170 respondents. Of the 170 questionnaires distributed, 151 returned questionnaires were usable, yielding a response rate of 88%.

Measurement instrument and questionnaire design

Research scales were operationalised, mainly on the basis of previous work. Proper modifications were made in order for them to fit the current research context and purpose. Technology-based self-service banking was measured, using a 20-item scale, adapted from Sindwani and Goel (2015). In addition, borrowing financial literacy was measured, using a five-item scale, adapted from Chepngetich (2016). Furthermore, budgeting financial literacy was measured, using a four-item scale, also adapted from Chepngetich (2016). Business performance was measured using a four-item scale from Mgxaji (2015). All were measured on a five-point Likert-type scale, 1 (strongly disagree) to 5 (strongly agree), in order to express the degree of agreement.

Respondent profile

Table 1 displays the depiction of the participants. The respondents were requested to report their demographic data, including gender, age, marital status and kind of business inside the agriculture segment. The respondents were mainly females (57.6%). The average age of the respondents was under 30 years (54.3%). Fifty-seven per cent of the respondents were single. Around 69.53% of the respondents demonstrated that they were occupied with agro-processing types of businesses, for example, meat butcheries and cooking oil fabrication. In addition, 30.46% of

TABLE 1: Sample demographic characteristics.

Characteristics	Frequency	%
Gender		
Male	64	42.4
Female	87	57.6
Total	151	100.0
Age		
≤30	82	54.3
31–60	51	33.8
≥60	18	11.9
Total	151	100.0
Marital status		
Married	65	43.0
Single	86	57.0
Total	151	100.0
Type of business within the agricultural sector		
Farming	46	30.46
Agro-processing	105	69.53
Total	151	100.0

the respondents disclosed that they were occupied with cultivating organisations, for instance, domesticated animal farming, business ranches, dairy cultivating, trim generation and ranger services.

Data analysis

The research model developed in the present investigation was tested using partial least squares (PLS), a variance-based, structural equation modelling approach (Subramaniama, Shamsudinb & Alshuaibic 2017). Monecke and Leisch (2012:3) elucidate that 'SmartPLS is stand-alone software specialized for PLS path models and it is built on a Java Eclipse platform making its operating system independent'. Partial least squares has the ability to facilitate the assessment of both the measurement and structural models (Subramaniama et al. 2017). This study utilised PLS for two main reasons: firstly, the aim of the study was oriented towards prediction of the dependent variable (Chin 2010), and secondly the latent variable scores were used in the subsequent analysis for predictive relevance (Hair, Ringle & Sarstedt 2011). Futhermore, Hair et al. (2011) further stressed that these arguments have led to the widespread acceptance of PLS in research. Specifically, this study used the smart PLS approach introduced by Ringle, Wende and Will (2005).

Reliability analysis

The researchers checked the measurements' reliability and validity. Reliability was mainly checked using the composite reliability (CR) and Cronbach's alpha values. To ensure convergent validity, the researcher checked if items loaded on their respective (a priori) constructs with loadings greater than 0.5, while discriminant validity was checked by average variance extracted (AVE) value and ensuring that there were no significant inter-research variable cross-loadings (Chin 1998). Moreover, the statistical measures of accuracy tests, as shown in Table 2, specify the different measures that were used to assess the reliability and validity of the constructs for the study.

Factor loadings (standardised regression weights) are required to be above 0.5 to ensure that there is convergent validity, and in the instance that certain factor loadings are below this threshold, they should be removed. Because the factor loading scores of two items were below the acceptable threshold, they were removed and did not take part in the statistical analysis process to ensure the study remained valid. These items were TBSSB1, TBSSB14, TBSSB16 and BP3. These items had factor loadings of 0.325, 0.315, 0.413 and 0.430, which are evidently below 0.5 and, therefore, could not be analysed further to ensure statistical

TABLE 2: Accuracy analysis statistics.

Research construct		Mean values	SD values	Item to total correlation values	α value	CR	AVE	Highest shared variance	Factor loading
Code	Code items								
TBSSB	TBSSB2			0.601					0.684
	TBSSB3			0.699					0.645
	TBSSB4			0.622					0.666
	TBSSB5			0.601					0.692
	TBSSB6			0.699					0.685
	TBSSB7			0.710					0.643
	TBSSB8			0.655					0.720
	TBSSB9			0.622					0.759
	TBSSB10	4.17	1.700	0.810	0.936	0.935	0.578	0.339	0.740
	TBSSB11			0.555					0.745
	TBSSB12			0.622					0.770
	TBSSB13			0.852					0.716
	TBSSB16			0.568					0.646
	TBSSB17			0.721					0.654
	TBSSB18			0.852					0.734
	TBSSB19			0.568					0.711
	TBSSB20			0.721					0.696
BRFL	BRFL1			0.567					0.728
	BRFL2			0.512					0.827
	BRFL3	3.79	1.454	0.564	0.846	0.891	0.622	0.296	0.817
	BRFL4			0.702					0.844
	BRFL5			0.664					0.719
BTFL	BTFL1			0.741					0.857
	BTFL2	3.91	1.358	0.718	0.861	0.905	0.704	0.195	0.821
	BTFL3			0.705					0.830
	BTFL4			0.658					0.849
BP	BP1			0.618					0.874
	BP2	3.01	1.551	0.705	0.764	0.815	0.598	0.269	0.670
	BP4			0.658					0.763

α, alpha; CR, composite reliability; AVE, average variance reliability; TBSSB, technology-based self-service banking; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; BP, business performance.

TABLE 3: Inter-construct correlation matrix.

Research construct	BP	BRFL	BTFL	TBSSB
BP	1.000	-	-	-
BRFL	0.578	1.000	-	-
BTFL	0.582	0.544	1.000	-
TBSSB	0.519	0.401	0.441	1.000

BP, business performance; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; TBSSB, technology-based self-service banking.

accuracy and significance throughout the data analysis and interpretation procedure, as well as to ensure that there was convergent validity. As can be seen (Table 2), all items have loadings greater than 0.6 (Nunnally & Bernstein 1994), indicating that they explain at least 60% of what they expected to measure (convergent validity). The lowest AVE value is 0.578, which exceeds the recommended 0.5 (Fornell & Larcker 1981) – an indication of the existence of discriminant validity.

The CR values illustrated in Table 2 indicate that all the CR values meet the minimum threshold of 0.6 as they range from CR values of 0.815 to 0.935. According to Yang and Lai (2010), when conducting reliability analysis, it is recommended that the CR value exceed a value of 0.7, which was clearly achieved as demonstrated in Table 2. Again, based on the values presented in Table 2, it can be concluded that all the measurement instruments are reliable on the basis that the Cronbach alpha values are required to be above or equal to 0.6 and, in this case, all the values substantially exceeded this threshold.

The values ranged from 0.764 to 0.936 and thus the measurement instruments are deemed reliable (Morar, Venter & Chuchu 2015). According to the accuracy table presented above (Table 2), the mean value for all the constructs ranges between 3 and 4, indicating that the majority of the respondents had either a neutral standpoint (3 on the Likert scale) or they agreed (4 on the Likert scale) with the statements provided. The standard deviation specifies the extent to which the respondents deviated from the mean. Preferably, this value should be less than 1 but is recommended to at least encompass a value of less than 2 to ensure that there is not an issue of outliers (Drost 2011); however, as seen in the accuracy in Table 2, all the remaining constructs had standard deviation values that were substantially below 2. The item to total statistics for each item analysed through SPSS are required to be above 0.5 to assess convergent validity (Morar et al. 2015). According to the accuracy table (Table 2), the majority of the instruments met the threshold of 0.5.

The inter-construct correlation matrix is used to assess the validity of measurement instruments, specifically discriminant validity. Correlations among constructs were evaluated to see if they were lower than 1. The higher the correlation between variables, the lower the validity of those variables. The inter-construct values are required to be below 0.6 and in some cases below 0.85 to indicate discriminant validity. According to Table 3, the highest correlation value was 0.578 and the lowest correlation value was 0.401. These correlation values are below 0.6 and, therefore, it can be concluded that there is discriminant validity between all the constructs (Morar et al. 2015). Discriminant validity was also established by checking if the AVE was greater than the highest shared variance value (HSV) (Nusair & Hua 2010). The HSV was calculated by squaring of the highest correlation coefficient between latent constructs. Table 2 shows that all the AVE values (0.578, 0.622, 0.704 and 0.598) were above the highest shared variance (HSV) values (0.339, 0.296, 0.195 and 0.269) respectively for all the research constructs, thereby confirming the existence of discriminant validity.

Path model results and factor loadings

The PLS estimation results for the structural model, as well as the item loadings for the research constructs are shown in Figure 2.

Outcome of hypotheses testing

In this study, testing of the hypotheses was determined by path coefficient values, as well as the *t*-values for the structural model obtained from the bootstrapping algorithm. According to Beneke and Blampied (2012), *t*-values indicate whether or not a significant relationship exists between variables within the model, while path coefficients demonstrate the strength of the relationships in the model. Two-tailed *t*-tests were conducted at the 5% significance level.

Outcome of testing hypothesis 1: Technology-based self-service banking has a positive impact on business performance

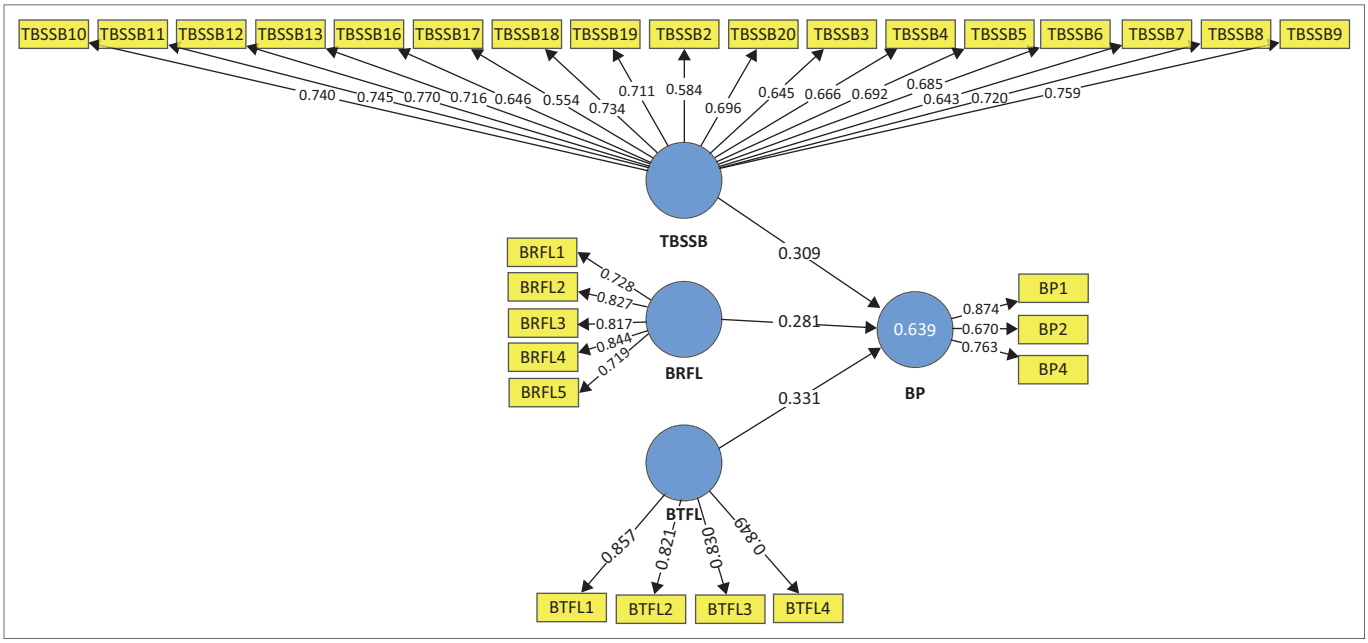
Figure 2 and Table 4 indicate that H_1 is supported by the hypothesis finding ($\beta = 0.309$) and is significant at *t*-statistics 3.766. The strength of the association is indicated by a path coefficient of 0.309. This implies that TBSSB is positively related to business performance in a significant way.

Outcome of testing hypothesis 2: Borrowing financial literacy has a positive impact on business performance

Figure 2 and Table 4 depict that H_2 is supported significantly. The *t*-statistics is 4.397. The strength of the relationship is indicated by the path coefficient of 0.281. This finding suggests that borrowing financial literacy has a direct strong positive effect on business performance. So, the more owners and managers are equipped with borrowing financial literacy skills, the more they are able to enhance their business performance.

Outcome of testing hypothesis 3: Budgeting financial literacy has a positive impact on business performance

Moreover, it is depicted in Figure 2 and Table 4 that H_3 is supported significantly. The *t*-statistics is 4.685. The strength of the relationship is indicated by the path coefficient of 0.331. This finding suggests that budgeting financial literacy has a direct strong positive effect on business performance. So the more owners and managers are equipped with budgeting financial literacy skills, the more they are able to enhance their business performance.



TBSSB, technology-based self-service banking; BRFL, borrowing financial literacy; BTFL, budgeting financial literacy; BP, business performance.

FIGURE 2: Measurement and structural model results.

TABLE 4: Results of structural equation model analysis.

Path	Hypothesis	Path coefficients (β)	T-statistics	Decision
Technology-based self-service banking → Business performance	H_1(+)	0.309	3.766	Positive and significant
Borrowing financial literacy → Business performance	H_2(+)	0.281	4.397	Positive and significant
Budgeting financial literacy → Business performance	H_3(+)	0.331	4.685	Positive and significant

Discussion of results

The statistical analysis exposed that technology-based self-service banking has a positive impact on business performance. This finding has ample support from previous empirical research studies, such as that conducted by Odawa (2016), who discovered that self-service technologies, such as Internet banking, ATMs, Smart cards, credit cards and mobile banking were important for the commercial banks as they resulted in improved service delivery, reduced operating costs, increased convenience to customers and are mostly secure. Another closely related study is the one conducted by Abbasi and Weigand (2017) focusing on the impact of digital financial services on a firm's performance; in the literature review of their study, the authors emphasised that diversified digital financial services or TBSSB help the organisations (service providers) to improve their firm's performance and to remain competitive in the market. The findings of this study also authenticate the existence of a positive connection between borrowing financial literacy and business performance.

The results obtained in the current study are also not without empirical support. In her study, entitled, 'Effect of Financial Literacy and Performance SMEs. Evidence from Kenya', Chepngetich (2016) found that borrowing financial literacy has a significant effect on SME performance. Empirical evidence was also found in this research that confirmed that there is a positive association between budgeting financial literacy and business performance. The findings obtained from this study are in line with literature; Siekei, Wagoki and Kalio (2013) elucidated that the effective implementations of financial literacy skills lead to improvement in business performance because of an improved ability to track business events from the record systems. Joshi, Al-Mudhaki and Bremser's (2003) examination of budgeting financial literacy by a survey of 54 medium-sized and large companies in Bahrain found that an increase in firm size leads firms to implement a more comprehensive budgeting process to achieve better performance. Chepngetich (2016) also found that budgeting financial literacy has a significant effect on SME performance. The result obtained from testing this hypothesis is also in agreement with a survey conducted by Maziriri and Mapuranga (2017), who examined the impact of management accounting practices on the business performance of SMEs in South Africa and found that budgeting positively influences the business performance of SMEs. Moreover, a study conducted by Chidi and Shadare (2011) in Nigeria, focusing on challenges confronting human capital development in SMEs, found that lack of understanding of the budgeting process was detrimental to the performance of the SMEs.

Managerial implications

The present study offers implications for academics. For example, an investigation of the research findings indicates that TBSSB and business performance have a strong influence on each other, as indicated by a path coefficient of 0.309. Therefore, for academics in the field of finance,

accounting and small business management, this finding enhances their understanding of the relationship between TBSSB and business performance, as this is a useful contribution to existing literature on these two variables. On the practitioners' side, therefore, this study submits that managers and employees within rural SMEs in Zimbabwe can benefit from the implications of these findings. For example, given the robust relationship between budgeting financial literacy and business performance, as indicated by a path coefficient of 0.331, managers and employees within rural SMEs in Zimbabwe ought to pay attention or should put more emphasis on equipping themselves with budgeting financial literacy skills, so as to improve the business performance of their entrepreneurial ventures within the agricultural sector.

Recommendations

The results of this study cannot be overlooked and may be seen as opportunities for rural SMEs in Zimbabwe. Therefore, based on the analysis of the literature, and specifically in the light of the findings of the empirical research, the following recommendations are offered:

- From the management perspective, SME owners and managers of rural SMEs need to make use of TBSSB because this will change the way they interact with customers or even suppliers. For instance, through cell phone banking, a transaction can be made without physically going to the bank.
- It is also recommended that rural SME managers need to acquire some financial literacy competencies – specifically, borrowing financial literacy and budgeting financial literacy – in order to make good financial decisions.
- Centres of financial education for entrepreneurs should be established in the rural areas of Zimbabwe where SME managers can have financial literacy classes. If financial literacy coaching is obtained, SMEs would embrace more risky ventures, diversify investments and raise capital to grow and transform into more solid enterprises.

Limitations and future research suggestions

This study has several limitations that should be highlighted. Firstly, because of the use of a relatively small sample size, one cannot generalise the findings, even though a number of demographic questions were used in an effort to determine how representative the sample was of the defined target population. In future research, a wider population, including several rural SMEs, should be studied. All the data in the study were collected quantitatively, which led to the common method bias inherent in quantitative methods. Future studies could try to focus on triangulation methods to avoid this bias. Future research scholars could also focus on other factors that influence the business performance of rural SMEs. For instance, future research scholars could investigate the use of mobile technologies, cloud computing and motivation strategies as antecedents to the business performance of SMEs. Furthermore, comparative studies between the results of this study and those obtained from other firms in different sectors or through meta-analyses could also be considered in the future. This could lead to other thought-provoking insights that were not captured in the present study.

Conclusion

This study was conducted with the intention of investigating the impact of TBSSB, borrowing financial literacy and budgeting financial literacy on the business performance of rural SMEs within the *agricultural sector* of Zimbabwe. In addition, the study validates the assumption that factors such as TBSSB, borrowing financial literacy and budgeting financial literacy are instrumental in stimulating SMEs' business performance. Technology-based self-service banking was positively correlated with business performance in a significant way. Borrowing financial literacy was found to have a stronger impact on business performance. A robust relationship was also found on the nexus between budgeting financial literacy and business performance. The results support all the postulated hypotheses. Managerial implications of the findings were discussed and limitations and future research directions were indicated. Above and beyond, this study contributes new knowledge to the existing body of finance, accounting and small business management literature in the African setting – a research context that is neglected in academics.

Acknowledgements

The authors acknowledge the rural SME managers for taking part in this research study.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contribution

E.T.M. was the project leader, formulated the concept, devised the structure of the article, wrote the article and analysed the collected data. M.M. and N.W.M. were responsible for the review of empirical literature, as well as writing the research design and methodology of this article. All the authors conducted the interviews with rural SME managers.

References

Abbasi, T. & Weigand, H., 2017, *The impact of digital financial services on firm's performance: A literature review*, Cornell University Library, Ithaca, NY, Book report, pp. 1–15.

Abor, J. & Quartey, P., 2010, 'Issues in SME development in Ghana and South Africa', *International Research Journal of Finance and Economics* 39(6), 215–228.

Agarwal, A., Deepinder, F., Sharma, R.K., Ranga, G. & Li, J., 2008, 'Effect of cell phone usage on semen analysis in men attending infertility clinic: An observational study', *Fertility and Sterility* 89(1), 124–128.

Agyei, S.K., 2018, 'Culture, financial literacy, and SME performance in Ghana', *Cogent Economics & Finance* 6(1), 1–16. https://doi.org/10.1080/23322039.2018.1463813

Armstrong, G., Kotler, P., Harker, M. & Brennan, R., 2011, *Marketing: An introduction*, Prentice Hall, Upper Saddle River, NJ.

Basu, S., 2005, *Financial literacy and the life cycle*, Financial Planning Association, Washington, DC.

Beneke, J. & Blampied, S., 2012, 'Driving consumer perceptions through Facebook: An investigation into empowering brands in the 21st century', in J.M.M. van den Berg (ed.), pp. 47–61, *Conference proceedings of the 24th annual conference of SAIMS – 2012*, Stellenbosch University, Stellenbosch, September 09–11, 2012.

Bishop, W.A., 2018, 'A project management framework for small- and medium-sized entities: Accounting software implementation', *Journal of Economic and Financial Sciences* 11(1), a183. https://doi.org/10.4102/jef.v11i1.183

Burgstaller, J. & Wagner, E., 2015, 'How do family ownership and founder management affect capital structure decisions and adjustment of SMEs?: Evidence from a bank-based economy', *The Journal of Risk Finance* 16(1), 73–101. https://doi.org/10.1108/JRF-06-2014-0091

Bussmann, J., Sandrock, J., Roets, M. & Schreiber, S., 2015, *Banks' small business imperative: New strategies for offering digital services for SMEs*, viewed 19 July 2018, from https://www.strategyand.pwc.com/media/file/Banks-small-businessimperative.pdf

Chepngetich, P., 2016, 'Effect of financial literacy and performance SMEs. Evidence from Kenya', *American Based Research Journal* 5(11), 26–35.

Chidi, C.O. & Shadare, O.A., 2011, 'Managing human capital development in small and medium-sized enterprises for sustainable national development in Nigeria', *International Journal of Management and Information Systems* 15(2), 95–101.

Chigusiwa, L., Bindu, S., Mudavanhu, V., Muchabaiwa, L. & Mazambani, D., 2011, 'Export-led growth hypothesis in Zimbabwe: Does export composition matter?', *International Journal of Economics and Research* 2(4), 111–129.

Chin, W.W., 1998, 'Commentary: Issues and opinion on structural equation modeling', *MIS Quarterly* 22(1), vii–xvi.

Chin, W.W., 2010, 'How to write up and report PLS analyses', in V. Esposito Vinzi, W.W. Chin, J. Henseler & H. Wang (eds.), *Handbook of partial least squares: Concepts, methods and applications*, pp. 655–690, Springer-Verlag, Berlin.

Chiwara, O.M., 2016, 'An evaluation of the factors affecting the growth of small and medium enterprises (SMEs) in Zimbabwe: A case study of SMEs in Harare (2009–2015)', Master of Business Administration dissertation, University of Zimbabwe.

Cohen, S. & Karatzimas, S., 2011, 'The role of the human resources department in budgeting: Evidence from Greece', *Journal of Human Resource Costing & Accounting* 15(2), 147–166. https://doi.org/10.1108/14013381111157355

Davis, J. & Lopez-Carr, D., 2014, 'Migration, remittances and smallholder decision-making: Implications for land use and livelihood change in Central America', *Land use policy* 36, 319–329. https://doi.org/10.1016/j.landusepol.2013.09.001

Drost, E.A., 2011, 'Validity and reliability of social science research', *Education Research and Perspectives* 19(2), 85–120.

Flannelly, L.T., Flannelly, K.J. & Jankowski, K.R., 2014, 'Independent, dependent, and other variables in healthcare and chaplaincy research', *Journal of Health Care Chaplaincy* 20(4), 161–170. https://doi.org/10.1080/08854726.2014.959374

Fornell, C. & Larcker, D.F., 1981, 'Structural equation models with unobservable variables and measurement error: Algebra and statistics', *Journal of Marketing Research* 18(3), 382–388. https://doi.org/10.2307/3150980

Gama, A.P.M. & Geraldes, H.S.A., 2012, 'Credit risk assessment and the impact of the New Basel Capital Accord on small and medium-sized enterprises: An empirical analysis', *Management Research Review* 35(8), 727–749. https://doi.org/10.1108/01409171211247712

Gibson, B. & Cassar, G., 2005, 'Longitudinal analysis of relationships between planning and performance in small firms', *Small Business Economics* 25(3), 207–222. https://doi.org/10.1007/s11187-003-6458-4

Gombarume, F.B. & Mavhundutse, S., 2012, 'Challenges faced with small to medium scale enterprise. A case study of Chitungwiza, Zimbabwe', *Greener Journal of Business and Management Studies* 4(4), 103–107. https://doi.org/10.15580/GJBMS.2014.4.102113910

Gunzler, D.D. & Morris, N., 2015, 'A tutorial on structural equation modeling for analysis of overlapping symptoms in co-occurring conditions using MPlus', *Statistics in Medicine* 34(24), 3246–3280. https://doi.org/10.1002/sim.6541

Hair, J.F., Ringle, C.M. & Sarstedt, M., 2011, 'PLS-SEM: Indeed a silver bullet', *Journal of Marketing Theory and Practice* 19(2), 137–149. https://doi.org/10.2753/MTP1069-6679190202

Hove, P., Sibanda, K. & Pooe, D., 2014, 'The impact of Islamic banking on entrepreneurial motivation, firm competitiveness and performance in South African small and medium enterprises', *Mediterranean Journal of Social Sciences* 5(15), 165–171. https://doi.org/10.5901/mjss.2014.v5n15p165

Huston, S.J., 2012, 'Financial literacy and the cost of borrowing', *International Journal of Consumer Studies* 36(5), 566–572. https://doi.org/10.1111/j.1470-6431.2012.01122.x

Joshi, P.L., Al-Mudhaki, J. & Bremser, W.G., 2003, 'Corporate budget planning, control and performance evaluation in Bahrain', *Managerial Auditing Journal* 18(9), 737–750. https://doi.org/10.1108/02686900310500505

Kalakota, R. & Robinson, M., 1999, *e-Business: Roadmap for success*, Addison Wesley, New York, NY.

Kim, P.H., Aldrich, H.E. & Keister, L.A., 2006, 'Access (not) denied: The impact of financial, human, and cultural capital on entrepreneurial entry in the United States', *Small Business Economics* 27(1), 5–22.

López, O. & Hiebl, M.R., 2014, 'Management accounting for small and medium-sized enterprises: Current knowledge and avenues for further research', *Journal of Management Accounting Research* 27(1), 81–119. https://doi.org/10.2308/jmar-50915

Lusardi, A., 2008, *Financial literacy: An essential tool for informed consumer choice?* (No. w14084), National Bureau of Economic Research, Boston, MA.

Lusardi, A. & Tufano, P., 2009, 'Teach workers about the perils of debt', *Harvard Business Review* 87(11), 22–24.

Majoni, T., Matunhu, J. & Chaderopa, B., 2016, 'SMEs policies and challenges: A comparative analysis of Zimbabwe and South Korea', *International Journal of Scientific and Research Publications* 6(6), 380–381.

Makanyeza, C. & Dzvuke, G., 2015, 'The influence of innovation on the performance of small and medium enterprises in Zimbabwe', *Journal of African Business* 16, 1–2. https://doi.org/10.1080/15228916.2015.1061406

Makiwa, P.J. & Steyn, R., 2016, 'ICT adoption and use in Zimbabwean SMEs', *IST-Africa Week Conference*, Durban, South Africa, May 11–13, 2016, pp. 1–8.

Maziriri, E.T. & Mapuranga, M., 2017, 'The impact of management accounting practices (maps) on the business performance of small and medium enterprises within the Gauteng Province of South Africa', *Journal of Accounting and Management* 7(2), 12–25.

Mgxaji, B., 2015, 'The predictors of business performance in the investment management industry', Master of Management in Strategic Marketing, University of the Witwatersrand, Johannesburg.

Monecke, A. & Leisch, F., 2012, 'semPLS: Structural equation modeling using partial least squares', *Journal of Statistical Software* 48(3), 1–32.

Morar, A., Venter, M. & Chuchu, T., 2015, 'To vote or not to vote: Marketing factors influencing the voting intention of university students in Johannesburg', *Journal of Economics and Behavioural Studies* 7(6), 81–93.

Mugozhi, F. & Hlabiso, G., 2017, 'Determinants of small to medium enterprises' success or failure: An ex-post appraisal of startup business by young entrepreneurs in Zimbabwe', *The International Journal of Humanities & Social Studies* 5(3), 39–46.

Nunnally, J.C. & Bernstein, I.H., 1994, *Psychological theory*, McGraw-Hill, New York.

Nusair, K. & Hua, N., 2010, 'Comparative assessment of structural equation modeling and multiple regression research methodologies: E-commerce context', *Tourism Management* 31(3), 314–324.

Nyathi, K.A., Nyoni, M. & Bonga, W.G., 2018, 'The role of accounting information in the success of small & medium enterprises (SMEs) in Zimbabwe: A case of Harare', *Dynamic Research Journals, Journal of Business and Management (DRJ – JBM)* 1(1), 1–15.

Nyoni, T. & Bonga, W.G., 2017, 'Towards factors affecting delays in construction projects: A case of Zimbabwe', *Dynamic Research Journal of Economics and Finance* 2(1), 12–28.

Nyoni, T. & Bonga, W.G., 2018, 'Anatomy of the small & medium enterprises (SMEs) critical success factors (CSFs) in Zimbabwe: Introducing the 3E model', *Dynamic Research Journals, Journal of Business and Management (DRJ – JBM)* 1(2), 1–18.

O'Regan, N., Sims, M.A. & Gallear, D., 2007, 'Leaders, loungers, laggards: The strategic-planning-environment-performance relationship re-visited in manufacturing SMEs', *Journal of Manufacturing Technology Management* 19(1), 6–21. https://doi.org/10.1108/17410380810843426

Odawa, C.A., 2016, 'Technology enabled banking self-services and performance of commercial banks listed in the Nairobi securities exchange', Master of Business Administration dissertation, School of Business, University of Nairobi, Nairobi, Kenya.

Olawale, F. & Garwe, D., 2010, 'Obstacles to the growth of new SMEs in South Africa: A principal component analysis approach', *African Journal of Business Management* 4(5), 729–739.

Ostergren, K. & Stensaker, I., 2011, 'Management control without budgets: A field study of "Beyond Budgeting" in practice', *European Accounting Review* 20(1), 149–181.

Perumal, V. & Shanmugam, B., 2004, 'Internet banking: Boon or bane', *Journal of Internet Banking and Commerce* 9(3), 1–6.

Raosoft Incorporated, 2004, *Sample size calculator*, viewed 27 January 2018, from http://www.raosoft.com/samplesize.html

Reijonen, H., 2008, 'Understanding the small business owner: What they really aim at and how this relates to firm performance: A case study in North Karelia, Eastern Finland', *Management Research News* 31(8), 616–629. https://doi.org/10.1108/01409170810892172

Ringle, C.M., Wende, S. & Will, A., 2005, *Smart PLS 2.0 (Beta)*, University of Hamburg, Hamburg, viewed 06 May 2017, from http://www.smartpls.de

Robb, C.A. & Sharpe, D.L., 2009, 'Effect of personal financial knowledge on college students' credit card behaviour', *Journal of Financial Counseling and Planning* 20(1), 1–19.

Russell, B. & Purcell, J., 2009, *Online research essentials: Designing and implementing research studies*, Wiley, Hobokken, NJ.

Sekaran, U. & Bougie, R., 2016, *Research methods for business: A skill building approach*, Wiley, New York, NY.

Sibanda, K., Hove-Sibanda, P. & Shava, H., 2018, 'The impact of SME access to finance and performance on exporting behaviour at firm level: A case of furniture manufacturing SMEs in Zimbabwe', *Acta Commercii* 18(1), a554. https://doi.org/10.4102/ac.v18i1.554

Siekei, J., Wagoki, J. & Kalio, A., 2013, 'An assessment of the role of financial literacy on performance of small and micro enterprises: Case of Equity Group Foundation training program on SMEs in Njoro District, Kenya', *Business & Applied Sciences* 1(7), 250–271.

Sindwani, R. & Goel, M., 2015, 'The impact of technology based self-service banking service quality on customer loyalty', *International Journal of Marketing and Business Communication* 4(3), 1–13. https://doi.org/10.21863/ijmbc/2015.4.3.013

Struwig, F.W. & Lillah, R., 2017, 'South African small and medium-sized enterprise owners' intention to implement an environmental management system', *Southern African Journal of Entrepreneurship and Small Business Management* 9(1), a104. https://doi.org/10.4102/sajesbm.v9i1.104

Subramaniama, C., Shamsudinb, F.M. & Alshuaibic, A.S.I., 2017, 'Investigating employee perceptions of workplace safety and safety compliance using PLS-SEM among technical employees in Malaysia', *Journal of Applied Structural Equation Modeling* 1(1), 44–61.

Vieira, V.A., 2010, 'Antecedents and consequences of market orientation: A Brazilian meta-analysis and an international mega-analysis', *BAR-Brazilian Administration Review* 7(1), 40–58. https://doi.org/10.1590/S1807-76922010000100004

Warue, B.N. & Wanjira, T.V., 2013, 'Assessing budgeting process in small and medium enterprises in Nairobi's central business district: A case of hospitality industry', *International Journal of Information Technology and Business Management* 17(1), 1–11.

Weideman, A., 2014, 'Innovation and reciprocity in applied linguistics', *Literator: Journal of Literary Criticism, Comparative Linguistics and Literary Studies* 35(1), 1–10. https://doi.org/10.4102/lit.v35i1.1074

Wongrassamee, S., Simmons, J.E. & Gardiner, P.D., 2003, 'Performance measurement tools: The balanced scorecard and the EFQM excellence model', *Measuring Business Excellence* 7(1), 14–29. https://doi.org/10.1108/13683040310466690

Yang, H.L. & Lai, C.Y., 2010, 'Motivations of Wikipedia content contributors', *Computers in Human Behavior* 26(6), 1377–1383.

Effects of knowledge management on innovation capabilities amongst small and medium enterprises in South Africa

Authors:
Courage Gwena[1]
Willie T. Chinyamurindi[1]

Affiliations:
[1]Department of Business Management, Faculty of Management and Commerce, University of Fort Hare, South Africa

Corresponding author:
Willie Chinyamurindi,
wchinyamurindi@ufh.ac.za

Background: South Africa is witnessing a growth in small and medium enterprises (SMEs). Given this rise in SMEs, there is a need to pay attention to those factors that influence how these enterprises perform.

Aim: The purpose of the study was to investigate the effects of knowledge management (KM) on innovation capabilities (IC) in SMEs with a special focus on Buffalo City Metropolitan Municipality.

Setting: This study is the first to investigate the effects of KM on IC in SMEs operating in South Africa. Given the scarcity of studies on KM in SMEs in the sub-Saharan region, this study contributes to the literature on the effects of KM on IC.

Method: A quantitative research approach was followed in carrying out this study. Descriptive and inferential statistics were performed to answer the research questions and test the hypotheses of the study. The respondents (n = 280) were SME representatives operating in the Buffalo City Metropolitan Municipality.

Results: Knowledge management is found to exert a positive effect on SMEs' IC.

Conclusion: Findings from the study can assist various practitioners, directly or indirectly involved with development of business, to develop strategies that improve SMEs' growth and sustainability. These practitioners include strategic management researchers, policymakers, SME owners and managers and lecturers.

Introduction

Background

Small and medium enterprises (SMEs) are becoming an increasingly influential factor behind economic growth across the world (Comeig, Fernández-Blanco & Ramírez 2015). It is assumed that this is a result of the SMEs' capacity to invent new products and services, generate large volumes of goods, increase exports, develop entrepreneurship skills and solve unemployment problems (Khan, Awang & Zulkifli 2013). As a result, the South African government in 2014 created the Ministry of Small Business Development with the aim of supporting SMEs, maintaining and promoting growth and sustainability in small business (Maziti, Chinyamurindi & Marange 2018).

However, regardless of the support mechanisms put in place by the South African government to promote and maintain small business growth, statistics indicate that 50% of SMEs in South Africa fail within 24 months of their establishment (Govender & Mtembu 2015). It has been discovered that to attain success and organisational growth, SMEs must sustain and create a stable base of knowledge resources. This necessitates instituting of knowledge management (KM) as a strategic move (Teece, Pisano & Shuen 1997). Strategic management practitioners and academics agree on the view that knowledge has become the epicentre of new opportunities (Barnes 2015).

Knowledge management focuses on locating and creating knowledge, ensuring its flow and eventual utilisation for the realisation of organisational long-term goals (Valdez-Juárez, García-Pérez & Maldonado-Guzmán 2016). In addition, KM practices such as knowledge acquisition (KA) (the process of obtaining knowledge from within and outside an organisation) (Ha, Lo & Wang 2016) and knowledge sharing (KS) (transfer of information amongst employees and departments within

an organisation) are credited with enhancing innovation capabilities (IC) of an enterprise (Sulistiyani & Harwick 2016). We define KM as a process by which a firm acquires knowledge from external sources through such activities as collaborations, hiring new employees and joining professional networking platforms. The acquired knowledge is then shared amongst employees within the firm to improve its IC. In investigating KM, the research also considered absorptive capacity (AC) as a 'catalyst' of how KM improves enterprises' IC, referring to organisations' dynamic capabilities that enable them to develop new products, processes and services (Altuntas, Dereli & Kusiak 2016). In this study, IC is defined as a firm's ability to develop new products and services, leadership processes based on knowledge acquired from external sources and shared with an organisation. Cohen and Levinthal (1990:128) defined AC as the 'ability to recognise the value of new external information, assimilate it, and apply it to commercial ends'.

Existing literature also shows that researchers and policy developers of the 21st century view KM as the panacea to the challenge of SME failure (Zheng et al. 2011; Zhou & Li 2012). Interestingly, it has emerged that studies that examine effects of KM from the SME dimension, especially in developing countries, are limited and those available provide fragmented insights (e.g. Dursty & Edvardsson 2012; Dwivedi et al. 2011; Ribiere & Christian 2013). Above that, Wang and Yang (2016) noted that KM studies have been concentrated on large corporations only as opposed to SMEs.

This study explores the effects of KM on IC in SMEs. The focus is put on the two dimensions of KM, namely KA and KS, and their effects on IC and AC. This study also investigated the effects of AC on IC in SMEs. In South Africa, an SME is defined by the *National Small Business Act* of 2003 and 2004 as:

> ... a separate and distinct business entity, including co-operative enterprises and non-governmental organisations, managed by one or more owners which, including its branches or subsidiaries, if any, is predominantly carried out in any sector or sub-sector of the South African economy. (Republic of South Africa 2004:3)

Literature review

Existing literature was reviewed on the interaction and relationship between the constructs under investigation in this research. The literature reviewed includes publications on the link and connection between KM and AC, AC and IC, KM and IC. The reviewed literature assists in formulation of the study's research hypotheses. The literature attempts to provide a secondary answer to the main research question, which reads as follows: What are the effects of AC and KM on IC of SMEs in South Africa?

Knowledge management and absorptive capacity

According to Wang and Yang (2016), a firm's AC is reliant on available knowledge within an enterprise. Hung and Chen (2010) sustain that AC is maintained as an end product of continuous acquisition and application of new knowledge within a firm. Generated knowledge should be shared with all employees through either a formal or informal network to improve understanding and creativity (Abdallah, Khalil & Divine 2012).

It is also argued that effective information sharing within an enterprise determines the level of its AC (Suppiah & Sandhu 2011). A sound AC allows a firm to process, understand, analyse and interpret information and knowledge acquired from external sources (Jeon, Kim & Koh 2011). In an empirical study conducted in Taiwan to investigate the achievements of KM in SMEs, Wang and Yang (2016) suggested that SMEs should absorb knowledge from external sources so that they can leverage it to solve their problems and exploit new opportunities.

In this study, it is proposed that AC is a critical factor that enhances the effects of KM on firms' innovative capabilities. Knowledge management and AC have the same intention, which is to improve sustainability and performance (Nowacki & Bachnik 2016). However, KM practices instituted by an organisation have an impact on its ability to assimilate information shared from within and acquired from external sources (Suh, You & Kim 2013). Based on all that has been discussed, it can be hypothesised that:

H1a: KA has a positive effect on SMEs' AC.

H1b: KS has a positive effect on SMEs' AC.

Absorptive capacity and innovation capabilities

Absorptive capacity is the underlying mediating factor responsible for determining how much information a firm can assimilate and then convert to commercial use (Stock & Greis 2010). Furthermore, existing studies underscore the importance of AC in an understanding of tacit knowledge acquired from external sources (Nonaka 1994; Polanyi 1957). It is assumed that high levels of AC help an enterprise to comprehend tacit and explicit knowledge, making it the decisive basis on which innovative capabilities are enriched, resulting in the development of diverse products, markets, processes and systems (Arpaci 2017).

Similarly, Colombo, Foss and Rosso-Lamastra (2012) concluded that SMEs' capacity to innovate increases if available knowledge is accompanied by a sound AC. Additionally, Lee and Lan (2011) noted that enterprises that employ people with higher levels of training and experience are likely to have greater levels of AC and enhanced innovative capabilities. Hence, based on what has been discussed it can be hypothesised that:

H2: AC has a positive effect on SMEs' IC.

Knowledge management and innovation capabilities

The link between KM and IC is that of input and an output, respectively (Chiu & Fogel 2014). Santoro et al. (2017)

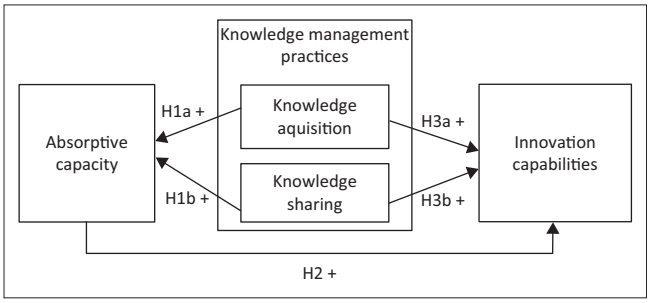


FIGURE 1: Research model.

discovered that knowledge is the key component of an enterprise's innovative behaviour and capabilities. The first step in the relationship is acquiring knowledge from outside sources and sharing it internally; that knowledge is subsequently transformed into a basis from which diverse and new opportunities, products and services, processes and markets are developed. Javernick-Will (2013) found that KA exerts a positive impact on IC, but Moustaghfir and Schiuma (2013) argue that KA is indirectly influenced by IC. According to Sohrabi and Mirali (2014), platforms and mechanisms that facilitate acquisition and sharing of knowledge should be put in place to enhance learning and improve innovation abilities.

Knowledge management is designed to convert individual knowledge (tacit knowledge) to organisational knowledge through sharing, which is then utilised to enhance an enterprise's ability to attain its strategic objectives (Sigala & Chalkiti 2015). Explicit knowledge such as market research, market analysis and prediction reports enable a firm to react to expected and unexpected changes in the business environment using its innovative capabilities (Sohrabi & Mirali 2014).

In light of the assertion by Mezghani, Exposito and Dria (2016) that KM precedes a firm's IC, it is conceptually proposed that the two KM practices (KA and KS) will positively trigger and affect innovation abilities. Based on all that has been discussed, it can be hypothesised that:

H3a: KA has a positive effect on SMEs' IC.

H3b: KS has a positive effect on SMEs' IC.

Figure 1 shows a model illustrating the proposed relationship amongst KM dimensions, AC and IC. Knowledge acquisition and KS are KM dimensions that will be measured in this study.

Research methodology and design

A quantitative approach was used because of its strength and merits with regards to numerically measuring relationships between different constructs (Wiid & Diggines 2013). Quantitative researches are also a reliable and effective way of determining the nature of relationships amongst variables as opposed to the qualitative approach (Wiid & Diggines 2013). A cross-sectional research design was used because the study involved carrying out a once-off survey on SMEs operating in the Buffalo City Metropolitan Municipality.

TABLE 1: Reliability analysis.

Variables	Valid N	Items used	Cronbach's α
KS	280	10	0.906*
KA	280	7	0.836*
AC	280	10	0.836*
IC	280	13	0.892*

KS, knowledge sharing; KA, knowledge acquisition; AC, absorptive capacity; IC, innovation capabilities; α, alpha.

*, Significantly acceptable reliability.

Sampling and data collection

Data was gathered from 280 SME representatives in the capacity of either a manager or owner. The participants were drawn from start-ups operating in various sectors such as retail, agriculture, wholesale, services and manufacturing. The start-ups from which the participants were drawn from should have existed for a period of 1–10 years. A questionnaire was administered to SME managers and owners, and the researcher obtained informed consent before the respondents were handed the questionnaire for completion. After respondents were done with answering the questions on the questionnaire, they were subsequently collected for analysis. The decision to collect data from SMEs in Buffalo City Metropolitan Municipality was based on convenience and accessibility factors to the researcher.

Measures

The instrument used in this study includes scales adopted from other studies, (Abdallah et al. 2012; Lee et al. 2016; Liao Fei & Chen 2006). The questionnaire contains seven demographic questions and four measurement scales adding up to 40 items. Respondents gave responses to measurement scales on a five-point Likert scale by circling the appropriate response.

Reliability and validity

The coefficient alpha, developed by Cronbach (1951), is the most commonly used index for estimating the reliability of measurement instruments such as scales, multiple item tests and questionnaires. Following are the results for the internal consistency of the data collection instrument. Table 1 shows the reliability of each scale as it relates to the variable measured. The Cronbach's alpha for the scales ranged from 0.836 to 0.906, which showed high-reliability coefficients for the study constructs.

Ethical consideration

This research study adhered to standard ethical considerations that should be observed by researchers within the university. To ensure this, the researcher applied for and obtained an ethical clearance from the university's ethics committee. Anonymity, confidentiality and the right to withdraw from the study if they felt like doing so, were guaranteed to the respondents. In addition, permission and informed consent were sought from start-ups to administer the survey questionnaire to the managers in cases where the business owners were not available.

Data analysis and results

Data collected was analysed using the Statistical Package for Social Sciences version 24. All tests were carried out at the 5% level of significance. A descriptive analysis was used to describe the study's demographic features. Graphical illustrations are presented in the form of tables and bar charts.

Demographic profile of the respondents

Before detailed data analysis commenced, basic distributions according to gender, ethnicity, age, educational level, industry category, age of firm and firm's capital size were initially performed. A descriptive approach was used to describe the demographic variables of the study (see Table 2).

Hypothesis testing

From the three hypothesised frameworks the results of the correlational analysis indicate that a statistically significant correlation exists between all of the study variables. It is therefore imperative to use simple linear regression models to test these hypothesised frameworks. The Durbin–Watson test for auto-correlation was used, and to test the assumption of homoscedasticity and normality of residuals, special plots (Q-Q plots) were used. Results of the simple linear regression models are presented in Table 3.

TABLE 2: Descriptive statistics for biographical variables (N = 280).

Variable	Levels	*df*	*f*	Valid %
Gender	Male	1	159	56.8
	Female	-	121	43.2
Ethnicity	Black people	4	185	66.1
	Mixed-race people	-	34	12.1
	White people	-	38	13.6
	Indian people	-	20	7.1
	Other	-	3	1.1
Age	Below 20 years	4	12	4.3
	20–30 years	-	60	21.4
	31–40 years	-	79	28.2
	41–50 years	-	72	25.7
	Above 50 years	-	57	20.4
Educational level	Below matric	4	2	0.7
	Matric	-	76	27.1
	Certificate	-	48	17.1
	Diploma or degree	-	103	36.8
	Post-grad	-	51	18.2
Industry category	Manufacturing	5	32	11.4
	Wholesaling	-	23	8.2
	Construction	-	23	8.2
	Agriculture	-	32	11.4
	Service	-	63	22.5
	Other	-	107	38.2
Age of firm	Below 1 year	3	11	3.9
	1–3 years	-	51	18.2
	4–6 years	-	75	26.8
	7 years and more	-	143	51.1
Firm capital size (in ZAR)	Less than 10 000	3	32	11.4
	10 000–50 000	-	93	33.2
	51 000–100 000	-	53	18.9
	More than 100 000	-	102	36.4

ZAR, South African rand; *df*, degrees of freedom.

To determine whether KA exerts a positive effect on SMEs' AC, a simple linear regression model was examined. Knowledge acquisition was modelled as an explanatory or independent variable and this resulted in a significant model (F = 148.379; p = 0.000). The model fit and model summary statistics are presented in Table 3. In this model, KA explained a significant amount of the variance in SMEs' AC (R^2 = 0.243, adjusted R^2 = 0.346). The Durbin–Watson value, d = 1.456, is between the two critical values of $1.5 < d < 2.5$ and therefore it may be assumed that there is no first order linear auto-correlation in the linear regression data.

Table 4 shows that the parameter estimates of the resultant model – both the constant term ($\beta_0 = 1.638$; $t = 9.036$; $p = 0.000$) and the main effect of KA ($\beta_1 = 0.550$; $t = 12.181$; $p = 0.000$) – are all statistically significant. Because the β_1 coefficient is significant, there is sufficient evidence at the 5% level of significance to conclude that KA does exert a positive effect on SMEs' AC. Thus, the resultant unstandardised regression equation is as follows (Equation 1):

$$SMEs'AC = 1.638 + 0.550*KA + \text{residual } \varepsilon \quad \text{[Eqn 1]}$$

Concerning Hypothesis 1b, KS was modelled as an independent variable on SMEs' AC in order to determine if there exists any statistically significant positive effect on SMEs' AC. Table 5 shows the simple linear regression model

TABLE 3: Simple linear regression model fit and summary for knowledge acquisition on small and medium enterprises' absorptive capacity.

Source	Function	*df*	Sum of squares	Mean square	True values	*F*	Pr>*F*
Model summary	Regression	1	28.483	28.483	-	148.379	0.000*
	Residual	278	53.365	0.192	-	-	-
	Total	279	81.848	-	-	-	-
	Observations	-	-	280	-	-	-
	R (est. standard error)	-	-	0.590	0.43813	-	-
	R^2 (adjusted R^2)	-	-	0.348	0.34600	-	-
	F change (sig. *F* change)	-	-	148.379	0.00000	-	-
	Durbin–Watson test – test for auto-correlation	-	-	1.456	-	-	-

Note: Independent variables: constant, SMEs AC; dependent variable: KA.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; Pr, probability of F statistic; est., estimation; sig., significance; *df*, degrees of freedom.

*, Significant fit.

TABLE 4: Parameter estimates for the knowledge acquisition of small and medium enterprises' absorptive capacity model.

Parameter	Unstandardised coefficients		Standardised coefficients (*B*)	*t*	Sig.
	B	SE			
Constant	1.638	0.181	-	9.036	0.000*
KA	0.550	0.045	0.590	12.181	0.000*

Note: Independent variables: constant, KA; dependent variable: SMEs' AC.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; SE, standard error; Sig., significance.

*, Significant fit.

TABLE 5: Simple linear regression model fit and summary for knowledge sharing on small and medium enterprises' absorptive capacity.

Source	Function	*df*	Sum of squares	Mean square	True values	*F*	Pr>*F*
Model summary	Regression	1	15.120	15.120	-	62.991	0.000*
	Residual	278	66.728	0.240	-	-	-
	Total	279	81.848	-	-	-	-
	Observations	-	-	280	-	-	-
	R (est. standard error)	-	-	0.430	0.48993	-	-
	R^2 (adjusted R^2)	-	-	0.185	0.18200	-	-
	F change (sig. *F* change)	-	-	62.991	0.00000	-	-
	Durbin–Watson test – test for auto-correlation	-	-	1.487	-	-	-

Note: Independent variables: constant, KS; dependent variable: SMEs' AC.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; Pr, probability of F statistic; est., estimation; sig., significance; *df*, degrees of freedom.

*, Significant fit.

TABLE 6: Parameter estimates for the knowledge sharing on small and medium enterprises' absorptive capacity model.

Parameter	Unstandardised coefficients		Standardised coefficients (*B*)	*t*	Sig.
	B	SE			
Constant	1.441	0.301	-	4.781	0.000*
KS	0.552	0.069	0.430	7.937	0.000*

Note: Independent variables: constant, KS; dependent variable: SMEs' AC.

KS, knowledge sharing; SME, small and medium enterprises; AC, absorptive capacity; Sig., significance; SE, standard error.

*, Significant fit.

summary and overall fit statistics. The analysis found that the adjusted R^2 of the model was 0.182, which means that the linear regression explains only 18.2% of the variance in the dependent variable. The resultant model revealed a significant fit (F = 62.991; p = 0.000). The test for auto-correlation shows that there is no first order linear auto-correlation in the data (d = 1.487).

The parameter estimates in Table 6 reveal that KS has a statistically significant positive effect on SMEs' AC (β_1 = 0.552; t = 7.937; p = 0.000). Thus, at the 5% level of significance the conclusion is that KS exerts a positive effect on SMEs' AC. The resultant model is as follows (Equation 2):

$$SMEs'AC = 1.441 + 0.552*\text{KS} + \text{residual } \varepsilon \quad \text{[Eqn 2]}$$

Concerning Hypothesis 2, the test was to determine whether AC exerts a positive effect on SMEs' IC. For this, a simple linear regression model was examined. The model fit statistics in Table 7 shows that the resultant model was highly significant (F = 219.679; p = 0.000). Also in the same table is the model summary statistics, which reveal that AC explains 44.1% of the variation in SMEs' IC (R^2 = 0.441; adjusted R^2 = 0.439). The assumption is that there is no auto-correlation in the linear regression data because the Durbin–Watson test gave a statistic that is between the two critical values of $1.5 < d < 2.5$ (d = 1.979).

Parameter estimates (Table 8) show that both the constant term and AC have a statistically significant effect on SMEs' IC. The regression coefficients are β_0 = 1.467 (p = 0.000) and β_1 = 0.641 (p = 0.000), respectively. Because the main effect

TABLE 7: Simple linear regression model fit and summary for absorptive capacity on small and medium enterprises' innovation capabilities.

Source	Function	*df*	Sum of squares	Mean square	True values	*F*	Pr>*F*
Model summary	Regression	1	33.620	33.620	-	219.679	0.000*
	Residual	278	42.545	0.153	-	-	-
	Total	279	76.165	-	-	-	-
	Observations	-	-	280	-	-	-
	R (est. standard error)	-	-	0.664	0.3912	-	-
	R^2 (adjusted R^2)	-	-	0.441	0.4390	-	-
	F change (sig. *F* change)	-	-	219.679	0.0000	-	-
	Durbin–Watson test – test for auto-correlation	-	-	1.979	-	-	-

Note: Independent variables: constant, AC; dependent variable: SMEs' IC.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; Pr, probability of F statistic; est., estimation; sig., significance; *df*, degrees of freedom.

*, Significant fit.

TABLE 8: Parameter estimates for the absorptive capacity on small and medium enterprises' innovation capabilities model.

Parameter	Unstandardised coefficients		Standardised coefficients (*B*)	*t*	Sig
	B	SE			
Constant	1.467	0.167	-	8.786	0.000*
AC	0.641	0.043	0.664	14.822	0.000*

Note: Independent variables.

AC, absorptive capacity; SME, small and medium enterprises; sig, significance; SE, standard error.

*, Significant fit.

TABLE 9: Simple linear regression model fit and summary for knowledge acquisition on small and medium enterprises' innovation capabilities.

Source	Function	*df*	Sum of squares	Mean square	True values	*F*	Pr>*F*
Model summary	Regression	1	25.204	25.204	-	137.487	0.000*
	Residual	278	50.962	0.183	-	-	-
	Total	279	76.165	-	-	-	-
	Observations	-	-	280	-	-	-
	R (est. standard error)	-	-	0.575	0.42815	-	-
	R^2 (adjusted R^2)	-	-	0.331	0.32800	-	-
	F change (sig. *F* change)	-	-	137.487	0.00000	-	-
	Durbin–Watson test – test for auto-correlation	-	-	2.005	-	-	-

Note: Independent variables: constant, KA; dependent variable: SMEs' IC.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; Pr, probability of F Statistic; est., estimation; sig., significance; *df*, degrees of freedom.

*, Significant fit.

is positive and statistically significant the conclusion is that AC exerts a positive effect on SMEs' IC. Thus, the resultant unstandardised regression equation is as follows (Equation 3):

$$SMEs'IC = 1.467 + 0.641*\text{AC} + \text{residual } \varepsilon \quad \text{[Eqn 3]}$$

Concerning Hypothesis 3a, the test was to determine whether KA exerts a positive effect on SMEs' IC. A simple linear regression model was examined. Knowledge acquisition was modelled as an explanatory variable and this resulted in a significant model (F = 137.487; p = 0.000). The model fit and model summary statistics are presented in Table 9. In this model, KA explained a significant amount of the variance in SMEs' IC (R^2 = 0.331, adjusted R^2 = 0.328). The Durbin–Watson value, d = 2.005, is between the two critical values

TABLE 10: Parameter estimates for knowledge acquisition on small and medium enterprises' innovation capabilities model.

Parameter	Unstandardised coefficients		Standardised coefficients (*B*)	*t*	Sig
	B	SE			
Constant	1.861	0.177	-	10.509	0.000*
KA	0.518	0.044	0.575	11.725	0.000*

Note: Independent variables: constant, KA; dependent variable: SMEs' IC.

KA, knowledge acquisition; SME, small and medium enterprises; IC, innovation capabilities; sig, significance; SE, standard error.

*, Significant fit.

TABLE 11: Simple linear regression model fit and summary for knowledge sharing on small and medium enterprises' innovation capabilities.

Source	Function	*df*	Sum of squares	Mean square	True values	*F*	Pr>*F*
Model summary	Regression	1	19.013	19.013	-	92.483	0.000*
	Residual	278	57.152	0.206	-	-	-
	Total	279	76.165	-	-	-	-
	Observations	-	-	280	-	-	-
	R (est. standard error)	-	-	0.500	0.45341	-	-
	R^2 (adjusted R^2)	-	-	0.250	0.24700	-	-
	F change (sig. *F* change)	-	-	92.483	0.00000	-	-
	Durbin–Watson test – test for auto-correlation	-	-	2.145	-	-	-

Note: Independent variables: constant, KS; dependent variable: SMEs' IC.

KA, knowledge acquisition; SME, small and medium enterprises; AC, absorptive capacity; Pr, probability of F statistic; est., estimation; sig., significance; *df*, degrees of freedom.

*, Significant effect.

of $1.5 < d < 2.5$ and therefore it can be assumed that there is no first order linear auto-correlation in the linear regression data.

Table 10 shows that the parameter estimates of the resultant model are all statistically significant ($\beta_0 = 1.861$; $t = 10.509$; $p = 0.000$ and $\beta_1 = 0.518$; $t = 11.725$; $p = 0.000$). Because the β_1 coefficient is positive, there is sufficient evidence at the 5% level of significance to conclude that KA has a statistically significant positive effect on SMEs' IC. Thus, the resultant unstandardised regression equation is as follows (Equation 4):

$$SMEs'IC = 1.861 + 0.518*KA + \text{residual } \varepsilon \quad \text{[Eqn 4]}$$

Finally, concerning Hypothesis 3b, KS was modelled as an independent variable on SMEs' IC. The aim here was to determine if there exists any statistically significant positive effect between the two variables. Table 11 shows the simple linear regression model summary and overall fit statistics. The analysis revealed that the adjusted R^2 of the model was 0.152, which means that the linear regression explains 15.2% of the variance in the data. The resultant model revealed a highly significant fit ($F = 92.483$; $p = 0.000$). The test for auto-correlation showed that there is no first-order linear auto-correlation in the data ($d = 2.145$).

The parameter estimates in Table 12 reveal that KS has a statistically significant positive effect on SMEs' IC ($\beta_1 = 0.619$; $t = 9.617$; $p = 0.000$). Thus, at the 5% level of significance the conclusion is that KS exerts a positive effect on SMEs' IC. The resultant simple regression model is as follows (Equation 5):

$$SMEs'IC = 1.246 + 0.619*KS + \text{residual } \varepsilon \quad \text{[Eqn 5]}$$

TABLE 12: Parameter estimates for the knowledge sharing on small and medium enterprises' innovation capabilities model.

Parameter	Unstandardised coefficients		Standardised coefficients (*B*)	*t*	Sig
	B	SE			
Constant	1.246	0.279	-	4.467	0.000*
KS	0.619	0.064	0.500	9.617	0.000*

Note: Independent variables: constant, KS; dependent variable: SMEs' IC.

KS, knowledge sharing; SME, small and medium enterprises; IC, innovation capabilities; sig, significance; SE, standard error.

*, Significant effect.

Discussion

This section discusses the results of the present research and explores similarities or differences of the current study with previous research studies. The discussion addresses each hypothesis and also compares the present findings with those from previous studies. The overall discussion also answers the study's three research questions.

Knowledge management and absorptive capacity

The research aimed to establish the effects of KM on AC. Therefore, the first two hypotheses were formulated to test whether KA and KS had a positive effect on SMEs' AC, respectively. To be specific, the hypotheses read as follows:

H1a: KA has a positive effect on SMEs' AC.

H1b: KS has a positive effect on SMEs' AC.

Knowledge acquisition and absorptive capacity

With regard to the effect of KA on SMEs' AC, simple linear regression model analysis revealed that KA exerts a positive effect on SMEs' AC. The results also revealed that KA explained a significant amount of variance in SMEs' AC. These results provided sufficient evidence to reach a conclusion that KA positively influences AC in SMEs. These results corroborate findings of an investigation that was undertaken by Valentim, Lisboa and Franco (2015) in Portugal on a sample of 260 SMEs, which established that KM practices, including KA, positively impacts a firm's AC. To support these results, Hung and Chen (2010) state that AC is maintained as an end product of continuous acquisition and application of new information within a firm.

Valentim et al. (2015) state that SMEs acquire knowledge that originates from internal and external sources through AC. In a recent study, Wang and Yang (2016) concluded that SMEs that practise KM and engage in collaborations with other businesses acquire more knowledge from external stakeholders. Abdallah et al. (2012) hold that knowledge generated and acquired should be shared with all employees through either formal or informal networks, thus summarising the link between KM and AC, as well as the effect of KA on AC.

In essence, this study's statistical results with regard to the effect of KS on SMEs' AC confirm findings from a majority of empirical studies carried out elsewhere (Hung & Chen 2010; Valentim et al. 2015; Wang & Yang 2016). As a result, in light

of the statistical results on the effect of KA on SMEs' IC, the study concludes that KA has a positive effect on SMEs' AC. This confirms the assumption of the study that KA enhances a firm's AC.

Knowledge sharing and absorptive capacity

This research also sought to establish the effects of KA on SMEs' AC. Based on the presented statistical results, the study established that KS, that was modelled as an independent variable on SMEs' AC, exerts a statistically significant positive effect on SMEs' AC. These results were in line with arguments by Suppiah and Sandhu (2011) that effective KS within an enterprise determines the level of its AC. In addition, this result is in line with those of a study conducted by Valentim et al. (2015) in Portugal on a sample of 260 SMEs, which established that KM practices that include KS and acquisition positively impact a firm's AC.

McAdam et al. (2010) stated that to enhance their AC, firms should hire new, experienced experts who in turn share their expertise with other employees within the business. As a result of sharing expertise, a firm's AC is enhanced. In addition, this study also corresponds with conclusions by Shamim, Cang and Yu (2017) that AC relies on sound KM practices, KS included, that facilitate easy transfer and assimilation of information. Based on the statistical results, this study concludes that KS has a positive effect on SMEs' AC.

Absorptive capacity and innovation capabilities

The study objective was to investigate the effects of AC on SMEs' IC. This subsection discusses the findings and conclusions with regard to the effects of AC and IC. To determine whether AC exerts a positive effect on SMEs' IC, a simple linear regression was performed. The research established that the main effect was positive and statistically significant. Therefore, it can authoritatively be concluded that AC exerts a positive effect on SMEs' IC.

These results are in agreement with those of a study that was aimed at investigating the influence of AC on IC in business organisations (Enkel et al. 2017). Additionally, a number of previous studies have underscored the importance of AC in an understanding of tacit knowledge acquired from external sources (Nonaka 1994; Polanyi 1957), which in turn is used to come up with various innovations within an enterprise.

Knowledge management and innovation capabilities

The research also aimed to establish the effects of KM on SMEs' IC. Two hypotheses were formulated:

H3a: KA has a positive effect on SMEs' IC.

H3b: KS has a positive effect on SMEs' IC.

Each hypothesis is discussed in detail in the following.

Knowledge acquisition and innovation capabilities

The research aimed to determine the effects of KA on SMEs' IC. To achieve this objective a simple linear regression model was examined. The coefficients were found to be positive, and it was concluded that KA had a statistically significant positive effect on SMEs' IC. The results of the current study bear some resemblance to those of a previous study by Javernick-Will (2013), which revealed that KA has a positive impact on IC. Although Moustaghfir and Schiuma (2013) argue that KA is indirectly influenced by IC, this study did not investigate the reverse effect of IC on KA.

Knowledge acquisition has also been found to enable an enterprise to react to changes in the business using its innovative capabilities (Sohrabi & Mirali 2014). For instance, acquiring knowledge about customer needs, customer tendencies and prevailing market trends, may lead to awareness and eventual development of productions that fit well in the prevailing conditions (Bojica & Fuentes 2012). Furthermore, acquiring knowledge through hiring experts has been established to improve an enterprise's ability to innovate because only people with the relevant know-how can develop particular services and products. Unlike other studies that focused on technology as the best way to acquire knowledge that eventually leads to improved IC (Okanga 2017; Razali et al. 2017), this study did not go that far.

Knowledge sharing and innovation capabilities

The last objective of the research was to ascertain the effects of KS on SMEs' IC. Here, the study sought to investigate and establish how KS amongst employees and colleagues within an SME can affect its IC. The research hypothesised that KS has a positive effect on SMEs' IC. To establish the actual effect of KS on SMEs' IC, simple linear regression analysis was performed. It was subsequently established that KS has a statistically significant positive effect on SMEs' IC.

The results of the current study confirm the assertions made by Koloniari and Fassoulis (2017) that KS is an important component of a firm's KM that facilitates the speed and effectiveness of the IC. Another previous study that corresponds with the current one is that of Salleh et al. (2017), which identified KS as the principal determinant of increase in the innovation of various products and services. Although Salleh et al. (2017) focused on larger firms and the current study on SMEs, the effect of KS on both categories of firms remains the same – positive. Several studies have also established positive effects of KS on IC in firms of differing sizes (Mohsam & van Brake 2014; Sigala & Chalkiti 2015; Sohrabi & Mirali 2014).

Implications of the study

This section unpacks and provides a discussion on the implications of the study based on empirical evidence drawn from the study's statistical results. The implications are

presented in a way that explains how the results of this study affect theoretical dimensions of the studied phenomenon, practitioners (SME managers, owners and employees) and policymakers. In essence, this section presents and discusses theoretical, practical and policy implications of the study, as well as recommendations on what might need to be implemented to improve innovation in SMEs and their subsequent capabilities.

Theoretical implications

The most important theoretical contribution of this study is that it helped to extend knowledge and understanding of the effects of KM on SMEs' IC from a South African perspective. The findings build on existing empirical knowledge as seen in several previous studies on KM and its effects (Bojica & Fuentes 2012; Popoola & Fagbola 2014; Razali et al. 2017). This study broadened the frame of information in the area of KM and its influence on IC within South African SMEs. As a result, it adds more literature that dwells on KM and IC as well as further explaining how KM impacts SMEs' AC and how the AC affects SMEs' IC. Absorptive capacity has often been investigated as a mediating factor; however, this research proved that if employed as a linear variable, it has positive effects on IC.

Although previous studies noted that there is still confusion on whether there is a difference between KM and AC, this study cemented the view that the two are different research variables that can have effects on each other. Specifically, the current study established that KM practices (KS and KA) positively affect IC within SMEs. This discovery answered the study's research questions. By answering the questions, this study filled in knowledge gaps that existed in the realm of KM in SMEs, specifically in the South African context and to some extent a sub-Saharan perspective.

This work also advances an understanding into a phenomenon that is not often researched outside the Western and Asian contexts. This study is one of the few that have been conducted in sub-Saharan Africa that probes and explores the effects of KM in SMEs on IC. It adds a South African SME dimension to studies on KM, which are largely concentrated outside the sub-Saharan region (Europe and Asia) and on large firms (e.g. Dursty & Edvardsson 2012; Dwivedi et al. 2011; Ribiere & Christian 2013; Santoro et al. 2017). Furthermore, it showed that there was statistical evidence that supports the researchers' assumption that KM has a positive effect on SMEs' IC and AC.

Practical implications

The study's findings add practically useful knowledge to the existing insights by revealing that KM practices such as KA and KS activities have a positive effect on SMEs' ability to create new products, services and processes. The results, which show that KA positively affects SMEs' IC, suggest that managers and owners should promote KA activities to improve enterprises' IC. According to Cho and Korte (2014), useful KA activities include collaborations amongst firms or with universities, employment of experts, joining formal and informal networks, attending seminars, exhibitions and participating in business incubations. This, therefore, implies that managers and SME owners need to create conducive environments where these KA activities flourish.

With regards to KS, the results of this study imply that there is need to promote KS robustly within an SME to enhance its IC and AC. Small and medium enterprises' management should, therefore, ensure that experts and experienced employees are encouraged to share their expertise with colleagues so as to improve the level on which a firm provides solutions to new market demands and needs. Methods through which knowledge is shared within an enterprise include activities such as mentoring, seminars, workshops, internal refresher courses or simple observations (Arpaci 2017).

To strategic management academics, the study advises that they intensively integrate the topic of KM in the university curriculum so as to equip current and prospective SME owners with adequate and appropriate KM skills. With the advent of the knowledge economy, it is only wise that academics promote research in the area of KM and provide more insights regarding its benefits to practitioners in the industry. Furthermore, it is also advisable for SME managers and owners to employ knowledge experts or introduce a department in the organisational structure that is solely responsible for improving and advancing KM practices. This will allow robust implementation of KM practices in the SME. The reviewed literature showed that KM has been empirically proven to be an antidote to SME failure.

Limitations of the study

According to Wiid and Diggines (2013), no research study is without constraints and challenges. This section presents and discusses challenges faced in this research study. Notable shortcomings of this research include the fact the data collection was confined to one municipality: Buffalo City Metropolitan Municipality (BCMM). Confining data collection to BCMM limits the generalisability of this study's results. Collecting data from different municipalities would have made the results more generalisable to the entire SME population in the Eastern Cape Province or South Africa at large. Secondly, the research only considered a single respondent in an organisation in the form of SME owners or managers, ignoring other members of the organisation. If the study had considered more than one respondent per organisation, the results would have clarified the information about the organisations better. Thirdly, lack of a reliable list of current SMEs operating within the BCMM implies that some possible SMEs might have been left out the study. In addition, it might have negatively affected the determination of the research sample size because the sample size of this study was calculated based on the 2016 list of SMEs operating in the BCMM.

The fourth limitation of this research is that the instrument used to collect data is made of scales that were adapted from studies performed outside South Africa. A South African-generated instrument would have captured all the necessary and appropriate elements that fit the South African context of KM, AC and IC. Lastly, this study followed the quantitative research approach only, which meant that conclusions were drawn based solely on numerical data. If the research had followed both the qualitative and quantitative data, both numerical and qualitative data would have been collected. This would have made sure that weakness of each method was covered by the strength of the other. Therefore, based on the limitations and constraints of this research, the results should be treated with caution.

Recommendations for future study

Because this study followed a quantitative approach, it is recommended that future research follow a qualitative research method to gain more insight into the effects of KM on IC. Furthermore, this study recommends that future studies be carried out with the main aim of developing a South African-oriented instrument in relation to this topic. This research collected data from SMEs from various sectors. Therefore, future research should focus on investigating the effects of KM on SMEs from a single sector, for example, SMEs from the manufacturing sector only. Lastly, future research should use the same independent variables versus a different dependent variable. This will help establish the importance of KM on different business objectives and goals.

Conclusion

The overall discussion of the results of this study showed that KM has a positive effect on SMEs' IC. The study noted the methodological limitation, which might limit the generalisability of this study's results. The research concluded by recommending options for further research, which included using a different research methodology. Based on the results of the study, it is recommended that South African SMEs take KM seriously if they are to successfully enhance their IC.

Acknowledgements

The authors acknowledge with gratitude the feedback from the journal and its reviewers.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contribution

C.G. was a master's student, with W.T.C. as supervisor. W.T.C. assisted in conceptualising the study and supporting C.G. during the course of his studies.

References

Abdallah, S., Khalil, A. & Divine, A., 2012, 'The impact of knowledge sharing on innovation capability in United Arab Emirates organizations', *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering* 6(12), 201–211.

Altuntas, S., Dereli, T. & Kusiak, A., 2016, 'Computers and industrial engineering assessment of corporate innovation capability with a data-mining approach: Industrial case studies', *Computers and Industrial Engineering* 102, 58–68. https://doi.org/10.1016/j.cie.2016.10.018

Arpaci, I., 2017, 'Computers in human behavior antecedents and consequences of cloud computing adoption in education to achieve knowledge management', *Computers in Human Behavior* 70, 382–390. https://doi.org/10.1016/j.chb.2017.01.024

Barnes, Y.L.J., 2015, 'Knowledge acquisition and product innovation flexibility in SMEs', *Business Process Management Journal* 21(6), 1257–1278. https://doi.org/10.1108/BPMJ-05-2014-0039

Bojica, A.M. & Fuentes, M., 2012, 'Knowledge acquisition and corporate entrepreneurship: Insights from Spanish SMEs in the ICT sector', *Journal of World Business* 47(3), 397–408. https://doi.org/10.1016/j.jwb.2011.05.007

Chiu, H. & Fogel, J., 2014, 'The impact of manager influence tactics on innovation implementation of a knowledge management system', *International Journal of Innovation Science* 6(4), 185–203. https://doi.org/10.1260/1757-2223.6.4.185

Cho, S.W. & Korte, B., 2014, 'The evaluation on the three critical models of absorptive capacity: A case study on logistics company in Korea', *Universal Journal of Industrial and Business Management* 2(5), 119–125.

Cohen, W.M. & Levinthal, D.A., 1990, 'Absorptive capacity: A new perspective on learning and innovation', *Administrative Science Quarterly* 35(1), 128–152. https://doi.org/10.2307/2393553

Colombo, M., Foss, N. & Rossi-Lamastra, C., 2012, 'Organizational design for absorptive capacity linking individual and organizational levels', Paper presented at the DRUID 2012 on June 19 to June 21 At CBS, Copenhagen, Denmark.

Comeig, I., Fernández-Blanco, M.O. & Ramírez, F., 2015, 'Information acquisition in SME's relationship lending and the cost of loans', *Journal of Business Research* 68, 1650–1652. https://doi.org/10.1016/j.jbusres.2015.02.012

Cronbach, L.J., 1951, 'Coefficient alpha and the internal structure tests', *Psychometrika* 16(3), 297–334. https://doi.org/10.1007/BF02310555

Dursty, S. & Edvardsson, I.R., 2012, 'Knowledge management in SMEs: A literature review', *Journal of Knowledge Management* 16(6), 879–903. https://doi.org/10.1108/13673271211276173

Dwivedi, Y.K., Venkitachalam, K., Sharif, A.M., Al-Karaghouli, W. & Weerakkody, V., 2011, 'Research trends in knowledge management: Analyzing the past and predicting the future', *Information Systems Management* 28(1), 43–56. https://doi.org/10.1080/10580530.2011.536112

Enkel, E., Heil, S., Hengstler, M. & Wirth, H., 2017, 'Exploratory and exploitative innovation: To what extent do the dimensions of individual level absorptive capacity contribute?', *Technovation* 60, 29–38. https://doi.org/10.1016/j.technovation.2016.08.002

Govender, L.N. & Mtembu, V.N., 2015, 'Perceptions of employers and unemployed youth on the proposed youth employment wage subsidy incentive in South Africa: A KwaZulu-Natal study', *South African Journal of Human Resource Management* 13(1), 653–659.

Ha, S., Lo, M. & Wang, Y., 2016, 'Relationship between knowledge management and organizational performance: A test on SMEs in Malaysia', *Procedia – Social and Behavioral Sciences* 224, 184–189. https://doi.org/10.1016/j.sbspro.2016.05.438

Hung, S.W. & Chen, C.J., 2010, 'To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities', *Journal of Information Management* 47(4), 226–236. https://doi.org/10.1016/j.im.2010.03.001

Javernick-Will, A., 2013, 'Local embeddedness and knowledge management strategies for project-based multi-national firms', *Engineering Management Journal* 25(3), 16–26. https://doi.org/10.1080/10429247.2013.11431979

Jeon, S., Kim, Y.G. & Koh, J., 2011, 'An integrative model for knowledge sharing in communities-of-practice', *Journal of Knowledge Management* 15, 251–269. https://doi.org/10.1108/13673271111119682

Khan, N.R., Awang, M. & Zulkifli, C.M., 2013, 'Small and medium enterprises and human resource practices in Pakistan', *International Journal of Asian Social Science* 3(2), 460–471.

Koloniari, M. & Fassoulis, K., 2017, 'Knowledge management perceptions in academic libraries', *The Journal of Academic Librarianship* 43(2), 135–142. https://doi.org/10.1016/j.acalib.2016.11.006

Lee, M.R. & Lan, Y.C., 2011, 'Toward a unified knowledge management model for SMEs', *Expert Systems with Applications* 38(1), 729–735. https://doi.org/10.1016/j.eswa.2010.07.025

Lee, V.H., Foo, A.T.L., Leong, L.Y. & Ooi, K.B., 2016, 'Can competitive advantage be achieved through knowledge management? A case study on SMEs', *Expert Systems with Applications* 65, 136–151. https://doi.org/10.1016/j.eswa.2016.08.042

Liao Fei, W. & Chen, C., 2006, 'Knowledge sharing, absorptive capacity and innovation capability: An empirical study of Taiwan's knowledge intensive industries', *Journal of Information Science* 20(10), 1–20.

Maziti, L., Chinyamurindi, W.T. & Marange, C., 2018, 'The relationship between strategic leadership, innovation performance and competitive advantage amongst a sample of small businesses in South Africa', *Journal of Contemporary Management* 15, 368–394.

McAdam, R., Miller, K., McMacken, N. & Davies, J., 2010, 'The development of absorptive capacity-based innovation in a construction SME', *The International Journal of Entrepreneurship and Innovation* 11(3), 231–244. https://doi.org/10.5367/000000010792217308

Mezghani, E., Exposito, E. & Drira, K., 2016, 'A collaborative methodology for tacit knowledge management: Application to scientific research', *Future Generation Computer Systems* 54, 450–459. https://doi.org/10.1016/j.future.2015.05.007

Mohsam, F. & van Brakel, P.A., 2014, 'Information and knowledge sharing trends of small and medium-sized enterprises in the Western Cape, South Africa Research problem', *South African Journal of Information Management* 13(1), 1–10.

Moustaghfir, K. & Schiuma, G., 2013, 'Knowledge, learning, and innovation: Re- search and perspectives', *Journal of Knowledge Management* 17(4), 495–510. https://doi.org/10.1108/JKM-04-2013-0141

Nonaka, I., 1994, 'A dynamic theory of organisational knowledge creation', *Organisation Science* 5(1), 14–37. https://doi.org/10.1287/orsc.5.1.14

Nowacki, R. & Bachnik, K., 2016, 'Innovations within knowledge management', *Journal of Business Research* 69(5), 1577–1581. https://doi.org/10.1016/j.jbusres.2015.10.020

Okanga, B., 2017, 'Small- and medium-sized enterprises' knowledge management systems as edifiers of new value innovations', *South African Journal of Information Management* 19(1), 1–11. https://doi.org/10.4102/sajim.v19i1.786

Polanyi, K., 1957, *The great transformation: The political and economic origins of our time*, Beacon Press, Boston, MA.

Popoola, S.O. & Fagbola, O.O., 2014, 'Innovation capability of managers in Nigerian large-scale manufacturing companies', *South African Journal of Information Management* 16(1), 593–603. https://doi.org/10.4102/sajim.v16i1.593

Razali, N.B.M., Mamun, A.A., Zakaria, M.N., Malarvizgi, C.A. & Nawi, N.B.C., 2017, 'Knowledge management system for decision centric for manufacturing SMEs: A conceptual framework', *American Scientific Publishers* 23, 2938–2941. https://doi.org/10.1166/asl.2017.7612

Ribiere, V. & Christian, W., 2013, '10 years of knowledge management theory and practices', *Knowledge Management Research and Practice* 11(1), 4–9. https://doi.org/10.1057/kmrp.2012.64

Salleh, S.M., Ismail, N.S., Hamazah, M.F.S., Zahari, M.S.A., Mohammed, H.N. & Abdullah, N., 2017, 'Knowledge sharing and organizational commitment in organization', *Journal of Applied Environmental Bio-Sciences* 7(58), 37–40.

Santoro, G., Vrontis, D., Thrassou, A. & Dezi, L., 2017, 'The internet of things: Building a knowledge management system for open innovation and capacity', *Technological Forecasting & Social Change* March, 1–7. https://doi.org/10.1016/j.techfore.2017.02.034

Shamim, S., Cang, S. & Yu, H., 2017, 'Supervisory orientation , employee goal orientation , and knowledge management among front line hotel employees', *International Journal of Hospitality Management,* 62, 21–32.

Sigala, M. & Chalkiti, K., 2015, 'Knowledge management, social media and employee creativity', *International Journal of Hospitality Management* 45, 44–58. https://doi.org/10.1016/j.ijhm.2014.11.003

Sohrabi, S. & Mirali, S.N., 2014, 'The interaction of explicit and tacit knowledge', in J. Rooney & V. Murthy (eds.), *Proceedings of the International Conference on Intellectual Capital, Knowledge Management & Organizational Learning*, Sydney, Australia, 6–7 November, 2014, pp. 363–369.

Stock, G.N. & Greis, N.P., 2010, 'Absorptive capacity and new product development', *The Journal of High Technology Management Research* 12, 77–91. https://doi.org/10.1016/S1047-8310(00)00040-7

Suh, Y., You, J. & Kim, P., 2013, 'The effect of innovation capabilities and experience on cross-border acquisition performance', *Global Journal of Business Research* 7(3), 59–74.

Sulistiyani, R. & Harwiki, W., 2016, 'How SMEs build innovation capabilities based on knowledge sharing behavior? Phenomenological approach', *Procedia – Social and Behavioral Sciences* 219, 741–747. https://doi.org/10.1016/j.sbspro.2016.05.070

Suppiah, V. & Sandu, M.S., 2011, 'Organizational culture's influence on tacit knowledge-sharing behaviour', *Journal of Knowledge Management* 15, 462–477. https://doi.org/10.1108/13673271111137439

Republic of South Africa, 2004, 'National Small Business Amendment Act', viewed 25 Nov. 2017, from https://www.thedti.gov.za/business_regulation/acts/small_business_amendment_act.pdf

Teece, D.J., Pisano, G. & Shuen, A., 1997, 'Dynamic capabilities and strategic management', *Strategic. Management Journal* 18(7), 509–533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z

Valdez-Juárez, L.E., García-Pérez de Lema, D. & Maldonado-Guzmán, G., 2016, 'Management of knowledge, innovation and performance in SMEs', *Interdisciplinary Journal of Information, Knowledge, and Management* 11, 141–176.

Valentim, L., Lisboa, J.V. & Franco, M., 2015, 'Knowledge management practices and absorptive capacity in small and medium-sized enterprises: Is there really a linkage?', *R & D Management* 46(4), 713–717.

Wang, M. & Yang, T., 2016, 'Investigating the success of knowledge management: An empirical study of small- and medium-sized enterprises', *Asia Pacific Management Review* 21(2), 79–91. https://doi.org/10.1016/j.apmrv.2015.12.003

Wiid, J. & Diggines, C., 2013, *Marketing research*, 2nd edn., Juta and Company Ltd, Cape Town.

Zheng, S., Zhang, W., Wu, X. & Du, J., 2011, 'Knowledge-based dynamic capabilities and innovation in networked environments', *Journal of Knowledge Management* 15(6), 1035–1051. https://doi.org/10.1108/13673271111179352

Zhou, K.Z. & Li, C.B., 2012, 'How knowledge affects radical innovation: Knowledge base, market knowledge acquisition, and internal knowledge sharing', *Strategic Management Journal* 33(9), 1090–1102. https://doi.org/10.1002/smj.1959

South African small and medium-sized enterprise owners' intention to implement an environmental management system

Authors:
Fredrika (Miemie) W. Struwig[1]
Riyaadh Lillah[1]

Affiliations:
[1]Department of Business Management, Nelson Mandela Metropolitan University, South Africa

Corresponding author:
Miemie Struwig,
miemie.struwig@nmmu.ac.za

Background: Environmental problems present the most complex and important managerial challenges of the 21st century. Most businesses have responded to these environmental problems by adopting an environmental management system.

Aim: This article investigates South African small and medium-sized enterprise (SME) owners' intentions to implement an environmental management system based on the theory of planned behaviour.

Setting: Although large businesses are clearly of interest with respect to their environmental management, especially given their prominence in many of the most environmentally impactful sectors, the relative neglect of the environmental management of SMEs is disconcerting, given their overall importance in most economies. In addition, very little research used the theory of planned behaviour to empirically test SME owners' intentions, to implement an environmental management system.

Method: A quantitative survey was used to collect primary data from 326 SME owners by a structured questionnaire.

Results: Regression analysis results confirmed the influence of SME owners' attitudes towards an environmental management system and pro-environmental norms on their intention to implement an environmental management system. Perceived behavioural control, however, did not significantly influence the SME owners' intention to implement an environmental management system.

Conclusion: These findings provide valuable insights into the implementation of environmental management systems among South African SMEs. The theory of planned behaviour also seems to be an appropriate means to investigate the intentions of SMEs to implement an environmental management system.

Introduction

Background

Given growing global concerns about the depletion of natural resources and reductions in biodiversity, understanding why and how businesses engage in environmental management is of increasing interest and importance to both academics and practitioners (Dunphy, Griffiths & Benn 2007; Holliday, Schmidheiny & Watts 2002; Laszlo 2003). Most businesses have responded to the demand to address environmental issues by implementing environmental management systems (Sanchez-Medina, Romero-Quintero & Sosa-Cabrera 2014). Darnall, Jolley and Handfield (2008) define an environmental management system as a collection of internal policies, assessments, plans and implementation actions. An environmental management system affects the business as a whole and its relationships with the natural environment.

The responsibility of responding to environmental issues is not limited to government and large businesses. In most economies, small and medium-sized enterprises (SMEs) are the largest contributors to economic activity (Brammer, Hoejmose & Marchant 2012; Klewitz & Hansen 2013). SMEs in South Africa have been identified as an important catalyst for economic growth. There are approximately 2.8 million SMEs in the country, contributing about 60% of the total employment. It is also estimated that no less than 90% of new jobs will be created in SMEs by 2030 (Groepe 2015:5). Although a single SME might not represent a substantial threat to the natural environment, given the prominence of these businesses in the economy, SMEs could have a larger collective impact on the environment than large businesses (Brammer et al. 2012).

It is therefore just as important for SMEs to address environmental concerns.

Compared with large businesses, SMEs operate differently and face disparate challenges when implementing an environmental management system (Bos-Brouwers 2010; Brammer et al. 2012). According to Boiral, Baron and Gunnlaugson (2014), SMEs lack knowledge of their environmental impacts, and their cultural disposition of resistance to self-regulation and government intervention makes them less likely to implement an environmental management system. The lack of resources in SMEs might also play a deciding role in their choosing whether or not to implement an environmental management system. Brammer et al. (2012) further suggest that their informal structure, and the fact that SMEs are owner-managed, places more emphasis on personal choice and commitment in respect of environmental management.

In this article, the commitment to implement an environmental management system is associated with the underlying world views, abilities and psychological predispositions (to act in a particular way) of SME owners (Boiral et al. 2014). These psychological predispositions towards environmental management system implementation are captured by the SME owner's attitude towards an environmental management system, pro-environmental norms (PN) and perceived behavioural control (PBC) and are based on Ajzen's (1991) theory of planned behaviour. Thus, the aim of this study is to investigate South African SME owners' intentions to implement an environmental management system based on the theory of planned behaviour.

Literature overview of the theory of planned behaviour

The theory of planned behaviour is one of the most influential theories for explaining and predicting behaviour. The theory of planned behaviour (Ajzen 1991) is the successor to the theory of reasoned action, also known as the Fishbein behavioural intention model (Fishbein & Ajzen 1975). Ajzen (1991) extended the theory of reasoned action to include PBC and to compensate for their model's limitation in accounting for behaviours where individuals lack control.

According to Ajzen (1991:181), the fundamental aspect of the theory of planned behaviour is behavioural intent that has been proven to be a good surrogate for behaviour. Steg and Vlek (2009) claim that the theory of planned behaviour is better at explaining behaviours that have high behavioural costs or strong behavioural constraints. Another advantage of this model is its specificity (Chao 2012; Monroe 2003). In other words, the theory of planned behaviour is more suited to examining specific environmental behaviours rather than a broad range of such behaviours. However, a number of studies using the theory to explain a range of environmental behaviours have emerged (Chao 2012). The theory of planned behaviour was not developed specifically to assess environmental behaviour (Chao 2012). Nevertheless, it has been extensively applied to explain various environmental behaviours (such as recycling, water-saving, green consumer behaviour and reducing meat consumption) (Chao 2012; Steg & Vlek 2009). In the workplace setting, Greaves, Zibarras and Stride (2013) used the theory of planned behaviour to explore three environment-related behaviours (switching off PCs, using videoconferencing for meetings, and recycling) of workers in the United Kingdom, and found support for the theory.

Theoretical framework used in this study

In this study, the focus is on the intentions of SME owners to implement an environmental management system. Four components based on the theory of planned behaviour were used in this study.

Component 1: Intention to implement an environmental management system

The intention to implement an environmental management system (INTENT) was defined as the degree of willingness to try, or how much of an effort an individual is planning to exert, and to implement an environmental management system (Ajzen 1991). Thus, this variable will deal with the extent to which SME owners agree that they intend to implement an environmental management system in the future.

Behavioural intent is dependent on the SME owners' attitude towards implementing an environmental management system (ATT), PN and PBC. (Ajzen 1991; Monroe 2003). It should also be noted that it is assumed that PBC could also influence actual behaviour. In addition, Ajzen (1991) asserted that attitude, social norms and PBC are correlated, and that the relative importance of these factors will differ across behaviours and situations.

Component 2: Attitudes towards implementing an environmental management system

An individual's attitude can be defined as the degree to which a person has a favourable or unfavourable evaluation or appraisal of the target behaviour and its associated consequences (Ajzen 1991; Cordano et al. 2010b; Martín-Peña, Díaz-Garrido & Sánchez-López 2010). In this article, the attitude of an SME owner towards an environmental management system is the degree to which the owner has a favourable or unfavourable evaluation or appraisal of implementing an environmental management system. In essence, this attitude will be determined by the owner-manager's evaluation of the benefits of implementing an environmental management system.

Psomas, Fotopoulos and Kafetzopoulos (2011) identified an improved market position, relationships with stakeholders and waste management as benefits of improved environmental performance. On the contrary, Worthington and Patton (2005) argued that businesses expect

environmental actions to yield commercial benefits. Similarly, Nee and Wahid (2010) found that implementing the International Organization for Standardisation's (ISO) ISO 14001 environmental management system has a significant positive influence on SMEs' performance. McKeiver and Gadenne (2005) reported that improved working conditions were the most important benefit in their study, and that increased sales were the least important benefit. Similarly, Masurel (2007) stated that improved working conditions are the most important reason that SMEs invest in environmental measures. Dahlmann, Brammer and Millington (2008b) found that economic considerations such as cost reduction, risk mitigation and compliance with environmental legislation motivate business to adopt environmental management practices, especially among SMEs. Uhlaner et al. (2012) found that perceived financial benefits predict an SME's level of engagement in selected environmental management practices. Gadenne, Kennedy and McKeiver (2009) found that legislation results in general environmental awareness, which in turn increases SMEs' willingness to adopt environmental management practices. However, these authors warn that SME owners do not recognise the benefits arising from cost reductions. Brammer et al. (2012) found that SMEs perceive cost advantages and increased market share as key benefits of environmental management. In South Africa, Kehbila, Jurgen and Brent (2009) identified improved customer relations; competitiveness; relationships with authorities; and employee acceptance as key benefits of implementing an environmental management system. Empirical evidence of the influence of environmental attitudes on the adoption of environmental management practices in SMEs is provided by Cordano, Marhsall and Silverman (2010a) and Sanchez-Medina et al. (2014). These authors found that SME owners' attitudes towards environmental management practices positively influence the likelihood that their business would adopt such practices. It is proposed that the more positive the SME owner's attitude towards an environmental management system, the more likely he and/or she is to intend to implement one.

Based on the theoretical outline, the following hypothesis will be tested in this study:

> **H_1:** There is a positive relationship between SME owners' attitudes towards an environmental management system and their intention to implement such a system.

Component 3: Pro-environmental norms

Schwartz (1977) proposed what has been referred to as the 'norm-activation model of altruism', which deals with behaviours that go beyond self-interest and focus rather on helping others. Norms can be described as 'statements about how one ought to behave' (Dietz, Fitzgerald & Shwom 2005:354). Norms can also be understood as the perceived expectations of important referent groups to perform certain behaviours, and the motivation to comply with these expectations (Ajzen 1991; Fielding, McDonald & Louis 2008; Martín-Peña et al. 2010).

In relation to the environment, norms can be understood as the beliefs of an individual about how he and/or she is supposed to act towards the environment and the perceived social pressure to act in an environmentally friendly manner. PN thus include the rules and standards that are understood by members of a group, and that guide and/or constrain social behaviour without the force of laws (Fritsche et al. 2010). In this study, PN thus consist of personal norms and social norms in relation to protecting the environment. It is assumed that the stronger the personal and social norms to protect the environment, the greater the likelihood that the SME owner will intend to implement an environmental management system.

Very little of the research dealing with the implementation of environmental management systems in SMEs addresses the relationship between owners' PN and their environmental behaviours. Dief and Font (2010) found that managers' personal values predict environmental operations, but not environmental planning and organising. Lopez-Gamero, Claver-Cortes and Molina-Azorin (2011) found that voluntary norms, rather than environmental legislation, influence SME owners' perception of the environment as a competitive opportunity. Sanchez-Medina et al. (2014) reported that perceived social norms positively influence SME owners' PBC to undertake environmental measures. Thus, the following hypothesis will be tested in this study:

> **H_2:** There is a positive relationship between SME owners' pro-environmental norms and their intention to implement such a system.

Component 4: Perceived behavioural control

Perceived behavioural control (self-efficacy) refers to an individual's perception of how easy or difficult it is to perform a certain behaviour (Ajzen 1991; Martín-Peña et al. 2010; Sanchez-Medina et al. 2014). According to Ajzen (1991), PBC reflects past experiences and anticipated barriers and obstacles to performing a specific behaviour. In essence, PBC is an indication of a person's perception of his or her control over the resources needed to perform the target behaviour (Fielding et al. 2008; Kim & Chung 2011; Martín-Peña et al. 2010).

Psomas et al. (2011) identified factors that make it difficult for business to implement the ISO 14001 environmental management system standard. These included periodic audits, lack of knowledge and experience in environmental management issues, required resources for and time of implementation, keeping and checking records, employee resistance to change, corrective and preventive actions, and training in environmental management issues. Worthington and Patton (2005) cited time, resources, priorities, perception of costs versus benefits and short-term focus as barriers to environmental management system implementation in SMEs. Dahlmann, Brammer and Millington (2008a) found that both internal and external barriers, such as a lack of skilled human resources, financial resources, information, clear regulations and technology, are critical influencers

of managers' intention and ability to implement an environmental management system.

In this article, PBC will refer to an SME owner's perceptions of the ease or difficulty of implementing an environmental management system. These perceptions will deal with the ability of the business owner to overcome the barriers to implementing an environmental management system. The greater the PBC of the SME owner, the greater the possibility that he and/or she intends to implement an environmental management system. Very few studies directly investigate the relationship between SME owners' PBC over environmental management system implementation and their intention to implement such systems. Schaper (2002) found that the availability of information and time are significantly linked to the green purchase behaviour of SME owners. Similarly, Lopez-Gamero et al. (2011) reported that the availability of complementary resources has a positive influence on managers' perceptions of sustainability as a competitive opportunity. Sanchez-Medina et al. (2014) found that PBC positively influences the SME owners' intention to undertake environmental measures. Thus, the following hypothesis will be tested in this study:

> **H_3:** There is a positive relationship between SME owners' perceived behavioural control and their intention to implement such a system.

Figure 1 shows the theoretical framework that will be used in this study, and includes the four components discussed above, as well as the proposed hypotheses.

The framework in Figure 1 showed that ATT, PN and perceived behaviour control have relationships with the INTENT. This is based on Azjen's theory of planned behaviour. This theory provides empirical evidence to support its propositions. However, the lack of research that applies to SME owners' INTENT necessitates the application of the theory in this context.

Research methodology and design

A survey was adopted with the aim of collecting data from a large sample and empirically testing the hypotheses. The empirical research was limited to SMEs in the Eastern Cape area of South Africa to ensure that meaningful and accurate data were collected. A questionnaire, together with a covering letter describing the purpose of the study and a definition of an environmental management system, was distributed to SME owners who had agreed to participate in the study. The questionnaire had two sections. The first section dealt with the background information of the respondents and their businesses, whereas the second section dealt with the variables measuring the four components included in the theoretical framework (Figure 1).

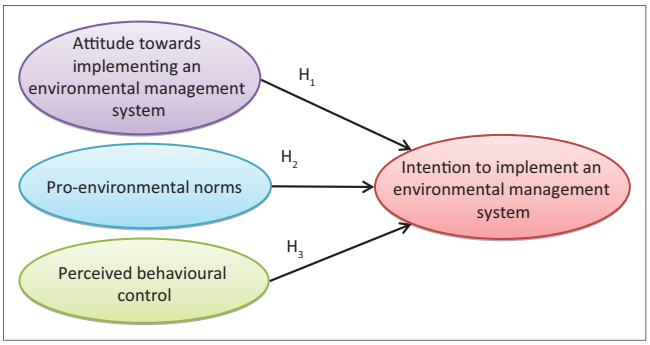


FIGURE 1: Theoretical framework used.

For the purposes of this study, SMEs that employ no more than 200 full-time employees in the Eastern Cape area, were the population from which the sample was drawn. The researcher made use of criterion sampling to select respondents. In this study, the research objectives, the statistical test to be conducted, the traditions of the particular field of study and the resource constraints (cost and time) were considered when choosing a sample size (Collis & Hussey 2014:198; Daniel 2012:237; Ruben & Babbie 2012:173; Struwig & Stead 2013:124). Given these considerations, the researcher decided to target a sample of 500 SMEs in the Eastern Cape. This number takes into consideration both the non-response rate and the response rate (Struwig & Stead 2013:125).

Measuring instruments

The questionnaire used to collect the primary data consisted of 28 items to measure the independent and dependent variables in this study. These items were based on an extensive literature review, and consisted of items used in previous studies as well as several self-formulated items. Where necessary the items were contextualised to make them suitable for the present study. All items were anchored on a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

In the measuring instrument, eight items were used to measure INTENT. These items were mostly based on the entrepreneurial intention scale of Gongxeka (2012) and supplemented with items found in the environmental management literature (Fielding et al. 2008; Greaves et al. 2013; Sanchez-Medina et al. 2014; Venkatesh & Davis 2000). Five items measured PBC. These items were based on the research of Hillary (2004), McKeiver and Gadenne (2005), Masurel (2007), Kehbila et al. (2009), Gadenne et al. (2009), Dief and Font (2010), Cordano et al. (2010a), Cordano et al. (2010b), Psomas et al. (2011), Brammer et al. (2012) and Uhlaner et.al. (2012). For the PN, six items were used, based on Stern et al. (1999), Hunecke et al. (2001), Heath and Gifford (2002), Steg, Dreijerink and Abrahamse (2005), Lee (2008), Lee (2009), Cordano et al. (2010a) and Cordano et al. (2010b). For the attitude towards environmental management system implementation scale, nine items were used. These items were based on the literature about the outcomes, drivers and benefits of environmental management system implementation (Hillary 2004; Hofmann, Theyel & Wood 2012; Kehbila et al. 2009; Sanchez-Medina et al. 2014). Table 1 summarises the content of the measuring instrument.

TABLE 1: Summary of the content of the measuring instrument.

Component	Number of items	Source
INTENT	8	Venkatesh and Davis (2000); Fielding et al. (2008); Gongxeka (2012); Greaves et al. (2013); Sanchez-Medina et al. (2014)
ATT	9	Hillary (2004); Kehbila et al. (2009); Hofmann et al. (2012); Sanchez-Medina et al. (2014)
PN	6	Stern et al. (1999); Hunecke et al. (2001); Heath and Gifford (2002); Steg et al. (2005); Lee (2008); Lee (2009); Cordano et al. (2010a); Cordano et al. (2010b)
PBC	5	Hillary (2004); McKeiver and Gadenne (2005); Masurel (2007); Gadenne et al. (2009); Kehbila et al. (2009); Cordano et al. (2010a); Cordano et al. (2010b); Dief and Font (2010); Psomas et al. (2011); Brammer et al. (2012); Uhlaner et al. (2012)

INTENT, intention to implement an environmental management system; PBC, perceived behavioural control; PN, pro-environmental norms; ATT, attitude towards implementing an environmental management system.

To ensure content and face validity of the questionnaire, expert judgement was sought and a pilot study was used. Firstly, the questionnaire was given to four academics in the Department of Business Management at the Nelson Mandela Metropolitan University with experience in both environmental management and the use of the theory of planned behaviour. This process resulted in minor changes being made to the wording of some items. Thereafter, the questionnaire was piloted by 10 SMEs. The completed questionnaires were then subjected to an item analysis to check the internal consistency of the measure. This process yielded satisfactory results to confirm the reliability of the instruments.

Data collection

The questionnaire was distributed by fieldworkers from the Nelson Mandela Metropolitan University. They initially approached SMEs to ascertain whether they were interested in participating in the study. Consenting SME owners were then provided with a hard copy of the questionnaire, and arrangements were made for the collection of completed questionnaires. In total, 359 questionnaires were returned.

Once the questionnaires had been returned, they were checked for missing data. The examination revealed that 33 questionnaires had missing information for more than three of the items measuring the hypothetical constructs in this study. These questionnaires were deemed unusable and were excluded from the study, giving a total response sample of 326 SME owners. Thus, the effective response rate for this study was 65%, which conforms to Babbie and Mouton's (2001:261) guideline for a good response rate. Given this high response rate, non-response bias was not regarded as a problem in this study. If questionnaires had three or fewer missing values for the hypothetical constructs, and the respondents concerned could not be contacted to obtain the outstanding information, the researcher made use of the mean-substitution approach to remedy the situation. This approach is best suited to situations where the levels of missing values are relatively low, as was the case in this study (Hair et al. 2014:51).

Results

Sample description

The majority of the respondents (72%) were males over the age of 40 (62%). More than two-thirds (68%) of the respondents had a post-matric qualification and had been running their businesses for more than 5 years (79%). Of the SMEs that participated in the survey, 57% were family businesses and 43% were non-family businesses. Almost half (49%) of the businesses were close corporations, 22% were sole traders and 15% were private companies. In terms of the number of employees, 46% employed between 5 and 9 individuals, 28% employed between 10 and 19 individuals and 16% employed between 20 and 49 individuals. The majority of the businesses were service providers (37%) and 29% were retailers or wholesalers.

Results of the validity and reliability analyses of the measuring instrument

To assess the validity of the measuring scales, exploratory factor analysis (EFA) was performed on all of the items in the measuring instrument. Principal component analysis and varimax raw were specified as the extraction and rotation methods. The explained percentage variance and the factor loadings (greater than 0.4) were considered when assessing the validity of the measuring instrument. The type of reliability estimate implemented to assess the internal consistency of the measuring instrument in this study was Cronbach's alpha coefficients. Cronbach's alpha coefficients of greater than 0.7 deemed a scale to be reliable (Nunnally 1978:45). To test the influence of the SME owners' attitude towards an environmental management system, their PN, and the PBC on their INTENT, multiple regression analysis was used.

The results of the EFA and the reliability tests performed on the items in the measuring instrument showed that four factors with eigenvalues greater than 1 were extracted from the data using principle components and varimax raw rotation. These four factors explained 57.2% of the variance in the data. The first factor extracted, INTENT, explained 22.9% of the variance in the data. All eight items intended to measure this factor loaded together as expected, with factor loading ranging from 0.875 to 0.686. This factor returned a Cronbach's alpha coefficient of 0.939.

The second factor extracted from the data, PBC explained 10.5% of the variance in the data. All five items intended to measure PBC loaded together, and factor loadings between 0.802 and 0.528 could be observed for this factor. In addition, PBC returned a Cronbach's alpha coefficient of 0.793.

The third factor extracted, PN, also explained 10.5% of the variance in the data. All six items used to measure this factor loaded as expected, and factor loadings of between 0.747 and 0.477 were returned. A Cronbach's alpha coefficient of 0.787 was calculated for PN.

The last factor extracted, ATT, explained 13.3% of the variance in the data. All nine items intended to measure this factor loaded together. The factor loadings for ATT ranged between 0.704 and 0.405. This factor returned a Cronbach's alpha coefficient of 0.860.

Given these results, the validity and reliability of the dependent and independent variables were confirmed. In addition, as all items loaded as expected, the operational definitions of the variables remained the same.

Descriptive statistics and correlation analysis

Descriptive statistics were calculated to summarise and organise the sample data. Table 2 contains the means, standard deviations and frequencies for the variables under investigation in this study.

As can be seen from Table 2, the dependent variable, INTENT, returned the second highest mean score of all the variables ($\bar{x}$ = 3.66). More than half of the respondents (52.76%) agreed that they intended to implement an environmental management system, whereas only 6.13% indicated that they had no intention of implementing such a system. PN returned the highest mean score of all the variables ($\bar{x}$ = 3.89), followed by ATT ($\bar{x}$ = 3.31) and PBC ($\bar{x}$ = 3.20). The vast majority of the respondents agreed that they possess PN, and only 0.61% indicated that they did not. In addition, 35.28% of the respondents had a positive ATT, while the majority, 57.98%, were unsure when evaluating the outcomes of implementing such a system. Lastly, 24.85% of the respondents agreed with the statements measuring PBC, and 62.88% were unsure whether or not their businesses were able to implement an environmental management system. Table 3 contains the Pearson product moment correlation coefficients calculated for the dependent and independent variables in this study.

As can be seen from the correlation matrix in Table 3, all the variables were significantly and positively correlated with each other. The dependent variable, INTENT, shows significant positive relationships with the independent variables. PBC (r = 0.445) and PN (r = 0.489) had a moderate correlation with intention to implement and environmental management system. However, attitude towards an environmental management system (r = 0.634) had a strong correlation with INTENT. PBC had a moderate relationship with PN (r = 0.412) and a large relationship with attitude towards an environmental management system (r = 0.562). Finally, PN showed a moderate relationship with attitude towards an environmental management system (r = 0.462).

TABLE 2: Descriptive statistics of the results.

Variable	Mean	Standard deviation	Disagree (%)	Neutral (%)	Agree (%)
INTENT	3.66	0.75	6.13	41.10	52.76
PBC	3.20	0.71	12.27	62.88	24.85
PN	3.89	0.58	0.61	25.77	73.62
ATT	3.31	0.65	6.75	57.98	35.28

INTENT, intention to implement an environmental management system; PBC, perceived behavioural control; PN, pro-environmental norms; ATT, attitude towards implementing an environmental management system.

TABLE 3: Pearson product moment correlations (N = 326).

Variable	Means	Standard deviation	INTENT	PBC	PN	ATT
INTENT	3.664	0.749	1.000	-	-	-
PBC	3.201	0.714	0.445*†	1.000	-	-
PN	3.891	0.583	0.489*†	0.412*†	1.000	-
ATT	3.314	0.647	0.634*‡	0.562*‡	0.462*†	1.000

*, correlations are significant at $p < 0.05$; †, moderate correlation; ‡, large correlation.

INTENT, intention to implement an environmental management system; PBC, perceived behavioural control; PN, pro-environmental norms; ATT, attitude towards implementing an environmental management system.

Regression analysis to test the hypotheses

To test the hypotheses in this study, regression analysis was undertaken. The results of this analysis are presented in Table 4. A common problem in regression analysis is multi-collinearity. Multi-collinearity exists when the independent variables in the regression analysis are correlated and could thus influence the ability of these variables to accurately explain the variance in the dependent variable (Hair et al. 2014:161) Thus variance inflation factors (VIFs) were calculated to assess whether multi-collinearity could affect the results of the regression analysis.

Table 4 shows that all the independent variables returned VIFs below 4 (equivalent to a tolerance of 0.25), which mean that multi-collinearity does not pose a problem in this study (O'Brien 2007:674). Furthermore, the overall regression model was significant (F = 89.502; $p < 0.000$) and the independent variables explained 45.47% of the variance in INTENT (R^2 = 0.4547). Two of the independent variables had a significant positive influence on INTENT. Attitude towards an environmental management system (b^* = 0.481769; p = 0.000000) had the greatest influence on INTENT, followed by PN (b^* = 0.234338; p = 0.000001). PBC did not have a significant influence on INTENT (b^* = 0.078014; p = 0.125989). Given that the p-values for the influence of the SME owners' attitude towards an environmental management system and PN on the INTENT is less than 0.05 hypotheses H_1 and H_2 are accepted. However, because the p-value for the influence of PBC is greater than 0.05 H_3 is rejected.

Discussion

The findings of this study revealed that the majority of the respondents agreed that they intended to implement an environmental management system, and exhibited PN. However, most of the respondents returned a neutral response to the items measuring their attitude towards an environmental

TABLE 4: Influence of independent variables on intention to implement an environmental management system (N = 326).

Independent variables	b*	Standard error	b	Standard error	T(322)	p-value	VIF
Intercept	-	-	0.400	0.226	1.765	0.079	-
ATT	0.482	0.052	0.557	0.060	9.222	0.000	1.612
PN	0.234	0.047	0.301	0.061	4.940	0.000	1.329
PBC	0.078	0.051	0.082	0.053	1.534	0.126	1.527

INTENT, intention to implement an environmental management system; PBC, perceived behavioural control; PN, pro-environmental norms; ATT, attitude towards implementing an environmental management system; b, beta coefficient; b*, standardised beta coefficient; VIF, variance inflation factor.

R = 0.67431858; R^2 = 0.45470555; adjusted R^2 = 0.44962517; $F(3,322)$ = 89.502; $p < 0.0000$; Standard error of estimate = 0.55559.

management system and PBC. In addition, the results of the correlation analysis revealed that all the variables under investigation were significantly and positively related to one another. This finding confirms Ajzen's (1991) assertion that all variables in the theory of planned behaviour are correlated.

The results of the regression analysis showed that the SME owners' attitude towards an environmental management system and PN have significant positive influence on their INTENT. In other words, the more positive the owners' attitude towards an environmental management system, and the more PN they exhibit, the greater their INTENT. These findings are supported by the studies of Cordano et al. (2010a) and Sanchez-Medina et al. (2014) who both found significant positive relationship between attitude towards environmental management and the adoption of such practices. In addition, the studies of Dief and Font (2010), Lopez-Gamero et al. (2011) and Sanchez-Medina et al. (2014) provide support for the significant positive influence of PN on the INTENT. However, the results also show that PBC does not influence SME owners' INTENT. This finding is in contrast with the results of Sanchez-Medina et al. (2014) who found PBC to positively influence INTENT. Thus, when using the theory of planned behaviour to understand why SME owners intend to implement environmental management systems, there are only two components that have proved useful in this study, SME owners' attitude towards an environmental management system and PN.

Conclusions and implications

Increased concern about the natural environment has put pressure on all businesses to reduce their environmental impact. This has prompted many businesses to implement an environmental management system. Given the prominence of SMEs in most economies, and their potential environmental impact, it is important to examine the factors that lead these businesses to implement an environmental management system. However, research focused on understanding why SMEs adopt such systems is lacking. An important starting point for SMEs to adopt an environmental management system is the psychological predispositions of their owners. Thus, this study adapted the theory of planned behaviour to explain SME owners' INTENT.

Given the fact that attitude towards an environmental management system significantly influences the intention to adopt such a system, it is recommended that individuals or organisations that advocate the use of environmental management systems highlight the positive outcomes that such systems could have on SMEs. In addition, the positive influence of PN should be harnessed to encourage the implementation of environmental management systems. In other words, the implementation of environmental management systems should be seen as a personal and moral obligation, and thus as vital to the legitimacy of SMEs.

The findings of this study also show that PBC does not have a significant influence on the INTENT and is thus not part of the proposed framework.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

Both authors contributed equally in compiling the final manuscript.

References

Ajzen, I., 1991, 'The theory of planned behavior', *Organizational Behavior and Human Decision Process* 50, 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Babbie, E. & Mouton, J., 2001, *The practice of social research*, Oxford University Press, Cape Town.

Boiral, O., Baron, C. & Gunnlaugson, O., 2014, 'Environmental leadership and consciousness development: A case study among Canadian SMEs', *Journal of Business Ethics* 123(3), 363–383. https://doi.org/10.1007/s10551-013-1845-5

Bos-Brouwers, H.E.J., 2010, 'Corporate sustainability and innovation in SMEs: Evidence of themes and activities in practice', *Business Strategy and the Environment* 19, 417–435.

Brammer, S., Hoejmose, S. & Marchant, K., 2012, 'Environmental management in SMEs in the UK: Practices, pressures and perceived benefits', *Business Strategy and the Environment* 21, 423–434. https://doi.org/10.1002/bse.717

Chao, Y., 2012, 'Predicting people's environmental behaviour: Theory of planned behaviour and model of responsible environmental behaviour', *Environmental Education Research* 18(4), 437–461. https://doi.org/10.1080/13504622.2011.634970

Collis, J. & Hussey, R., 2014, *Business research: A practical guide for undergraduate and postgraduate students,* 4th edn., Palgrave Macmillan, Hampshire.

Cordano, M., Marshall, R.S. & Silverman, M., 2010a, 'How do small and medium enterprises go "green"? A study of environmental management programs in the U.S. wine industry', *Journal of Business Ethics* 92(3), 463–478. https://doi.org/10.1007/s10551-009-0168-z

Cordano, M., Welcomer, S., Scherer, R., Pradenas, L. & Parada, V., 2010b, 'Understanding cultural differences in the antecedents of pro-environmental behavior: A comparative analysis of business students in the United States and Chile', *The Journal of Environmental Education* 41(4), 224–238. https://doi.org/10.1080/00958960903439997

Dahlmann, F., Brammer, S. & Millington, A., 2008a, 'Barriers to proactive environmental management in the United Kingdom: Implications for business and public policy', *Journal of General Management* 33(3), 1–21. https://doi.org/10.1177/030630700803300301

Dahlmann, F., Brammer, S. & Millington, A., 2008b, 'Environmental management in the United Kingdom: New survey evidence', *Management Decision* 46(2), 264–283. https://doi.org/10.1108/00251740810854159

Daniel, J., 2012, *Sampling essentials: Practical guidelines for making sampling choices*, Sage, Thousand Oaks, CA.

Darnall, N., Jolley, G.J. & Handfield, R., 2008, 'Environmental management systems and green supply chain management: Complements for sustainability?', *Business Strategy and the Environment* 18, 30–45. https://doi.org/10.1002/bse.557

Dief, M.E. & Font, X., 2010, 'Determinants of environmental management in the red sea hotels: Personal and organizational values and contextual variables', *Journal of Hospitality and Tourism Research* 36(1), 115–137. https://doi.org/10.1177/1096348010388657

Dietz, T., Fitzgerald, A. & Shwom, R., 2005, 'Environmental values', *Annual Review of Environment and Resources* 30(1), 335–372. https://doi.org/10.1146/annurev.energy.30.050504.144444

Dunphy, D., Griffiths, A. & Benn, S., 2007, *Organizational change for corporate sustainability: A guide for leaders and change agents of the future,* Routledge, London.

Fielding, K.S., McDonald, R. & Louis, W.R., 2008, 'Theory of planned behaviour, identity and intentions to engage in environmental activism', *Journal of Environmental Psychology* 28(4), 318–326. https://doi.org/10.1016/j.jenvp.2008.03.003

Fishbein, M., & Ajzen, I., 1975, *Belief attitude, intention and behaviour*, Addison-Wesley, Reading, MA.

Fritsche, I., Jonas, E., Kayser, D.N. & Koranyi, N., 2010, 'Existential threat and compliance with pro-environmental norms', *Journal of Environmental Psychology* 30(1), 67–79. https://doi.org/10.1016/j.jenvp.2009.08.007

Gadenne, D.L., Kennedy, J. & McKeiver, C., 2009, 'An empirical study of environmental awareness and practices in SMEs', *Journal of Business Ethics* 84(1), 45–63. https://doi.org/10.1007/s10551-008-9672-9

Gongxeka, V., 2012, 'Employee perceptions of self-employment', Unpublished masters dissertation, Nelson Mandela Metropolitan University, Port Elizabeth.

Greaves, M., Zibarras, L.D. & Stride, C., 2013, 'Using the theory of planned behavior to explore environmental behavioral intentions in the workplace', *Journal of Environmental Psychology* 34, 109–120. https://doi.org/10.1016/j.jenvp.2013.02.003

Groepe, F., 2015, *The role of small business in the economy*, viewed 29 July 2016, from https://www.resbank.co.za/Lists/Speeches/Attachments/452/Role%20of%20small%20business%202015%20.pdf

Hair, J.F., Black, W.C., Babin, B.J. & Anderson, R.E., 2014, *Multivariate data analysis*, 7th edn., Pearson, Harlow.

Heath, Y. & Gifford, R., 2002, 'Extending the theory of planned behavior: Predicting the use of public transportation', *Journal of Applied Social Psychology* 32(10), 2154–2189. https://doi.org/10.1111/j.1559-1816.2002.tb02068.x

Hillary, R., 2004, 'Environmental management systems and the smaller enterprise', *Journal of Cleaner Production* 12(6), 561–569. https://doi.org/10.1016/j.jclepro.2003.08.006

Hofmann, K.H., Theyel, G. & Wood, C.H., 2012, 'Identifying firm capabilities as drivers of environmental management and sustainability practices – Evidence from SME manufacturers', *Business Strategy and the Environment* 21, 530–545. https://doi.org/10.1002/bse.739

Holliday, C.O., Schmidheiny, S. & Watts, P., 2002, *Walking the talk: The business case for sustainable development*, Greenleaf, Sheffield.

Hunecke, M., Blobaum, A., Matthies, E. & Hoger, R., 2001, 'Responsibility and environment: Ecological norm orientation and external factors in the domain of travel mode choice behavior', *Environment and Behavior* 33(6), 830–852. https://doi.org/10.1177/00139160121973269

Kehbila, A.G., Jurgen, E. & Brent, A.C., 2009, 'Strategic corporate environmental management within the South African automotive industry: Motivations, benefits, hurdles', *Corporate Social Responsibility and Environmental Management* 16, 310–323. https://doi.org/10.1002/csr.188

Kim, H.Y. & Chung, J.E., 2011, 'Consumer purchase intention for organic personal care products', *Journal of Consumer Marketing* 28(1), 40–47. https://doi.org/10.1108/07363761111101930

Klewitz, J. & Hansen, E.G., 2013, 'Sustainability-oriented innovation of SMEs: Systematic review', *Journal of Cleaner Production* 65, 57–75. https://doi.org/10.1016/j.jclepro.2013.07.017

Laszlo, C., 2003, *The sustainable company: How to create lasting value through social and environmental performance*, Island Press, Washington, DC.

Lee, K., 2008, 'Opportunities for green marketing: Young consumers', *Marketing Intelligence & Planning* 26(6), 573–586. https://doi.org/10.1108/02634500810902839

Lee, K., 2009, 'Gender differences in Hong Kong adolescent consumers' green purchasing behavior', *Journal of Consumer Marketing* 26(2), 87–96. https://doi.org/10.1108/07363760910940456

Lopez-Gamero, M.D., Claver-Cortes, E. & Molina-Azorin, J.F., 2011, 'Environmental perception, management, and competitive opportunity in Spanish hotels', *Cornell Hospitality Quarterly* 52(4), 480–500. https://doi.org/10.1177/1938965511420694

Martín-Peña, M.L., Díaz-Garrido, E. & Sánchez-López, J.M., 2010, 'Relation between management's behavioural intentions toward the environment and environmental actions', *Journal of Environmental Planning and Management* 53(3), 297–315. https://doi.org/10.1080/09640561003612866

Masurel, E., 2007, 'Why SMEs invest in environmental measures: Sustainability evidence from SME printing firms', *Business Strategy and the Environment* 16(3), 190–201. https://doi.org/10.1002/bse.478

McKeiver, C. & Gadenne, D., 2005, 'Environmental management systems in small and medium businesses', *International Small Business Journal* 23(5), 513–537. https://doi.org/10.1177/0266242605055910

Monroe, M.C., 2003, 'Two avenues for encouraging conservation behaviors', *Research in Human Ecology* 10(2), 113–125.

Nee, G.Y. & Wahid, N.A., 2010, 'The effect of ISO 14001 environmental management system implementation on SMEs performance: An empirical study in Malaysia', *Journal of Sustainable Development* 3(2), 215–220.

Nunnally, J.C., 1978, *Psychometric theory*, 2nd edn., McGraw-Hill, New York.

O'Brien, R.M., 2007, 'A caution regarding rules of thumb for variance inflation factors', *Quality and Quantity* 41, 673–690.

Psomas, E.L., Fotopoulos, C.V. & Kafetzopoulos, D.P., 2011, 'Motives, difficulties and benefits in implementing the ISO 14001 environmental management system', *Management of Environmental Quality: An International Journal* 22(4), 502–521. https://doi.org/10.1108/14777831111136090

Ruben, A. & Babbie, E., 2012, *Essential research methods for social work*, Cengage, Belmont, CA.

Sanchez-Medina, A.J., Romero-Quintero, L. & Sosa-Cabrera, S., 2014, 'Environmental management in SME companies: An analysis from the perspective of the theory of planned behavior', *PLoS One* 9(2), 1–12. https://doi.org/10.1371/journal.pone.0088504

Schaper, M., 2002, 'Small firms and environmental management: Predictors of green purchasing in Western Australian pharmacies', *International Small Business Journal* 20(3), 235–251. https://doi.org/10.1177/0266242602203001

Schwartz, S.H., 1977, 'Normative influences on altruism', *Advances in Experimental Social Psychology* 10, 221–79. https://doi.org/10.1016/S0065-2601(08)60358-5

Steg, L., Dreijerink, L. & Abrahamse, W., 2005, 'Factors influencing the acceptability of energy policies: A test of VBN theory', *Journal of Environmental Psychology* 25(4), 415–425. https://doi.org/10.1016/j.jenvp.2005.08.003

Steg, L. & Vlek, C., 2009, 'Encouraging pro-environmental behaviour: An integrative review and research agenda', *Journal of Environmental Psychology* 29(3), 309–317. https://doi.org/10.1016/j.jenvp.2008.10.004

Stern, P.C., Dietz, T., Abel, T., Guagnano, G.A. & Kalof, L., 1999, 'A value-belief-norm theory of support for social movements: The case of environmentalism', *Human Ecology Review* 6(2), 81–97.

Struwig, F.W. & Stead, G.B., 2013, *Research: Planning, designing and reporting*, Pearson, Cape Town.

Uhlaner, L.M., Berent-Braun, M.M., Jeurissen, R.J.M. & De Wit, G., 2012, 'Beyond size: Predicting engagement in environmental management practices of Dutch SMEs', *Journal of Business Ethics* 109, 411–429. https://doi.org/10.1007/s10551-011-1137-x

Venkatesh, V. & Davis, F.D., 2000, 'A theoretical extension of the technology acceptance model: Four longitudinal field studies', *Management Sciences* 46(2), 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926

Worthington, I. & Patton, D., 2005, 'Strategic intent in the management of the green environment within SMEs', *Long Range Planning* 38(2), 197–212. https://doi.org/10.1016/j.lrp.2005.01.001

Human capital investments as sources of skills: An analysis at different entrepreneurship phases

Authors:
M. Anastacia Mamabolo[1]
Myres Kerrin[1]
Tumo Kele[1]

Affiliations:
[1]Gordon Institute of Business Science, University of Pretoria, South Africa

Corresponding author:
Anastacia Mamabolo,
anastaciamamabolo@gmail.com

Background: Entrepreneurs need entrepreneurial skills to run their businesses. Skills can come from various sources, and the usage of the sources of skills can vary according to the different entrepreneurship phases.

Aim: Adopting a human capital theory perspective, this study determined the specific human capital investments as sources of skills needed by entrepreneurs across the different entrepreneurship phases. The sources of skills included work experience, formal education, entrepreneurship education and entrepreneurship experience.

Setting: Entrepreneurs at the different entrepreneurship phases which are nascent (entrepreneurs with ventures less than 3 months in existence), new business (entrepreneurs with ventures with more than 3 months but less than 3.5 years in existence) and established business (entrepreneurs with ventures more than 3.5 years in existence).

Method: The study employed a survey research design. An online questionnaire was used to collect the data.

Results: The results show that the sources of skills are used differently across the entrepreneurship phases. As entrepreneurs start businesses, in the nascent phase, the use of human capital investments (especially formal education) as a source of skills declines, thus creating a need to acquire more entrepreneurship-specific investments. In addition to acquiring skills from human capital investments, entrepreneurs learn skills from people in their social networks and self-taught skills which are used differently across the different entrepreneurship phases.

Conclusion: The findings indicate that the human capital investments are dynamic and change over time as the entrepreneurship phases unfold. Because there are different sources of skills for each entrepreneurship phase, entrepreneurs need to be treated according to their phases.

Introduction

Entrepreneurship is seen as a way of promoting economic growth through innovation and job creation (Dash & Kaur 2012; Stenholm, Acs & Wuebker 2013; Turton & Herrington 2012). The significance of entrepreneurship as an engine of economic growth has attracted the interest of many governments and non-governmental organisations (World Bank 2012) and also entrepreneurship scholarship (Wiklund et al. 2011). This growing academic interest in entrepreneurship has also seen the application of human capital theory from the economics literature to study the success and failure of business ventures (Ucbasaran, Westhead & Wright 2008; Unger et al. 2011).

Human capital theory (Becker 1964) has been applied in entrepreneurship to study the relationship between human capital investments and success in the identification and exploitation of opportunities (Davidsson & Honig 2003; Ucbasaran et al. 2008; Unger et al. 2011). Most of the studies that applied human capital focused on either opportunity recognition or exploitation, with confined attention to singular phases of the entrepreneurship process, namely, the nascent, new business and established phases (Brixy, Sternberg & Stüber 2012; Singer, Amorós & Moska 2015). It has, however, been noted that a specific kind of human capital may be important in completing activities in one phase, while the same human capital may be insignificant in the subsequent phases within the entrepreneurial process (Brixy et al. 2012; Marvel, Davis & Sproul 2014). As a result, this study argued in line with Marvel et al.'s study (2014) that there is a need to fully explore the differing dimensions of human capital (investments and skills) over distinct phases within the entrepreneurial process.

One of the research questions that entrepreneurship research seeks to answer is 'where do entrepreneurial skills come from?' (Stuetzer, Goethner & Cantner 2012). According to the human capital theory, skills come from the investments in education, work experience and industry experience. What is not clear from the literature is the role of human capital investments as the sources of skills in the different entrepreneurship phases. As such, this study aimed at determining the differing role of human capital investments across the different entrepreneurship phases.

A specific human capital investment as a source of skills will differ according to the entrepreneurship phase. Some investments may provide entrepreneurs with skills to start businesses, while others may be significant to produce skills that are needed to run and sustain the businesses. For example, Brixy et al. (2012) empirically discovered that formal education is more significant in identification and exploitation of opportunities than later when the business is established. Because entrepreneurship activities in the entrepreneurship phases are different (Amorós & Bosma 2014; Reynolds & Curtin 2008), entrepreneurs should be treated according to the phase they are in and the activities they are performing.

The findings of the study firstly showed that the use of human capital investments as sources of skills differ across the entrepreneurship phases. Secondly, as entrepreneurs start businesses, in the nascent phase, the use of human capital investments (especially formal education) as a source of skills declines, thus creating a need to acquire more entrepreneurship-specific investments. In the established phase, entrepreneurs use skills learnt from entrepreneurship education, mentoring and coaching. Thirdly, when the application of skills declines from the new business to the established phase, entrepreneurs seek additional sources of skills to counter the depreciating skill sets. Thirdly, in addition to acquiring skills from human capital investments, entrepreneurs learn skills from people in their social networks and self-taught skills which are used differently across the different entrepreneurship phases. And finally, the findings indicate that the human capital investments are dynamic and change over time as the entrepreneurship phases unfold. Because there are different sources of skills for each entrepreneurship phase, training institutions, scholars and policymakers need to treat entrepreneurs according to their phases.

Literature review

Entrepreneurship phases

In a seminal paper by Shane and Venkataraman (2000), entrepreneurship process is defined as the identification, evaluation and exploitation of opportunities. Entrepreneurship research has shown that there is no unified model of entrepreneurship process; however, a general consensus is that opportunity identification is one of the significant elements (Kirzner 1973; Shane & Venkataraman 2000). Even though there is no agreement on the entrepreneurial process, there is empirical evidence that entrepreneurs actually engage in a process which, by virtue of the activities performed and the outcomes achieved, changes over time. The Panel Study of Entrepreneurial Dynamics (PSED) and the Global Entrepreneurship Monitor (GEM) provide some empirically tested entrepreneurship phases (Carter, Gartner & Reynolds 1996; Herrington & Kew 2017). The entrepreneurship phase is determined by the number of years that a business venture has been in existence and has paid salary, wages and any other payment to the owners (Herrington & Kew 2017).

This study adopted the entrepreneurship phases as being the nascent, new business and established business (Herrington & Kew 2017). The motivation for selecting the GEM entrepreneurship phases is that they are empirically tested rather than other theoretically derived frameworks (McMullen & Dimov 2013; Moroz & Hindle 2012) and are currently being adopted by other scholars in the field of entrepreneurship (Brixy et al. 2012; Wasdani & Mathew 2014). Brixy et al. (2012) focused on the demographic and cognitive characteristics of entrepreneurs, while Wasdani and Mathew (2014) studied opportunity recognition in the different entrepreneurship phases.

Nascent phase entrepreneurs are individuals who take steps to create a venture, such as looking for equipment or a location, organising a start-up team, preparing a business plan or beginning to save money (Bergmann & Stephan 2013; Carter et al. 1996). These ventures are less than 3 months old (Herrington & Kew 2017). New business phase entrepreneurs are those former nascent entrepreneurs who have been in business for more than 3 months, but less than 3.5 years (Herrington & Kew 2017; Turton & Herrington 2012). New business entrepreneurs are owning and managing a business, implementing the business plan, running the business on day-to-day basis, planning for growth, innovation, implementing organisational systems and hiring employees (Man, Lau & Chan 2002; Trevelyan 2011).

The established phase entrepreneurs are those who have been in business for more than 3.5 years (Herrington & Kew 2017; Kelley, Singer & Herrington 2012). Established entrepreneurs are focused on owning and managing a business, environmental scanning for new opportunities, quality control, evaluating ideas with existing frameworks, refining existing production processes, creating organisational structures to speed up production, creating new products and provision of a more stable base of employment (Man et al. 2002; Herrington & Kew 2017; Trevelyan 2011). While nascent and new business entrepreneurs contribute to dynamism and innovation in an economy, established businesses and their owner-managers often provide stable employment and exploit the knowledge and social capital accumulated in past experiences (Amorós & Bosma 2014). It should be noted that the transition from the nascent to new business and thereafter the established phase is to some extent fluent and depends on the specific situations (Brixy et al. 2012). For example, in some situations entrepreneurs

may take longer to generate income, consequently staying longer in the nascent phase. The challenge with the entrepreneurship phases is that there is no clear evidence as to how and when entrepreneurs make a transition from one phase to the next.

Human capital theory

According to Becker's (1964) human capital theory, human capital is the skills and knowledge manifested as ability to execute a function in order to create economic value (Ucbasaran et al. 2008; Unger et al. 2011). Skills and knowledge can be human capital outcomes acquired through investments in formal and non-formal schooling, practical learning and work experience, which contribute to productivity and success (Becker 1964; Silva 2007; Unger et al. 2011). The human capital investments can be generic or entrepreneurship-specific. The generic investments which are not related to any entrepreneurship activities are formal education and work experience, while entrepreneurship-specific investments related to entrepreneurship activities are start-up experience, business-ownership experience, managerial capabilities, entrepreneurial capabilities and technical capabilities (Becker 1964; Ucbasaran et al. 2008).

General human capital investments

Human capital theory is based on the assumption that formal education and work experience should be considered as general human capital investments which produce knowledge and skills (Becker 1964).

Formal education: It emerged as a significant source of knowledge and skills and, amongst others, confidence to execute entrepreneurial activities (Ucbasaran et al. 2008). Shane (2003) suggested that educated entrepreneurs may use the knowledge and skills acquired through the educational system for identification and pursuit of opportunities. There are contradictory observations with regard to education. One empirical view argued that the probability of educated individuals to create business ventures is high (Amorós & Bosma 2014), while opposing views argued that they are unlikely to start their own business ventures (Van der Sluis, Van Praag & Vijverberg 2008). Another empirical analysis of 380 nascent entrepreneurs showed that those with formal education are probable to discover entrepreneurial opportunities but may not be successful in exploiting process (Davidsson & Honig 2003). In a developing economy, studies have shown that entrepreneurs with higher levels of education are both more likely to start a business and ensure its sustainability (Herrington, Kew & Kew 2014). These authors focused on the nascent phase, indicating that the significance of formal education in producing skills applied by entrepreneurs in the different entrepreneurship phases other than the nascent is yet to be explored (Marvel et al. 2014):

> **Hypothesis 1:** Entrepreneurs in the nascent phase use skills acquired from formal education the most when compared to entrepreneurs in the new business and established business phases.

Work experience: It is represented by tacit knowledge is of paramount importance in the process of entrepreneurship (Davidsson & Honig 2003; Gabrielsson & Politis 2012; Polanyi 1966) and may produce managerial skills to start new businesses (Shane 2000). The indicator of work experience is the number of years of experience, number of prior full-time jobs and achievement level which can simply be regarded as position occupied (Gimeno et al. 1997; Unger et al. 2011). Rather than having similar work experience as it is assumed in human capital theory, empirical evidence indicates that varied work experience is an added advantage for better opportunity identification, exploitation and running of a successful business venture (Ganotakis 2012). This was confirmed through empirical study that founders with variety of work experiences, to be specific, managerial experience, are more likely to have developed the necessary skills to organise the business and have a greater chance of success in the start-up phase (Baptista, Karaöz & Mendonça 2014). Although there is paucity of evidence of the role of work experiences beyond start-up, this study proposes that work experience may be a source of skills needed by entrepreneurs in different entrepreneurship phases to carry out entrepreneurial activities such as organising equipment and facilities, hiring employees, seeking financial support, forming legal entity, owning and managing a business, environmental scanning, implementing organisational systems, quality control and evaluating ideas with existing frameworks (Amorós & Bosma 2014; Man et al. 2002; Reynolds & Curtin 2008; Trevelyan 2011):

> **Hypothesis 2:** Entrepreneurs in the nascent phase use skills acquired from work experience the most when compared to entrepreneurs in the new business and established phases.

Entrepreneurship-specific human capital investments

Empirical evidence indicated that entrepreneurship-specific investments, such as earlier experience in starting up a business, entrepreneurship education and the membership of an association for small business founders, generate more promising start-ups and enhance performance (Baptista et al. 2014; Bosma et al. 2004).

Prior entrepreneurship experience: The literature indicates that previous start-up experience incorporates knowledge and skills gained either in business or when creating a venture (Morris et al. 2012) and also enhances both the ability to recognise viable opportunities and overcome the liability of newness challenge as a venture is created (Parker 2013; Politis 2008). Recent empirical studies suggested that individuals who have accrued experience as business owners should possess higher accumulated levels of human capital represented by better managerial and technical skills (Baptista et al. 2014; Ucbasaran et al. 2008). This suggests that prior entrepreneurial experience is a source of significant skills for the successful implementation of the entrepreneur's start-up efforts but will not necessarily ensure the entrepreneur's persistence with these efforts to other phases (Dimov 2010). Entrepreneurs who are established and in the new business phase may have entrepreneurial experiences

that enable them to generate knowledge from one setting and apply it effectively to a new situation (Toft-Kehler, Wennberg & Kim 2014). Therefore, this study investigated how prior entrepreneurship experience is utilised as a source of skills across the different entrepreneurship phases:

> **Hypothesis 3:** The entrepreneurs in the nascent phase use skills acquired from previous business experience the most when compared with entrepreneurs in the new business and established business phases.

Entrepreneurship education: It is human capital investment which produces explicit knowledge and skills. A recent meta-analytical study by Martin, McNally and Kay (2013) showed that there is a relationship between entrepreneurship education and training, related human capital assets and entrepreneurial outcomes. The relationship is stronger for academic-focused interventions rather than training-focused interventions. Chang, Liu and Chiang (2014) in their empirical study highlighted that well established entrepreneurship courses have a significant impact with regard to enhancing opportunity recognition. However, this relationship may be mediated by other variables like entrepreneurial alertness. The findings of data collected from 170 entrepreneurs showed that not only does entrepreneurship training provide skills but also it appears to create openness, confidence and trust amongst the participants (Elmuti, Khoury & Omran 2012). Therefore, this study investigated the use of entrepreneurship education as a source of skills for entrepreneurs in the later entrepreneurship phases:

> **Hypothesis 4:** The entrepreneurs in the established phase use skills acquired from entrepreneurship education more than entrepreneurs in the nascent and new business phase.

Social actors

In addition to acquiring skills from human capital investments, there are other sources from which entrepreneurs acquire skills. Some of the entrepreneurs learn skills from their social networks such as family and friends, and those with mentors and coaches in their networks, they learn skills from them (Aldrich & Yang 2014; Putnam 2001). Family can provide resources needed to start the business (Davidsson & Honig 2003) and they can also influence their children's career choice (Aldrich & Yang 2014). The role of mentorship increases the decision to join early-stage ventures or to start entrepreneurial careers, especially for entrepreneurs whose parents are not entrepreneurial (Eesley & Wang 2017). The experienced entrepreneurs can teach aspiring entrepreneurs tacit knowledge such as evaluation of business opportunities, forming teams and navigating external investments (Eesley & Wang 2017; St-Jean et al. 2016). Also, entrepreneurs who are in business, contrary to others with no entrepreneurial experience, support opportunity identification and exploitation (St-Jean et al. 2016). Therefore, this study suggests that:

> **Hypothesis 5a:** Entrepreneurs in the nascent phase use skills learnt from family and friends more than entrepreneurs in the new business and established business phases.

> **Hypothesis 5b:** Entrepreneurs in the nascent phase use skills acquired from coaches and mentors more than entrepreneurs in the new business and established business phases.

Self-taught

Entrepreneurs read about skills that successful entrepreneurs have and thereafter implement or imitate the same skills in their businesses (Aldrich & Yang 2014; Baron & Ensley 2006; Rae 2005). Unlike entrepreneurs in the established business phases who generally follow or modify the routines that they have developed, nascent entrepreneurs start mostly in a blank state (Aldrich & Yang 2014). The nascent entrepreneurs read about what successful entrepreneurs have done and imitate them, especially those who begin without enough knowledge and skills. Finally, some of the skills are self-taught as they go through failure and experimentation in setting and running their businesses (Markman & Baron 2003; Yusuf 2012). Therefore, the study determines how self-taught skills through reading books and mistakes and failure are used in the different entrepreneurship phases:

> **Hypothesis 6a:** Entrepreneurs in nascent phase use the skills acquired from failure and mistakes more than entrepreneurs in the new business and established business phases.

> **Hypothesis 6b:** Entrepreneurs in nascent phase use the skills learnt from reading books more than entrepreneurs in the new business and established business phases.

Research design and methodology

The research question of the study is the following: how are the sources of skills used differently across the entrepreneurship phases?

The objectives of the study are:

- Objective 1: To determine the use of formal education, work experience, entrepreneurship education and prior entrepreneurship experience as the sources of skills used in the different entrepreneurship phases.
- Objective 2: To determine the use of social actors, that is mentors and coaches, and family and friends as sources of skills across the different entrepreneurship phases.
- Objective 3: To investigate the use of self-taught skills from failure and mistakes and reading books across the different entrepreneurship phases.

Research design

The quantitative research design was used in the study. The study adopted a probability sampling strategy, in which the possibility of each unit to be selected from the population is known and usually equal for all cases (Teddlie & Yu 2007). This strategy is implemented when selecting a relatively large number of units from a population, or from specific subgroups of a population (Tashakkori & Teddlie 2003; Teddlie & Yu 2007). A probability sampling was used to ensure that the whole population was represented. The sample consisted of the three groups of entrepreneurs who were in the nascent, new business and established business

phases. Using the GEM sampling strategy, nascent businesses paid salaries in any kind for less than 3 months, new businesses paid salaries in any kind for more than 3 months but less than 3.5 years and established businesses paid salaries in any kind for more than 3.5 years (Herrington & Kew 2017; Kelley et al. 2012; Turton & Herrington 2012).

The human capital was measured by formal education, entrepreneurship education, work experience and prior entrepreneurship experience, while other sources were measured as family and friends, mentors and coaches, self-taught from failure and mistakes and reading books.

Research method

The quantitative survey data were collected using a standardised, structured, self-administered online questionnaire which was completed by entrepreneurs owning the business ventures. Experts in the field of entrepreneurship were requested to give input on the designed instrument and determine if it measured the concepts intended. The comments were made and the instrument was amended accordingly. The questionnaire had closed-ended questions with 5-point Likert scales, from which respondents were required to select one of five options. The Likert scale measures responses along a dimension from positive to negative, whereby the following possible answers are selected: strongly approve, approve, undecided, disapprove and strongly disapprove (Likert 1932). The responses expected in this study with regard to the use of the skills acquired from human capital investments ranged from 1 = never, 2 = almost never, 3 = sometimes, 4 = almost every day to 5 = every day. In employing the ordinal scale of measurement, the researcher was able to interrogate the extent to which respondents thought they used skills that they obtained from the human capital investments, social actors and self-teaching.

An invitation to participate in the study together with the survey link on SurveyMonkey was emailed to entrepreneurs. The list of the entrepreneurs was sourced from a private organisation that works with entrepreneurs in South Africa. The list had their email addresses, telephone numbers and contact addresses. In the first week of sending out the survey email, 116 entrepreneurs responded. At the end of 1 month of data collection, there were 235 responses comprising 56 nascent, 54 new business and 125 established entrepreneurs. Because the established phase had a highest number of entrepreneurs than the nascent and new business phase, a random sample of 58 entrepreneurs was selected from the 125 established entrepreneurs so as to balance the number of entrepreneurs in the phases. After balancing the phases, the final sample had 168 responses.

The quantitative phase was a nationwide survey, capturing data from entrepreneurs in all South African provinces: Gauteng, Limpopo, Mpumalanga, North-West, Northern Cape, Western Cape, KwaZulu-Natal, Free State and Eastern Cape.

Unit of analysis

The unit of analysis was the individual entrepreneur. The study focused on entrepreneurs in the three different entrepreneurship phases; therefore, the levels of analysis included the nascent, new business and established business phases.

Data analysis

The survey responses were consolidated and then exported to IBM-SPSS statistical software for analysis. Kruskal–Wallis test was used to provide clear comparisons of the use of skills across the three phases and to test the hypotheses. The Kruskal–Wallis test is a non-parametric test applied to rank the data and compare the median ranks of three or more groups when the level of measurement is ordinal (Cunningham & Aldrich 2011). The Kruskal–Wallis test findings, which showed that entrepreneurship phases had unequal application of skills, were further analysed using the Mann–Whitney U test to detect the two-by-two group differences. Mann–Whitney U test is a non-parametric test utilised to provide the statistical evidence that two sampled populations are statistically different (Cunningham & Aldrich 2011).

Research findings

As part of the screening process or inclusion test for the survey, respondents were asked if they had an operational business or not. Respondents without an operational business at the time the survey was conducted were automatically disqualified from participating. There were 108 (64%) males and 60 (30%) females who participated in the study. This was incidentally aligned with national and global studies, showing that males are more entrepreneurial than females (Herrington et al. 2014). Entrepreneurs were asked to locate themselves within one of the entrepreneurship phases. The measures used to determine entrepreneurship phases were in line with the GEM classification and include the period the business has existed and duration of paying salaries of any kind (Herrington et al. 2014). The entrepreneurs were 56 (33%) in the nascent, 54 (32%) in the new business and 58 (35%) in the established business phases.

The Kolmogorov–Smirnov test for normality was performed on the human capital investment variables to determine the distribution of the data. The output of the results had a p = 0.000 which indicated that the variables were not normally distributed; therefore, the analysis of the data required non-parametric tests. After the normality test, the Kruskal–Wallis test was performed to determine the difference in the application of skills acquired from the human capital investments across the three entrepreneurship phases. The results of the Kruskal–Wallis test are presented in Table 1.

The results of the Kruskal–Wallis test depicted in Table 1 show that the skills learnt from work experience (p = 0.260) and formal education (p = 0.249) are applied equally across

TABLE 1: Kruskal–Wallis test for human capital investments and social actors.

Human capital and social actors	Entrepreneurship phase	*N*	Mean rank	Chi-square	*df*	Asymp. Sig
Formal education	Nascent	56	91.36			
	New business	54	85.56		2	0.249
	Established	58	76.90			
	Total	**168**	-	2.777		
Work experience	Nascent	56	83.11			
	New business	54	78.15		2	0.260
	Established	58	91.76			
	Total	**168**	-	2.696		
Entrepreneurship education	Nascent	56	78.37			
	New business	54	68.15		2	0.000
	Established	58	105.65			
	Total	**168**	-	19.497		
Previous entrepreneurship experience	Nascent	56	73.73			
	New business	54	80.92		2	0.017
	Established	58	98.23			
	Total	**168**	-	8.122		
Self-taught (failure and mistakes)	Nascent	56	92.46			
	New business	54	111.61		2	0.000
	Established	58	51.57			
	Total	**168**	-	49.967		
Self-taught (reading books)	Nascent	56	92.02			
	New business	54	97.86		2	0.000
	Established	58	64.80			
	Total	**168**	-	16.311		
Family and friends	Nascent	56	72.86			
	New business	54	81.33		2	0.009
	Established	58	98.69			
	Total	**168**	-	9.317		
Mentors and coaches	Nascent	56	73.00			
	New business	54	63.29		2	0.000
	Established	58	115.35			
	Total	**168**	-	39.914		

df, degrees of freedom; Asymp.Sig, asymptotic significance.

the entrepreneurship phases, whereas the rest of the skills learnt from entrepreneurship education ($p = 0.000$), previous entrepreneurship experience ($p = 0.017$), self-taught through failure ($p = 0.000$) and reading books ($p = 0.000$), family and friends ($p = 0.009$) and mentors and coaches ($p = 0.000$) are not used equally across the different entrepreneurship phases. The Kruskal–Wallis test findings, which showed that the sources of the skills were used differently, were further analysed using the Mann–Whitney U test to determine two-by-two group differences. The results of the Mann–Whitney U test are presented in Table 2.

Entrepreneurship education

There is no difference in the application of skills learnt from entrepreneurship education across the nascent and new business phases ($p = 0.246$). The difference in the application is seen in the new business phase and established phase, with the established phase having a higher mean than the new business phase [$p = 0.010$; $\bar{X}(established = 68.48) > \bar{X}(new\ business = 43.43)$]. When the established phase was compared with the nascent phase, the results showed that the usage of skills learnt from entrepreneurship education is higher in the established phase than in the nascent phase [$p = 0.000$; $\bar{X}(nascent = 66.66) > \bar{X}(established = 48.01)$].

TABLE 2: Mann–Whitney U test for human capital investments and social actors.

Human capital investment and social actors	Entrepreneurship phase	*N*	Mean rank	Sum of ranks	Chi-square
Entrepreneurship education	Nascent	56	58.86	3296.00	
	New business	54	52.02	2809.00	0.246
	Total	**110**	-	-	
	New business	54	43.63	2356.00	
	Established	58	68.48	3972.00	0.010
	Total	**114**	-	-	
	Nascent	56	48.01	2688.50	
	Established	58	66.66	3866.50	0.000
	Total	**112**	-	-	
Previous entrepreneurship experience	Nascent	56	53.46	2993.50	
	New business	54	57.62	48.01	0.483
	Total	**110**	-	-	
	New business	54	50.80	2743.00	
	Established	58	61.81	8585.00	0.063
	Total	**112**	-	-	
	Nascent	56	48.78	2731.50	
	Established	58	65.92	3823.50	0.040
	Total	**114**	-	-	
Self-taught (failure and mistakes)	Nascent	56	48.99	2743.50	
	New business	54	62.25	3361.50	0.014
	Total	**110**	-	-	
	New business	54	76.86	4150.50	
	Established	58	37.54	2177.50	0.000
	Total	**112**	-	-	
	Nascent	56	71.97	4030.50	
	Established	58	43.53	2524.50	0.000
	Total	**114**	-	-	
Self-taught (reading books)	Nascent	56	53.44	2992.50	
	New business	54	57.64	3112.50	0.464
	Total	**110**	-	-	
	New business	54	67.72	3657.00	
	Established	58	46.05	2671.00	0.000
	Total	**112**	-	-	
	Nascent	56	67.08	3756.50	
	Established	58	48.25	2798.50	0.020
	Total	**114**	-	-	
Family and friends	Nascent	56	52.77	2955.00	
	New business	54	58.33	3150.00	0.330
	Total	**110**	-	-	
	New business	54	50.50	2727.00	
	Established	58	62.09	3601.00	0.047
	Total	**112**	-	-	
	Nascent	56	48.59	2721.00	
	Established	58	66.10	3834.00	0.003
	Total	**114**	-	-	
Mentors and coaches	Nascent	56	58.61	3282.00	
	New business	54	52.28	2823.00	0.278
	Total	**110**	-	-	
	New business	54	38.51	2079.50	
	Established	58	73.25	4248.50	0.000
	Total	**112**	-	-	
	Nascent	56	42.89	2402.00	
	Established	58	71.60	4153.00	0.000
	Total	**114**	-	-	

Prior entrepreneurship experience

The application of skills learnt from previous entrepreneurship experience in the nascent and new business phases is not statistically different ($p = 0.483$). There is a statistically significant difference in the application

of skills learnt from previous entrepreneurship education between the nascent and established phases ($p = 0.040$). The established phase has a higher mean than the nascent phase [$\bar{X}$(*nascent* = 48.78) < $\bar{X}$(*established* = 65.92)]. The findings also showed that there is no difference between the usage of skills learnt from previous entrepreneurship experience in the new business and established phases, with the new business phase having a lower mean [$p = 0.063$; $\bar{X}$(*new business* = 50.80) < $\bar{X}$(*established* = 61.81)].

Family and friends

The comparison of the nascent and new business phases did not show any statistically significant difference ($p = 0.330$). The results showed a difference in the application of skills learnt from family and friends between the new business and established business phases, with the established phase having a higher mean than the new business phase [$p = 0.047$; $\bar{X}$(*new business* = 50.51) < $\bar{X}$(*established* = 62.09)]. Further analysis showed that entrepreneurs in the established phase apply more skills acquired from family and friends than entrepreneurs in the nascent phase [$p = 0.003$; $\bar{X}$(*nascent* = 48.59) < $\bar{X}$(*established* = 66.10)].

Mentorship and coaching

Table 2 showed that there is no statistically significant difference in the application of skills learnt from mentors and coaches between the nascent and new business phase ($p = 0.278$). Entrepreneurs in the established phase apply skills acquired from mentors and coaches more than entrepreneurs in the new business phase [$p = 0.000$; $\bar{X}$(*new business* = 38.51) < $\bar{X}$(*established* = 73.25)]. When compared with the nascent phase, established entrepreneurs have a higher rank mean [$p = 0.000$; $\bar{X}$(*nascent* = 42.89) < $\bar{X}$(*established* = 71.60)], which simply means that they apply skills learnt from mentors and coaches more than entrepreneurs in the nascent phase.

Self-taught (failures and mistakes)

Entrepreneurs were asked about how they apply skills learnt from failure. The results showed that the application of the skills learnt from failure and mistakes is different across all the entrepreneurship phases (all p-values are greater than 0.005). The results showed that the new businesses have a higher rank mean than the established businesses, meaning that entrepreneurs in the new business phase use skills learnt from failure and mistakes to a greater extent [$p = 0.000$; $\bar{X}$(*established* = 37.54) < $\bar{X}$(*new business* = 76.86)]. The nascent phase also has a higher mean than the established phase [$p = 0.00$; $\bar{X}$(*nascent* = 71.97) > $\bar{X}$(*established* = 43.53)]. The comparison of the nascent phase and new business phase showed that entrepreneurs in the new business phase use more skills learnt from failure and mistakes than those in the nascent phase [$p = 0.014$; $\bar{X}$(*new business* = 62.25) > $\bar{X}$(*nascent* = 48.99)].

Self-taught (reading books)

Regarding the use of skills learnt from reading books, the results showed a difference between the new business and established phases ($p = 0.000$). The new business phase has a higher mean than the established phase [$\bar{X}$(*new business* = 67.72) > $\bar{X}$(*established* = 46.05)]. In addition, entrepreneurs in the nascent phase apply more skills acquired from reading books than entrepreneurs in the established phase [$p = 0.000$; $\bar{X}$(*nascent* = 67.08) > $\bar{X}$(*established* = 48.25)].

Figure 1 shows that formal education is used more as a source of skills by entrepreneurs in the nascent phase than those in the new business and established phases. The use of formal education as a source of skills declines as the entrepreneurship phases unfold. Entrepreneurs in the nascent and new business phase use the skills obtained from work experience more than those in the established business phase. Entrepreneurship education and prior entrepreneurship experience are a more significant source

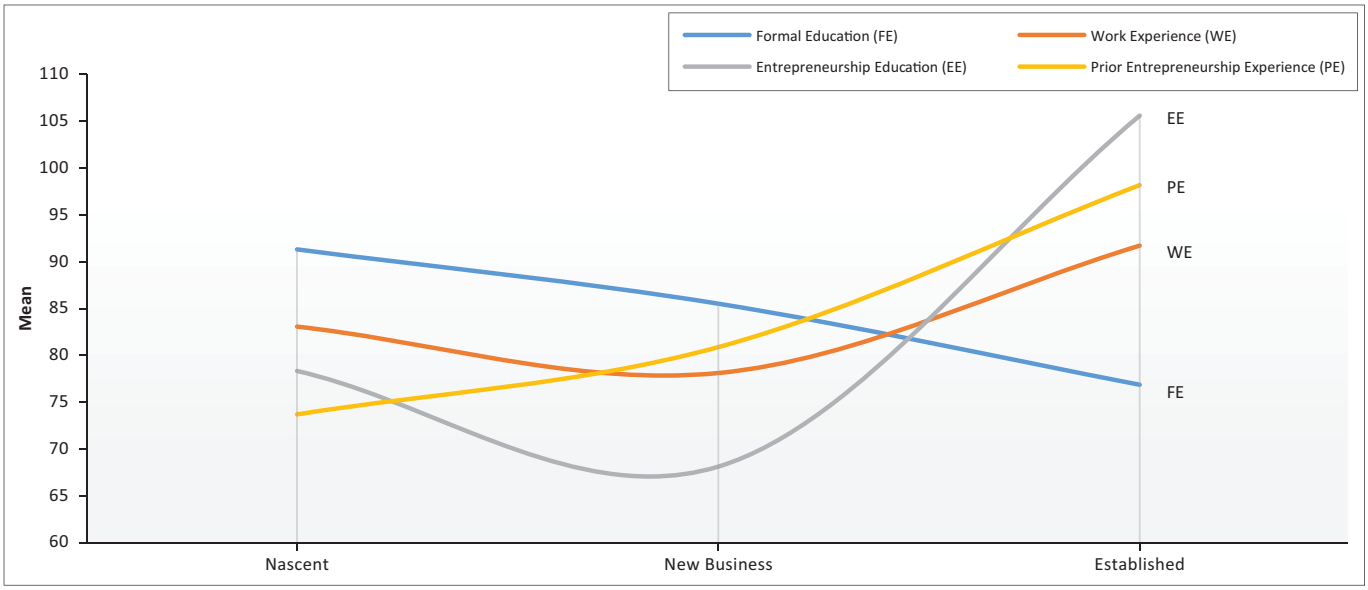


FIGURE 1: Human capital investments utility across the entrepreneurship phases.

of skills for entrepreneurs in the established phase than those in the nascent and new business phase.

An overall analysis of the human capital investments showed that when a nascent entrepreneur starts a business, he or she uses skills from human capital investments (especially formal education). As the entrepreneur transitions from the nascent phase to new business phase, the human capital investments which provided skills to start the business become less important, thus creating a demand to update the human capital investments for the next entrepreneurship phase. Figure 2 shows how the use of human capital investments as sources of skills changes as the entrepreneurship phases unfold.

A decline in the utility of human capital investments, for example, formal education as sources of skills in the new business phase, stimulates entrepreneurs to seek out entrepreneurship courses, as well as mentoring and coaching programmes. Therefore, the human capital investments which were the sources of skills when the business started become obsolete as the entrepreneurship phases unfold, consequently creating a demand on entrepreneurs to look for other sources. In essence, established entrepreneurs have better access to entrepreneurship education because the enterprise development programme focuses on skills that are more relevant to established entrepreneurs rather than nascent or new business entrepreneurs.

Figure 3 displays the use of social actors and human capital investments as sources of skills across the entrepreneurship phases. The study suggests a U-shaped curvilinear relationship of the use of skills acquired from the human capital investments and social actors across the entrepreneurship phases. This means that human capital investments and social actors serve as sources of skills when the business starts; however, they become obsolete as the entrepreneurship phases unfold. If an entrepreneur has access to other human capital investments such as entrepreneurship education, they will increase the skills needed to run their businesses, especially in the established business phase.

Figure 3 also illustrates that the application of self-taught skills across the phases is an inverted U-shaped curvilinear relationship; thus, self-taught skills are applied the most in the nascent and new business phases than in the established phase. Because of limited or lack of access to other significant sources of skills such as mentorship and entrepreneurship education, entrepreneurs starting businesses rely on their own learnings from failure, mistakes and reading entrepreneurship books. However, as the entrepreneurship phases unfold, they realise the need to get additional training and to form social networks, hence the decline in the utility of self-taught skills and corresponding increase in the utility of human capital investments and social networks in the established phase.

Discussion

Hypothesis 1: Formal education

The hypothesis was not supported as there was no statistically significant difference to suggest that skills acquired from formal education were used differently across the different entrepreneurship phases. Although there was no statistically significant difference in application, entrepreneurs in the nascent phase applied skills learnt from formal education to a greater extent than entrepreneurs in the new business and established phases. These findings are consistent with a meta-analytical study by Unger et al. (2011) which showed that outcomes of formal education in the form of skills may assist in the successful completion of the identification and exploitation phase. In the South African context, entrepreneurship education is lacking (Herrington et al. 2014) and as a result, entrepreneurs appear to use skills acquired

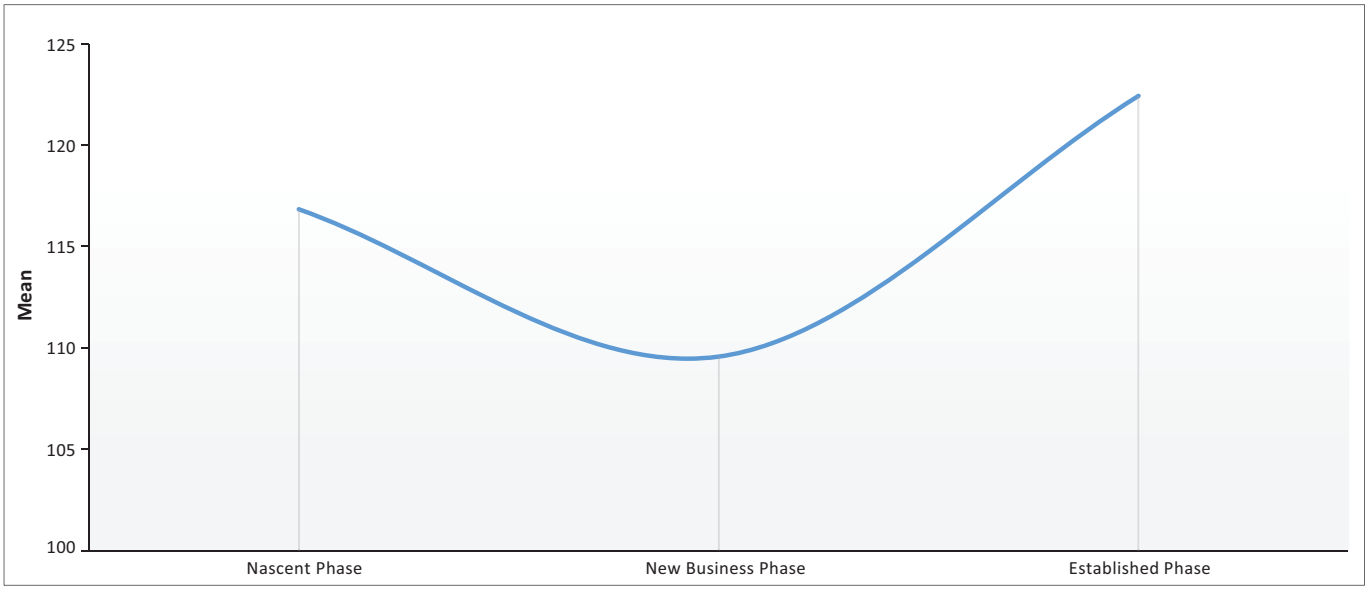


FIGURE 2: Human capital investments utility across the entrepreneurship phases.

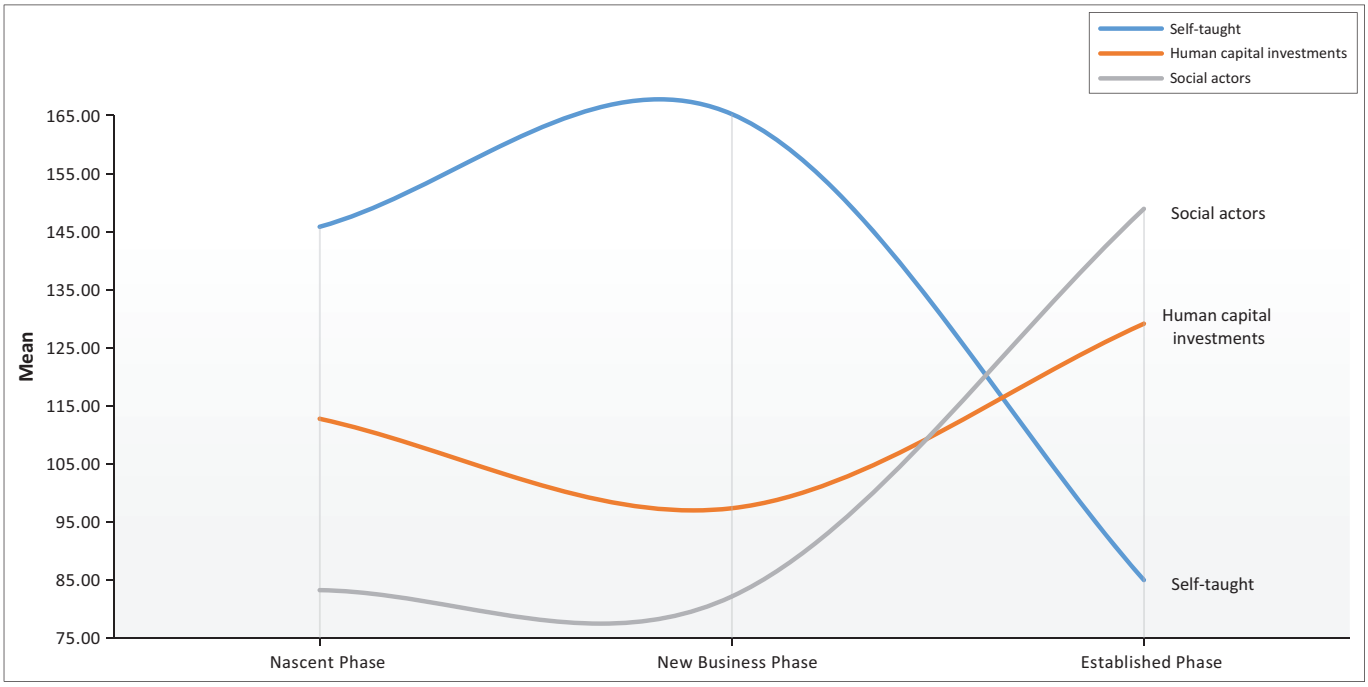


FIGURE 3: Sources of skills across the entrepreneurship phases.

from formal education to identify and exploit entrepreneurial opportunities.

Hypothesis 2: Work experience

There was no statistically significant difference in the use of skills acquired from work experience across all the entrepreneurship phases; therefore, Hypothesis 2 was not supported. Entrepreneurs in all entrepreneurship phases used skills from work experience. Contrary to Davidsson and Honig (2003) who noted that work experience is not significant for the exploitation of opportunity, the findings in this study demonstrated that work experience is significant in the nascent phase, new business phase and to some extent in the established phase.

Hypothesis 3: Prior entrepreneurship experience

Although use of prior entrepreneurial experience as a source of skills across entrepreneurship phases is notably different, the hypothesis was partially supported on the notion that entrepreneurs in the established phase were more likely to apply skills learnt from previous entrepreneurship experience than entrepreneurs in the nascent and new business phases. The established entrepreneurs use skills developed during previous entrepreneurial experiences to start and run new business ventures. The results are in line with Dimov's study (2010) that established and repeat entrepreneurs use the skills acquired from prior entrepreneurship experience to start and run new business ventures. Similar to this study's findings, experienced or established entrepreneurs have developed mental frameworks which make the application of some of the skills like opportunity recognition and decision-making easier (Cassar 2014; Ucbasaran et al. 2008).

Hypothesis 4: Entrepreneurship education

The results showed that there was a significant difference in the application of skills acquired from entrepreneurship education across the phases. Because entrepreneurs running established businesses used skills learnt from entrepreneurship education to a greater extent than those in the nascent and new business phases, the hypothesis was partially supported. As the business environment changes, established entrepreneurs periodically update their skills by attending management programmes (Martin et al. 2013).

Considering the South African macro context in which the study was conducted, which is characterised by poor to absent entrepreneurial education at secondary and tertiary levels (Turton & Herrington 2012), some of the entrepreneurs in the start-up phase have not had access to any entrepreneurial education; thus, they largely use skills learnt from formal education to start and run their businesses. This makes formal education significant throughout the entrepreneurship phases. Because formal education does not contribute to sustenance of a business (Davidsson & Honig 2003), this may contribute to the high failure rate of businesses in South Africa (Turton & Herrington 2012). In addition, Botha and Bignotti (2016) highlighted that tertiary entrepreneurship education should include internship programmes. In their empirical study, they discovered that there is a positive influence of internships on entrepreneurial intent and entrepreneurial self-efficacy. Therefore, South Africa has a challenge of investing and introducing entrepreneurship education in schools and tertiary institutions.

Hypothesis 5a: Family and friends

The hypothesis was partially supported as the results of this study indicated that entrepreneurs in the established phase

applied skills learnt from family and friends to a greater extent than entrepreneurs in the nascent and new business phases. An explanation is that in a context of low levels of entrepreneurial activity, most individuals who start businesses do not come from entrepreneurial families. Although family and friends may serve as sources of funding and effective support (Greve & Salaff 2003; Lamine et al. 2015), if they are not entrepreneurial, they are less likely to be able to offer relevant entrepreneurship skills and advice. Therefore, in a context of high entrepreneurial activity, where family and friends are entrepreneurial, the nascent entrepreneur will rely on these as sources of skills needed to start a business.

Hypothesis 5b: Mentors and coaches

The hypothesis was partially supported because entrepreneurs in the established phase applied skills learnt from mentors and coaches to a greater extent than entrepreneurs in the nascent and new business phases. Experienced entrepreneurs have better access to other successful entrepreneurs and consultants who may serve as coaches and mentors. Because entrepreneurs in the nascent phase have poor access to mentorship and coaching, they rely on self-taught skills which are acquired from reading about other entrepreneurs. Some of the nascent entrepreneurs may be overconfident and may not seek mentorship (Invernizzi et al. 2016). As the businesses grow, entrepreneurs use skills obtained from mentors and coaches represented by bridging social capital (Putnam 2001; Stam, Arzlanian & Elfring 2014). The findings relating to the unequal role of social networks as sources of skills are supported by Huggins et al. (2015) who demonstrated that the role of social networks in the entrepreneurship phases, that is, emergent phase, growth phase and mature phase is different.

Hypothesis 6a: Failure and mistakes

Entrepreneurs in the nascent and new business phases were more likely to apply skills learnt from failures and mistakes made in the process of starting and establishing their businesses than entrepreneurs in the established phase; therefore, the hypothesis was supported. This suggests that nascent entrepreneurs learn from failure through trial and error in the process of establishing a business venture. During the process of experimentation, others discover that those initial ideas that lead to the start-up are not so great, and therefore they may decide to abandon the ideas or exit the entrepreneurship process (Dimov 2010; Kelley et al. 2012). Therefore, the current systems of supporting and financing nascent and new business entrepreneurs need to accept failure as a necessary part of the journey to successful business venturing.

Hypothesis 6b: Reading books

The hypothesis was supported as the results showed that the usage of skills or practices acquired from reading entrepreneurial books was found to be different across the entrepreneurship phases. The study's findings are in line with the notion that nascent and new business entrepreneurs model entrepreneurs' stories they read in the media and apply what worked for them (Aldrich & Yang 2014; Baron & Ensley 2006; Rae 2005). Also, because nascent entrepreneurs have self-confidence in their own skills, they try out things by themselves and do not seek help (Markman & Baron 2003; Robinson & Marino 2015). This is why some of them read the success stories of other entrepreneurs. On the contrary, copying what other entrepreneurs in different business contexts did may lead to failure in the nascent phase. Therefore, the study suggests that because of lack of resources in the nascent phase, nascent entrepreneurs adopt skills in opportunity recognition, decision-making, venture creation and growing the business by reading about what other entrepreneurs applied.

Conclusions and practical implications

This study made a contribution by advancing on the human capital theory that human capital investments and skills outcomes change in significance in the different entrepreneurship phases. An argument raised in the literature review is that the utility of human capital investments as a source of skills is unequal across the different entrepreneurship phases. Indeed, the findings of this study confirmed that the application of skills acquired from human capital investments is different in the nascent, new business and established business phases. This simply suggests that human capital is not static and linear, but it is dynamic, curvilinear and changes over the entrepreneurship phases.

The results showed that entrepreneurship education is significant in the skills development of entrepreneurs, and therefore the teaching of entrepreneurship should be emphasised, especially to nascent and new business phases that do not have access. The teaching of entrepreneurship can be another way of improving the levels of formal education. Because it was observed that the context of the study had a poor entrepreneurship education track record, the academic and training institutions should incorporate entrepreneurship development in the curriculum as early as primary school and maintain it throughout secondary and tertiary education. This will equip nascent entrepreneurs with the depth of skill required to start and maintain business.

It was found that nascent entrepreneurs rely mostly on self-taught skills as they do not have access to coaching and mentoring so the government, private sectors and successful entrepreneurs can offer mentoring and coaching to the nascent entrepreneurs so as to minimise failure. This is because the criteria used by enterprise development institutions target established entrepreneurs than those in the nascent phases. To make it to some of the programmes, the business should be making a certain amount of profit, which at times is not attainable in the nascent phases. Therefore, the enterprise development institutions such as universities,

governmental and private organisations need to start focusing on nascent and new business entrepreneurs who have a higher need of skills. This shift in focus could reduce the failure rate of businesses in the early phases of the entrepreneurship process.

This study was not able to determine the skills learnt from each type of human capital investment; therefore, future studies should focus on what are the types of skills learnt from these investments. Obtaining the required sample sizes for nascent and new business phase entrepreneurs was a challenge because most start-up businesses are not formally registered and it is difficult to access databases from some entrepreneurial incubators; therefore, future studies should aim at obtaining larger samples of nascent entrepreneurs. The research was positioned in a context characterised by low entrepreneurial activity and low skills levels; therefore, the study may be less generalizable in contexts where entrepreneurial activity and skills are very high.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

M.A.M. conducted the research study, literature review and wrote the first draft of the article. M.K. and T.K. contributed to the conceptualisation of the theoretical framework and interpretation of the research findings.

References

Aldrich, H.E. & Yang, T., 2014, 'How do entrepreneurs know what to do? Learning and organizing in new ventures', *Journal of Evolutionary Economics* 24(1), 59–82. https://doi.org/10.1007/s00191-013-0320-x

Amorós, J.E. & Bosma, N., 2014, *Global entrepreneurship monitor 2013 global report*, Global Entrepreneurship Research Association, Wellesley, MA.

Baptista, R., Karaöz, M. & Mendonça, J., 2013, 'The impact of human capital on the early success of necessity versus opportunity-based entrepreneurs', *Small Business Economics* 42(4), 831–847. https://doi.org/10.1007/s11187-013-9502-z

Baron, R.A. & Ensley, M.D., 2006, 'Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs', *Management Science* 52(9), 1331–1344. https://doi.org/10.1287/mnsc.1060.0538

Becker, G.S., 1964, *Human capital: A theoretical and empirical analysis, with special reference to education*, National Bureau of Economic Research, New York.

Bergmann, H. & Stephan, U., 2013, 'Moving on from nascent entrepreneurship: Measuring cross-national differences in the transition to new business ownership', *Small Business Economics* 41(4), 945–959.

Bosma, N., Van Praag, M., Thurik, R. & De Wit, G., 2004, 'The value of human and social capital investments for the business performance of startups', *Small Business Economics* 23(3), 227–236. https://doi.org/10.1023/B:SBEJ.0000032032.21192.72

Botha, M. & Bignotti, A., 2016, 'Internships enhancing entrepreneurial intent and self-efficacy: Investigating tertiary-level entrepreneurship education programmes', *Southern African Journal of Entrepreneurship and Small Business Management* 8(1), a45. https://doi.org/10.4102/sajesbm.v8i1.45

Brixy, U., Sternberg, R. & Stüber, H., 2012, 'The selectiveness of the entrepreneurial processes', *Journal of Small Business Management* 50(1), 105–131. https://doi.org/10.1111/j.1540-627X.2011.00346.x

Carter, N.M., Gartner, W.B. & Reynolds, P.D., 1996, 'Exploring start-up event sequences', *Journal of Business Venturing* 11(3), 151–166. https://doi.org/10.1016/0883-9026(95)00129-8

Cassar, G., 2014, 'Industry and startup experience on entrepreneur forecast performance in new firms', *Journal of Business Venturing* 29(1), 137–151. https://doi.org/10.1016/j.jbusvent.2012.10.002

Chang, W.L., Liu, J.Y. & Huang, W.G., 2014, 'A study of the relationship between entrepreneurship courses and opportunity identification: An empirical survey', *Asia Pacific Management Review* 19(1), 1–24.

Cunningham, J.B. & Aldrich, J.O., 2011, *Using SPSS: An interactive hands-on approach*, Sage Publications, London.

Dash, M. & Kaur, K., 2012, 'Youth entrepreneurship as a way of boosting Indian economic competitiveness: A study of Orissa', *International Review of Management and Marketing* 2(1), 10–21.

Davidsson, P. & Honig, B., 2003, 'The role of social and human capital among nascent entrepreneurs', *Journal of Business Venturing* 18(3), 301–331. https://doi.org/10.1016/S0883-9026(02)00097-6

Dimov, D., 2010, 'Nascent entrepreneurs and venture emergence: Opportunity confidence, human capital, and early planning', *Journal of Management Studies* 47(6), 1123–1153. https://doi.org/10.1111/j.1467-6486.2009.00874.x

Eesley, C. & Wang, Y., 2017, 'Social influence in career choice: Evidence from a randomized field experiment on entrepreneurial mentorship', *Research Policy* 46(3), 636–650. https://doi.org/10.1016/j.respol.2017.01.010

Elmuti, D., Khoury, G. & Omran, O., 2012, 'Does entrepreneurship education have a role in developing entrepreneurial skills and ventures' effectiveness?' *Journal of Entrepreneurship Education* 15(1), 83–98.

Gabrielsson, J. & Politis, D., 2012, 'Work experience and the generation of new business ideas among entrepreneurs: An integrated learning framework', *International Journal of Entrepreneurial Behaviour & Research* 18(1), 48–74. https://doi.org/10.1108/13552551211201376

Ganotakis, P., 2012, 'Founders' human capital and the performance of UK new technology based firms', *Small Business Economics* 39(2), 495–515. https://doi.org/10.1007/s11187-010-9309-0

Gimeno, J., Folta, T.B., Cooper, A.C. & Woo, C.Y., 1997, 'Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms', *Administrative Science Quarterly* 42, 750–783. https://doi.org/10.2307/2393656

Greve, A. & Salaff, J.W., 2003, 'Social networks and entrepreneurship', *Entrepreneurship Theory and Practice* 28(1), 1–22. https://doi.org/10.1111/1540-8520.00029

Herrington, M. & Kew, P., 2017, *GEM 2016/17 global report*, Global Entrepreneurship Research Association (GERA), Wellesley, MA.

Herrington, M., Kew, J. & Kew, P., 2014, *GEM 2014 Sub-Saharan Africa Report*, Global Entrepreneurship Research Association, Cape Town.

Huggins, R., Izushi, H., Prokop, D. & Thompson, P., 2015, 'Network evolution and the spatiotemporal dynamics of knowledge sourcing', *Entrepreneurship & Regional Development* 27(7–8), 474–499. https://doi.org/10.1080/08985626.2015.1070538

Invernizzi, A.C., Menozzi, A., Passarani, D.A., Patton, D. & Viglia, G., 2016, 'Entrepreneurial overconfidence and its impact upon performance', *International Small Business Journal* 1–20. https://doi.org/10.1177/0266242616678445

Kelley, D., Singer, S. & Herrington, M., 2012, *GEM 2011 global report*, Global Entrepreneurship Research Association (GERA), Wellesley, MA.

Kirzner, I.M., 1973, *Competition and entrepreneurship*, University of Chicago Press, Chicago, IL.

Lamine, W., Jack, S., Fayolle, A. & Chabaud, D., 2015, 'One step beyond? Towards a process view of social networks in entrepreneurship', *Entrepreneurship & Regional Development* 27(7–8), 413–429. https://doi.org/10.1080/08985626.2015.1070535

Likert, R., 1932, 'A technique for the measurement of attitudes', *Archives of Psychology* 22, 5–55.

Man, T.W., Lau, T. & Chan, K., 2002, 'The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies', *Journal of Business Venturing* 17(2), 123–142. https://doi.org/10.1016/S0883-9026(00)00058-6

Markman, G.D. & Baron, R.A., 2003, 'Person-entrepreneurship fit: Why some people are more successful as entrepreneurs than others', *Human Resource Management Review* 13(2), 281–301. https://doi.org/10.1016/S1053-4822(03)00018-4

Martin, B.C., McNally, J.J. & Kay, M.J., 2013, 'Examining the formation of human capital in entrepreneurship: A personal-analysis of entrepreneurship education outcomes', *Journal of Business Venturing* 28(2), 211–224. https://doi.org/10.1016/j.jbusvent.2012.03.002

Marvel, M.R., Davis, J.L. & Sproul, C.R., 2014, 'Human capital and entrepreneurship research: A critical review and future directions', *Entrepreneurship Theory and Practice* 40(3), 599–626. https://doi.org/10.1111/etap.12136

McMullen, J.S. & Dimov, D., 2013, 'Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process', *Journal of Management Studies* 50(8), 1481–1512. https://doi.org/10.1111/joms.12049

Moroz, P.W. & Hindle, K., 2012, 'Entrepreneurship as a process: Toward harmonizing multiple perspectives', *Entrepreneurship Theory and Practice* 36(4), 781–818. https://doi.org/10.1111/j.1540-6520.2011.00452.x

Morris, M.H., Kuratko, D.F., Schindehutte, M. & Spivack, A.J., 2012, 'Framing the entrepreneurial experience', *Entrepreneurship Theory and Practice* 36(1), 11–40. https://doi.org/10.1111/j.1540-6520.2011.00471.x

Parker, S.C., 2013, 'Do serial entrepreneurs run successively better-performing businesses?', *Journal of Business Venturing* 28(5), 652–666. https://doi.org/10.1016/j.jbusvent.2012.08.001

Polanyi, M., 1966, 'The logic of tacit inference', *Philosophy* 41(155), 1–18. https://doi.org/10.1017/S0031819100066110

Politis, D., 2008, 'Does prior start-up experience matter for entrepreneurs' learning? A comparison between novice and habitual entrepreneurs', *Journal of Small Business and Enterprise Development* 15(3), 472–489. https://doi.org/10.1108/14626000810892292

Putnam, R.D., 2001, *Bowling alone: The collapse and revival of American community*, Simon and Schuster, New York.

Rae, D., 2005, 'Entrepreneurial learning: A narrative-based conceptual model', *Journal of Small Business and Enterprise Development* 12(3), 323–335. https://doi.org/10.1108/14626000510612259

Reynolds, P.D. & Curtin, R.T., 2008, 'Business creation in the states: Panel study of entrepreneurial dynamics II initial assessment', *Foundations and Trends in Entrepreneurship* 4(3), 155–307. https://doi.org/10.1561/0300000022

Robinson, A.T. & Marino, L.D., 2015, 'Overconfidence and risk perceptions: Do they really matter for venture creation decisions?', *International Entrepreneurship and Management Journal* 11(1), 149–168. https://doi.org/10.1007/s11365-013-0277-0

Shane, S., 2000, 'Prior knowledge and the discovery of entrepreneurial opportunities', *Organization Science* 11(4), 448–469. https://doi.org/10.1287/orsc.11.4.448.14602

Shane, S. & Venkataraman, S., 2000, 'The promise of entrepreneurship as a field of research', *Academy of Management Review* 25(1), 217–226. https://doi.org/10.2307/259271

Shane, S.A., 2003, *A general theory of entrepreneurship: The individual-opportunity nexus*, Edward Elgar Publishing, Northampton, MA.

Silva, O., 2007, 'The jack-of-all-trades entrepreneur: Innate talent or acquired skill?', *Economics Letters* 97(2), 118–123. https://doi.org/10.1016/j.econlet.2007.02.027

Singer, S., Amorós, J.E. & Moska, D., 2015, *GEM 2014 global report*, Global Entrepreneurship Research Association, Wellesley, MA.

Stam, W., Arzlanian, S. & Elfring, T., 2014, 'Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators', *Journal of Business Venturing* 29(1), 152–173. https://doi.org/10.1016/j.jbusvent.2013.01.002

Stenholm, P., Acs, Z.J. & Wuebker, R., 2013, 'Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity', *Journal of Business Venturing* 28(1), 176–193. https://doi.org/10.1016/j.jbusvent.2011.11.002

St-Jean, É., Tremblay, M., Janssen, F., Baronet, J., Loué, C. & Nafa, A., 2016, 'May business mentors act as opportunity brokers and enablers among university students?', *International Entrepreneurship and Management Journal*, 13(1), 1–15.

Stuetzer, M., Goethner, M. & Cantner, U., 2012, 'Do balanced skills help nascent entrepreneurs to make progress in the venture creation process?' *Economics Letters* 117(1), 186–188. https://doi.org/10.1016/j.econlet.2012.05.002

Tashakkori, A. & Teddlie, C., 2003, *Handbook of mixed methods in social & behavioral research*, Sage, London.

Teddlie, C. & Yu, F., 2007, 'Mixed methods sampling a typology with examples', *Journal of Mixed Methods Research* 1(1), 77–100. https://doi.org/10.1177/2345678906292430

Toft-Kehler, R., Wennberg, K. & Kim, P.H., 2014, 'Practice makes perfect: Entrepreneurial-experience curves and venture performance', *Journal of Business Venturing* 29(4), 453–470. https://doi.org/10.1016/j.jbusvent.2013.07.001

Trevelyan, R., 2011, 'Self-regulation and effort in entrepreneurial tasks', *International Journal of Entrepreneurial Behavior & Research* 17(1), 39–63. https://doi.org/10.1108/13552551111107507

Turton, N. & Herrington, M., 2012, *Global entrepreneurship monitor 2012 South Africa*, Global Entrepreneurship Research Association, Cape Town.

Ucbasaran, D., Westhead, P. & Wright, M., 2008, 'Opportunity identification and pursuit: Does an entrepreneur's human capital matter?', *Small Business Economics* 30(2), 153–173. https://doi.org/10.1007/s11187-006-9020-3

Unger, J.M., Rauch, A., Frese, M. & Rosenbusch, N., 2011, 'Human capital and entrepreneurial success: A personal-analytical review', *Journal of Business Venturing* 26(3), 341–358. https://doi.org/10.1016/j.jbusvent.2009.09.004

Van der Sluis, J., Van Praag, M. & Vijverberg, W., 2008, 'Education and entrepreneurship selection and performance: A review of the empirical literature', *Journal of Economic Surveys* 22(5), 795–841. https://doi.org/10.1111/j.1467-6419.2008.00550.x

Wasdani, K.P. & Mathew, M., 2014, 'Potential for opportunity recognition along the stages of entrepreneurship', *Journal of Global Entrepreneurship Research* 2(1), 7. https://doi.org/10.1186/2251-7316-2-7

Wiklund, J., Davidsson, P., Audretsch, D.B. & Karlsson, C., 2011, 'The future of entrepreneurship research', *Entrepreneurship Theory and Practice* 35(1), 1–9. https://doi.org/10.1111/j.1540-6520.2010.00420.x

World Bank, 2012, *World development report 2013: Jobs*, World Bank, Washington, DC.

Yusuf, J.E., 2012, 'Why do nascent entrepreneurs use external assistance programs?', *Journal of Entrepreneurship and Public Policy* 1(2), 166–182. https://doi.org/10.1108/20452101211261444

A qualitative approach to the entrepreneurial education and intentions nexus

Authors:
Takawira M. Ndofirepi[1]
Patient Rambe[1]

Affiliations:
[1]Department of Business Support Studies, Faculty of Management Sciences, Central University of Technology, South Africa

Corresponding author:
Takawira Ndofirepi,
takandofirepi@gmail.com

Background: Owing to the popularity of entrepreneurship as an alternative to formal employment, entrepreneurship education has become the main instrument for equipping graduates with survivalist and innovative skills for new venture creation in their post-college life. However, despite the growing body of literature on the entrepreneurship education–entrepreneurial intention nexus, there are limited studies based on qualitative methodologies covering this relationship.

Aim: This article develops an in-depth understanding of the interface between exposure to entrepreneurship education and the entrepreneurial intention of students.

Setting: The study draws on the perceptions of 27 purposively selected national certificate level students at a Zimbabwean polytechnic.

Methods: The study used an interpretive qualitative research design, with data being collected through focus group discussions.

Results: Findings suggest that while passive learning and teaching methods were critical to orienting students towards the entrepreneurship field, over-dependence on theoretical content, teacher-dominated delivery, the absence of deep practical orientation and engagement with industry undermined the significance of tertiary level entrepreneurship education.

Conclusion: To enrich the development of potential entrepreneurs, the implication of these findings is that educators and policymakers should address various aspects of the entrepreneurship education value chain (from content creation, delivery strategy, enhancing practical orientation of the subject, and developing lasting relations with industry long before entrepreneurship starts) that potentially affect students' willingness to engage in future entrepreneurship.

Introduction

In the new global economy, entrepreneurship has become a central issue for the socio-economic development of nations. Against this background, the need to groom individuals who are intending to pursue entrepreneurial careers is being experienced by national governments and educators. Arguably, this explains why higher education institutions (HEIs) worldwide increasingly seek to integrate entrepreneurship education into their educational curricula. A sobering fact, however, is that that there is no foolproof prototype for effective entrepreneurship education (Maritz & Brown 2013). In fact, Professor William J. Baumol interviewed in Griffiths et al. (2012:617) lamented that: 'We do not know what works in teaching innovative entrepreneurship. We are using certain teaching methods because our teachers used those methods'. Against this background, there is a need to understand students' situated experiences of extant entrepreneurial education practices and their implication for learning outcomes, especially entrepreneurial intent. This understanding is particularly important in the least developed countries such as Zimbabwe, which is plagued by a high rate of graduate unemployment and poverty. This context, arguably, needs human capital development practices that embed innovative economic behaviour.

Although substantial research on entrepreneurship education and its learning outcomes has been carried out worldwide, empirical evidence on the specific aspects of entrepreneurial education that ignite entrepreneurship intention and activities of the innovative type is scarce and inconclusive (Baumol 2005; Griffiths et al. 2012; Mayhew et al. 2012). Actually, the

existing literature on the association between aspects of entrepreneurship education and entrepreneurship intention places less emphasis on the entrepreneurship intentions of vocational education students in struggling economies (Fulgence 2015; Mwasalwiba 2009). For this reason, it is important to expand the body of knowledge with respect to entrepreneurship education to fully comprehend how it affects the intention of students to engage in entrepreneurship.

Polytechnic colleges are a potentially interesting target group for studies exploring the entrepreneurship education–entrepreneurship intention nexus given their unique educational mandate in the higher education sector. In Zimbabwe, polytechnics are intended to provide a blend of theoretical and practically oriented education, with the aim of producing human resources who are vocationally ready (Phuthi & Maphosa 2007). In other words, the thrust of polytechnics is to provide technical and vocational education and training. Apart from this, these institutions are also meant to promote technology generation and transfer. Study options at such institutions include short courses, pre-apprenticeships, apprenticeships, national certificates, national diplomas, higher national diplomas through to undergraduate degrees in applied sciences, commerce and engineering (Lee 2010). The popularity of this education model in developing countries lies in its emphasis on creating a human resource inventory equipped to drive a society's industrial growth agenda. This is particularly relevant for a country like Zimbabwe which is struggling economically and has endured sustained de-industrialisation and high formal unemployment (over 80%) following its Fast-track Land Reform Programme initiated in the year 2000 (Schmuck 2017).

While compulsory entrepreneurship education programmes are enforced at Zimbabwean polytechnics as a way to prepare prospective entrepreneurs and business owners, very limited studies, to the researchers' knowledge, have been conducted to assess their effect on students' intention to engage in entrepreneurship. Mindful of the urgent need to equip the youths in stressed economies with business and technological skill inventories requisite to launch business ventures, the necessity to comprehend and optimise aspects of entrepreneurship education that impinge on the students' intention to engage in such activities cannot be over-emphasised. This article employs students' learning experiences in entrepreneurship classes to unravel the entrepreneurship education–entrepreneurship intention nexus. It seeks to answer the research question: 'To what extent do the student experiences of entrepreneurial courses help to illuminate the understanding of their entrepreneurial intention?'

Literature review

Understanding entrepreneurship education

Entrepreneurship education relates to the deliberate transmission of entrepreneurial knowledge (Jones & Colwill 2013). Such knowledge encompasses thoughts, expertise and mindsets relevant to venture creation and survival. In contemporary economies, these qualities are essential for entrepreneurs and non-entrepreneurs alike (Maritz & Brown 2013). Weber (2012) notes that entrepreneurship education is ongoing and that the different phases of one's entrepreneurship career growth path have unique educational requirements. Consistent with this, some scholars perceive different facets of entrepreneurship education. For example, Liñán (2004) views entrepreneurship education as having four subcategories, namely entrepreneurship awareness education, education for start-ups, education for entrepreneurial dynamism and continuing education for entrepreneurship.

There are suggestions that the contemporary economic environment of emerging economies urgently needs a sustained supply of innovative entrepreneurs to sustain it (Braunerhjelm 2010; Marinova & Borza 2011; Wiseman & Anderson 2013). Not undermining the role of replicative entrepreneurs, it is innovative entrepreneurs through their introduction and acceptance of new products and new production methods that propel economies forward and introduce structural changes (Bruton 2014; Mars 2013; Urbano & Guerrero 2013). Thus, institutions of higher learning and other concerned stakeholders have a critical role in educating graduates to equip them with essential skills and orientation for innovation and dynamism.

In view of the limited research that examines the impact of specifics of entrepreneurship education on different entrepreneurship intentions, this study postulates that the mode of entrepreneurship education that an individual is exposed to influences the nature of entrepreneurship that an individual intends to engage in. Extant literature reveals that scholarly work that connects teaching and learning methods in entrepreneurship education with the effectiveness of learning outcomes has already been undertaken (Balan & Metcalfe 2012; Taatila 2010; Ulvenblad, Berggren & Winborg 2013). Most of these vouch for active learning methods as being more effective in grooming nascent entrepreneurs (Davies & Gibb 1991; Vincett & Farlow 2008). Ojastu, Chiu and Olsen (2011:399) note that despite the lack consensus on the strengths and drawbacks of various teaching methods in entrepreneurship education, there is convergence of opinion on the view that 'the best way to learn entrepreneurship is to "live" it.' Thus, potential entrepreneurs arguably learn best through entrepreneurial action. Components of such a method of entrepreneurship education include project-based assignments, practical field projects, business plan competitions, computer-based business games and simulations, college-supported business incubators, micro field–based student consulting and the involvement of external mentoring schemes.

Entrepreneurship education in the Zimbabwean higher education sector

Following a 1999 joint review of the state of the education sector, the Zimbabwean government henceforth sought to expand entrepreneurship education to all institutions of higher learning in the country (Nziramasanga 1999). The most compelling evidence of this drive is the emphasis of the 2010–2015 Strategic Plan of the then Ministry of Higher

Education and Technology on the need to reorient the higher education sector towards entrepreneurship-inclined technical and vocational education (Ministry of Higher Education and Technology 2010). Since 2011, all polytechnic students taking national certificate level courses of the Higher Education Examination Council (HEXCO) in Zimbabwe are required to complete a year-long subject in entrepreneurship skills development. Learning occurs through weekly classroom contact where students are exposed to lectures. The students' performance in the subject is assessed using a combination of coursework (i.e. written assignments, in-class tests, business plan) and a final written examination.

Apart from polytechnics, local universities and other vocational training institutions also offer entrepreneurship education and training programmes of different duration and at different qualification levels. While some of the programmes are optional, others have mandatory components for the different qualifications. However, the effectiveness of such programmes is not clear. The fact that diverse students enrol in the entrepreneurship courses for different reasons makes it difficult to have a clear picture of the success of the courses. Some anecdotal and empirical evidence suggest a continuum of student attitudes that range from outright negativity to apparent enthusiasm towards the programmes, with a mixture of indifference and tolerance in between.

Findings from Mauchi et al.'s (2011) study on the state of entrepreneurship education at Zimbabwean universities revealed some teething problems. Their study drew attention to the over-reliance on passive, teacher-centred approaches to entrepreneurship education, while entrepreneurship in reality is rather lively and active. Another observed irony was that the lecturers who conducted the programmes had neither experience of nor qualifications specific to entrepreneurship. These findings are corroborated by results from Hosho, Muguti and Muzividzi's (2013) study on the effect of students' attitude towards entrepreneurship after being exposed to entrepreneurship education. The preceding scholars observed that most students were dissatisfied with the course materials and teaching methods that they were exposed to during their studies. Ndofirepi's (2016) quantitative study on the joint effects of technological creativity and exposure to entrepreneurship education on the entrepreneurship intentions of students at a particular Zimbabwean polytechnics revealed significant positive correlations among technological creativity, entrepreneurship education and entrepreneurship intentions. Unlike Mauchi et al. (2011) and Hosho et al. (2013), Ndofirepi's (2016) study did not explore the teaching and learning approaches that were used at the polytechnic. Such information is arguably essential to sufficiently grasp entrepreneurship at Zimbabwean polytechnics. It is this research gap that the current study seeks to close.

Entrepreneurship intention

Entrepreneurship intention relates to an individual's willingness to engage in business activity in the future (Krueger 2006). Intention is, therefore, a proxy for future course of action. Concomitantly, the entrepreneurship intention construct has been conveniently used in studies assessing the impact of entrepreneurship education programmes on students, given the difficulties associated with attempting to use actual entrepreneurship activity as a yardstick (Thompson 2009). Krueger, Reilly and Carsrud (2000:411) highlight the high and consistent predictive power of intention on planned behaviour, especially 'when that behaviour is rare, hard to observe, or involves unpredictable time lags.' While several entrepreneurial intention theories have evolved over time, the focus of this study is limited to the three commonly used ones, that is, the Theory of Planned Behaviour (TPB), Model of Entrepreneurial Event and Theory of Implementing Entrepreneurship Ideas.

An intention-based analytical framework which is commonly used in entrepreneurship studies is Ajzen's (1991) TPB (Heuer & Kolvereid 2013; Kaijun & Sholihah 2015; Manstead & Parker 2015). Although originally not developed for entrepreneurship, Krueger and Casrud's (1993) study set the scene for making it a foundational conceptual lens for entrepreneurial intention research. The theory portrays entrepreneurship behaviour as an outcome of entrepreneurship intention which in turn is a result of three antecedents, that is, attitudes, subjective norms and perceived behavioural control. Attitude refers to one's predisposition towards a subject and is premised on one's attitudinal beliefs towards a subject (Liñán 2004). Subjective norms relate to the opinions of people who are socially close to an individual (Liñàn 2004). According to Ajzen (1991), the sentiments of individuals such as friends, family, workmates, mentors or role models carry weight in shaping an individual's intention, although their adoption depends on one's willingness to comply. Lastly, perceived behavioural control means self-belief in one's capabilities to undertake a task (Saeed et al. 2014). This factor determines the strength of the likelihood of intention being translated into action (Boyd & Vozikis 1994).

The credibility of this intention-based theory as a measure of the effectiveness of entrepreneurship education lies in its proven strength in predicting planned behaviour in other domains outside entrepreneurship (Ajzen 2015). The model has consistently '... exhibited significant predictive validity, typically explaining 30% of future behaviour.' (Ajzen 1991:179).

Another key intention-based theory of entrepreneurship is Shapero's (1982) Model of Entrepreneurial Event (MEE). It explains an individual's willingness to engage in entrepreneurship in the future in terms of the following three factors: perceptions of desirability (the personal appeal of establishing a business), perceptions of feasibility (extent of belief in one's abilities to start a business) and a propensity to act upon opportunities. The thrust of this model is that individuals are prompted to consider engaging in entrepreneurship following a negative (push factor) or positive (pull factor) disturbance in their normal way of life.

Such disturbances include, dissatisfaction with current employment, loss of employment or the need for independence. However, the strength of the influence of such events is influenced by perceived desirability and feasibility of an entrepreneurial action, as well as one's propensity to act. In the absence of an instigating event, people will continue with their usual ways of life. According to Krueger et al. (2000), perceptions of desirability and feasibility jointly account for over 50% of the variance in entrepreneurial intention, and the propensity to act explains the remainder. Compared to the TPB, the model of MEE has received lesser consideration from entrepreneurship scholars.

Another under explored scholarly contribution in entrepreneurship research is Bird's (1988) Theory of Implementing Entrepreneurship Ideas. This theory suggests that the processes of new venture creation and growth or expansion of existing ones are an outcome of preplanned behaviour. The theory also advances that entrepreneurial intention and activity is an outcome of conscious (rational) and unconscious (intuitive) thought processes against a background of different personal and social–political settings. A key feature of Bird's (1988) theory is its acknowledgement of the role of intention in the establishment and expansion of new ventures. In as much as the theory acknowledges the role of contextual factors in shaping entrepreneurial intention and activity, it falls short of explaining the mechanism through which this occurs.

A closer analysis of the three theories reveals an overlap of components across theories in some instances and a divergence in others. For instance, Krueger and Brazeal (1994) draw parallels between attitude (TPB) and perceived desirability (MEE), as well as perceived behavioural control (TPB) and perceived feasibility (MEE). In addition, Boyd and Vozikis's (1994) attempt at modifying Bird's (1988) theory by incorporating the self-efficacy concepts ended with an unintended consequence of merging the theory with Ajzen's (1991) TPB. More recently, Schlaegel and Koenig (2013) attempted to integrate the TPB and MEE using meta-analytic structural equation modelling. The outcome of this effort was a comprehensive theoretical lens which provided scholars with a fuller understanding of the evolution of entrepreneurial intent.

The relationship between entrepreneurship education and entrepreneurship intentions

Although the influence of entrepreneurship education on entrepreneurial intentions of students is widely researched (e.g. Fayolle & Liñán 2014; Hattab 2014; Iacobucci & Micozzi 2012; Malebana & Swanepoel 2015), this relationship is still a rich niche for further investigation particularly in fragile economies where the drivers of entrepreneurial intention are least understood. The need for further studies is informed by the reality that there is limited research on the stated relationship in such troubled settings (Koshkaki & Solhi 2016). Also, the results from more stable economies do not conveniently apply to those from vulnerable economies (Bruton, Ahlstrom & Obloj 2008). This scenario creates research space to explore the circumstances under which entrepreneurial intention and actual entrepreneurship flourish in economies that are beset with poverty, inequality and unemployment.

Results from Bae et al.'s (2014) meta-analytic review of the relationship between entrepreneurship education and entrepreneurial intention portray an inconclusive and somewhat contradictory picture of the effect of entrepreneurship education and training on entrepreneurial intention. The study which results from 73 previous studies revealed a weak but positive correlation between entrepreneurship education and entrepreneurial intention of students. However, the association was not significant after controlling for pre-education entrepreneurial intentions. The study also showed that the linkage was moderated by factors such as attributes of entrepreneurship education, students' differences and cultural values. Nabi et al.'s (2017) systematic review of publications between 2004 and 2016 on the impact of entrepreneurship education in higher education revealed a predominantly positive relationship between entrepreneurship education and entrepreneurship intention of students. Out of 81 articles reviewed, 61 of them reported a positive link between entrepreneurship education and participants' start-up intentions. Although 18 of the articles reported mixed, negative, or non-significant results for the link, the two seminal studies (i.e. Bae et al. 2014; Nabi et al. 2017) largely support a positive correlation between students' exposure to entrepreneurship education and their intention to partake in entrepreneurship.

More recently, Mehtap et al.'s (2017) investigation of perceptions of female Jordanian business students towards socio-cultural barriers to entrepreneurship revealed that a strong supportive education system to some extent may reduce the perception of potential barriers to entrepreneurship. Such a scenario enhanced the students' entrepreneurship inclination, albeit its limited overall impact. These findings resonate with those of Shah and Soomro's (2017) investigation of entrepreneurial intention of public sector university students in Pakistan which revealed that entrepreneurship education graduates were more willing to engage in entrepreneurship after completion of their degrees. However, this relationship was subject to the graduates' perception of positive support from their families, friends, teachers and experts. Such conditional ties highlight the inadequacy of entrepreneurship education as a sole determinant of the entrepreneurship intentions of university students. Perhaps, a focus on linking entrepreneurship education with the broader entrepreneurship development ecosystem as suggested by scholars like Maritz (2017) and Belitski and Heron (2017) would be more appropriate.

The different results derived from the studies reviewed in this subsection can be reasonably explained by the fact that they used different theoretical frameworks and methodologies. Another reason could be that their focus was

on diverse entrepreneurship education programmes, some voluntary and others compulsory. Interestingly, the studies that revealed a negative correlation between exposure to entrepreneurship education and entrepreneurship intent of graduates were the compulsory ones which incorporated willing as well as reluctant participants (Oosterbeek, Van Praag & Ijsselstein 2010; Singh & Verma 2010; Von Graevenitz, Harhoff & Weber 2010). Such programmes can be equated to the compulsory 1-year entrepreneurship skills development subject offered at all Zimbabwean polytechnics.

Research methodology

Because the purpose of this study was to get an in-depth understanding of how students' entrepreneurship education experiences had a bearing on entrepreneurship intention, an interpretive qualitative research methodology coupled with focus group discussions was deemed appropriate. The approach enabled the researchers to deeply explore the potential effect of current teaching and learning methods in embedding an inclination towards entrepreneurship among prospective entrepreneurs.

To save time and other resources, the researchers scheduled three focus group discussions (one per group) with participants instead of individual one-on-one interviews. According to Cohen, Manion and Morrison (2007), face-to-face individual interviews might be intimidating for some people, and so group interviews were considered desirable. Apart from that, groups brought together people with diverse opinions and interacting with such individuals at the same time facilitated the cross-checking of information provided.

A total of 27 students registered and about to complete a year-long compulsory course in entrepreneurship skills development at a Zimbabwean polytechnic in the year 2015 were purposively selected. Criteria for inclusion were: (1) availability and (2) willingness to participate. It was felt that the selected number and diversity of the student backgrounds would generate rich information critical to the success of this study. The first author of this article employed a trained research assistant to recruit participants for the study. The recruitment process was done in May 2015 and took less than a week to complete. Invitations for participation were posted on notice boards found around the polytechnic campus. A total of 46 students responded by expressing their willingness to partake in the study. However, the number narrowed to 27, nine from each of the three academic divisions (Commerce, Applied Sciences and Engineering) at the college. The details of participants are summarised in Table 1.

Students were duly informed of the rationale for the study, the potential benefits of the research to the academic community and that their participation in the study was voluntary. They were also advised of their unconditional right to withdraw from the study if they wished. Likewise, notification of the right not to respond to questions considered sensitive was given. Lastly, participants were given a guarantee of the confidentiality of their contributions and that these were to be used only for the purpose of the study. Before recruiting participants, permission to conduct the study was sought from the principal of the concerned institution.

TABLE 1: Details of participants.

Applied Sciences group	Business studies group	Engineering group
Four males and five females.	Five males and four females.	Six males and three females.
All participants had no previous entrepreneurship experience.	All participants had no previous entrepreneurship experience.	All participants had no previous entrepreneurship experience.
Ages of participants ranged from 19 to 24 years.	Ages of participants ranged from 19 to 28 years.	Ages of participants ranged from 19 to 39 years.
All participants were of African race.	All participants were of African race.	All participants were of African race.

Research procedure

The planning stage of the data collection process involved splitting the student group into three equal clusters according to the field of study, that is, Business Studies, Engineering and Applied Sciences divisions. Each cluster comprised nine students. Each participant was allocated a particular number within their class group (e.g. Business Studies-participant 1 [B1]; Applied Sciences-participant 1 [AS1]; Engineering participant 1 [E1]). Three days were identified and set aside for the separate focus group discussions. Arrangements were made to meet between 12:00 and 14:00 on the designated days. A free lecture hall was identified as the ideal venue for these discussions as it was considered free of interruptions, and a non-threatening and open environment that ostensibly neutralised lecturer–student power relations. No incentives were offered to participants. However, the moderator always started each session by thanking the participants for turning up for the interview and then outlining the purpose of the study and assuring confidentiality of the whole process.

The interview guide used during the interviews focused on the participants' experiences of the teaching and learning process during entrepreneurship education. The first author also listed a number of focus areas like the students' understanding of entrepreneurship and how the learning process that they went through influenced their inclination towards entrepreneurship careers. However, the natural flow of conversation as discussions progressed was considered. Each session always ended with the moderator asking the participants if they had any information on their experiences during entrepreneurship education that they wished to add.

During the discussions, the first author facilitated and guided the interaction process. Group facilitation involved introducing a topic and then raising a question, moderation of the discussion and probing for the solicitation of rich information. The proceedings were recorded on tape for post-interview content analysis. In addition to recording the discussions on tape, a senior student from the office management department was recruited to transcribe the discussion on behalf of the researchers.

Data analysis was conducted by means of Burnard's (1991) thematic content analysis and the whole process was managed manually. The researchers first forwarded the interview texts which were captured in Microsoft Word to participants for verification and proofing before carrying out the actual analysis. After getting feedback and correcting the raw data records, the researchers went through all the recorded text to get an appreciation of data. The researchers took notes on the general impressions they got as they read through the texts. Using the notes, the researchers segmented the data into analytical units by way of bracketing. Open coding was used to detect keywords and label the bracketed data with preliminary codes. Following this, the researchers then attached meanings to the allocated codes. After that, the researchers identified some clusters of codes which they then transformed into themes. Patterns, relations and trends that emerged from the data were then noted in the themes. The researchers enumerated the frequency with which certain observations occurred as a way of identifying prominent themes. Only those themes that fitted the research objectives were considered for further analysis.

Trustworthiness

To ensure the trustworthiness and eliminate bias in the results, Lincoln and Guba's model was used to increase the credibility of qualitative research (Lincoln & Guba 1985). Two rounds of content analysis were performed on the field recordings. The first round was to generate diverse views independently. The latter was part of member checking to cross-check if researchers' documentation of report findings were consistent with what the research participants actually said. Also, the main author sent the focus group discussion transcripts to the co-author for comparability and cross-examination. The main author also did the same and they exchanged notes and refined findings after clearing some different views and ambiguities. This was done as part of corroboration of evidence and promoting trustworthiness of results. Thus, consideration was given to the following issues: credibility (verifying the truthfulness of the results by means of the researcher's reflective notes and peer inspection; transferability (relevance of the findings) was guaranteed through 'thick' characterisations of the data. Dependability or the consistency of the findings was safeguarded through documenting the key phases of the research process, particularly the data collection and analysis procedures.

Ethical considerations

All ethical considerations such as informed disclosure, voluntary participation and protection from harm were considered and adhered to in the study.

Findings

This section presents the main findings of the study through a synthesis of the results from focus group discussions. The analysis of the data collected revealed five overarching themes across the three focus groups (see Appendix 1 for illustration of how the themes were manually derived). The findings to be presented revolve around the identified themes.

Theme 1 (a): Conception of entrepreneurship

The first theme to emerge from the responses was the students' conception of entrepreneurship. Students' perspectives on entrepreneurship were varied and multiple interpretations of what it meant to be an entrepreneur. Three potentially intersecting interpretations which arose from their conception of entrepreneurship were self-employment, self-reliance and business incubation. The following quotes demonstrate this outlook:

> 'Entrepreneurship is about being self-employed and economically self-reliant.' (Participant E3, male, aged 31)

> 'Entrepreneurs own business entities.' (Participant E7, female, aged 21)

> 'Entrepreneurship is about being your own boss.' (Participant AS1, female, aged 20)

> 'An entrepreneur is one who owns a small or medium-sized business for the sake of making profit.' (Participant B2, male, aged 26)

The preceding quotes reveal a narrow minimalist understanding of entrepreneurship. Although the reasons for such an interpretation are not obvious, it is possible that all the entrepreneurs that the students knew were self-employed and worked independently. This is also a plausible explanation for those participants who demonstrated a reductionist perspective by confining entrepreneurship to starting and owning a small business. Yet, growth is one of the defining features of an entrepreneurial business. Apart from that, entrepreneurship can also thrive within large cooperations. It can be concluded from participants' views that what most them considered as authentic entrepreneurship were purely survivalist activities mostly carried out in the informal sector of the economy.

Theme 1 (b): Value of entrepreneurship education

To unravel the connection between entrepreneurship education and entrepreneurship intentions of students, research participants were expected to articulate the value they accorded to entrepreneurship education in fostering their entrepreneurship intentions. Under the theme of entrepreneurship education, the sub-themes entrepreneurial courses and environmental hostility emerged from the research data. These are unpacked in the subsequent sections of this article.

Entrepreneurship courses

The majority of the participants in the study felt that the entrepreneurship education they received had equipped them with the necessary skills to start and manage small businesses. The following sentiment was expressed by a participant:

> 'Before taking the course in entrepreneurship, all I knew was how to fix cars. That is what I came here to learn. However, I have earned more than what I bargained for. I now know the procedure to follow when I want to register a business. I have an idea about the administrative and monetary aspects of running a business even though I have no practical experience of running one.' (Participant E4, male, aged 22)

The preceding view suggests that the entrepreneurship course provided the student with some basic preparation for the business environment. Other participants concurred that they could prepare a business plan, understood market analysis and had the requisite skills to run a business after undergoing entrepreneurial education. Other participants highlighted the significance of the course in augmenting their soft skills which are integral to setting up and managing a business. One participant described the influence of the entrepreneurial course on their self-confidence:

> 'Taking part in each class raised my self-esteem and gave me the confidence that I can actually succeed as an entrepreneur.' (Participant B2, male, aged 26)

Remarkably, the skills which the participants talked about were not unique to entrepreneurship but common to traditional business management (Pittaway & Edwards 2012). This insinuates that, except for business plan preparation, entrepreneurship was being taught in a manner that was not different from any other business subject. Some scholars are sceptical about using business plan preparation as a way of grooming entrepreneurs (Ojastu et al. 2011). They argue that although the process of business planning is critical in a business set-up, the actual document does nothing to aid innovation and stifles creativity through encouraging conformity and rigidity. Bearing the foregoing in mind, the appropriateness of modalities in entrepreneurship education at Zimbabwean polytechnics becomes questionable. Though inadequate for sustaining entrepreneurship, the traditional modes of entrepreneurship education delivery have the potency to ignite entrepreneurship intention among students.

Role of environmental hostility

When asked if they intended to initiate a business venture within 12 months of completing their course of study, the majority view among participants was that exposure to entrepreneurship education had attracted them to entrepreneurship. The following quote illustrates the participants' position:

> 'I realised even more than before that a negative attitude in life is not helpful at all. Even if things are hard in life … make lemon from lemonades. I might fail in some instances just like any other entrepreneur, but I also know that a failure means that another opportunity for success will come up.' (Participant AS3, male, aged 24)

Compared to engineering and applied sciences students, a substantial number of business students preferred a prestigious job in a good organisation to self-employment. This preference suggests that technical fields are more amenable to self-employment and entrepreneurship than non-technical fields. However, the majority of the participants also hinted that they considered the course to be interesting and useful in developing their entrepreneurial knowledge.

What cannot be ignored from students' expressed views was the element of inevitability of an entrepreneurial career trajectory. There were suggestions that the lack of decent formal employment opportunities left them with no choice but to embrace entrepreneurship education and prepare for entrepreneurial careers. Hence, the expressed intention to engage in entrepreneurship is probably an outcome of the collective influence of entrepreneurship education and a hostile economic outlook. Environmental hostility describes a socio-economic, political and cultural environment that is inimical to the pursuit of growth-oriented and sustainable business ventures and thriving entrepreneurship. Students described the Zimbabwean business environment as non-conducive and not vibrant for the pursuit of economic opportunities.

Theme 3: Entrepreneurship education and entrepreneurship attitudes

Most participants expressed their desire to engage in entrepreneurship upon completing their programme of study, particularly if they had the financial means to do so. One participant expressed the following sentiment:

> 'The current economic situation leaves me with little choice but to settle for anything to eke a living out even if it means being creative enough by doing what we did not learn at school.' (Participant AS5, male, aged 24)

What can be interpreted from the preceding comment is that economic turbulence can breed a tolerance for ambiguity and uncertainty. This can strengthen one's resolve to engage in entrepreneurship. However, there is a need to be wary of a potential negative effect on learning which a sense of lack of choice can instil. Another participant expressed the following sentiment:

> 'Yes, entrepreneurship education enlightened me to entrepreneurship as a career. Since there are very few good job opportunities available these days, I do not have many options. I have to improvise and do what others are doing to earn a living.' (Participant E2, male, aged 24)

From the preceding statement, it is evident that difficult circumstances forced some of the participants to develop personal resilience. Thus, hostile circumstances provide the displacement event needed to stir one to find means to survive. While the entrepreneurship education received equipped the participants with some coping mechanisms, these were inadequate for the reality of the actual business environment. The following quote from a participant is worth noting:

> 'Yes, the entrepreneurship education that we get at college has enhanced my entrepreneurial knowledge. I can draft a business plan but I never got a chance to practically run a proper business.' (Participant B7, female, aged 21)

The preceding view stresses the point that entrepreneurship knowledge is a significant but insufficient condition for successful entrepreneurship as practical orientation is equally critical.

Theme 4: Social influence on entrepreneurship career choice

Another theme which emerged from the research data is the role of social influence on entrepreneurship career. From their responses, participants indicated the various facets of their social life that affected how they viewed pursuing entrepreneurial careers. These aspects were grouped as social approval, social ambivalence and environmental dynamism. These are dealt with individually in subsequent sections of this article.

Social approval

When asked about whether those close to them would approve their interest in entrepreneurial careers, the ensuing views were affirmative. It seems there was a general acceptance of entrepreneurship as a worthwhile career path in the participants' community as evidenced by the following quotes:

> 'Definitely, those close to me will support me even though they may be sceptical of my business capabilities. In our community, successful entrepreneurs are admired and enjoy high status.' (Participant AS9, female, aged 22)

> 'Yes, there are many people who have done well in our local vicinity. People socially close to me often make positive insinuations about self-employment.' (Participant E9, female, aged 34)

The view expressed in the preceding quotes is a departure from the traditional belief in pursuing a high profile paid job as compared to being an entrepreneurial career.

Social ambivalence

Although participants expressed a sense of acceptance of entrepreneurship among those within their social circles, some comments revealed an element of mixed feelings. The following quote is a case in point:

> 'Those close to me will approve even though my family members often say that they sent me to school so that I can get a high paying job.' (Participant B1, female, aged 21)

The preceding comment can be interpreted as a case of social ambivalence. This refers to a situation where an individual's mind is in a state of conflict which may lead to indecisiveness. In the context of the current study, a conflicted state of mind may undermine entrepreneurship intention.

Environmental dynamism

Another important sub-theme which emerged was the role of environmental dynamism in shaping social acceptance and intention to engage in entrepreneurship. What emerged from the respondents' comments is that a conducive environment fosters a positive psychological disposition for entrepreneurship exploits. This influence can be observed in the following comment which captures the effect of the affirmative action legislation in Zimbabwe.

> 'They will obviously approve of it given the current indigenisation and black economic empowerment drive. Entrepreneurship is currently the in thing!' (Participant E6, male, aged 23)

Theme 5: Pedagogical approaches

Another theme that emerged from the examination of the participants' experiences of entrepreneurship education is related to pedagogical approaches. During the interviews, the research participants revealed their perceptions of the teaching and learning methods used in conducting entrepreneurship education at their institution. The meanings attached to these perceptions included passive learning methods, transmission pedagogies and an ambiguity of learning outcomes, thereby uncovering a lack of authenticity and lack of practical orientation.

Passive learning methods

The study findings revealed that participants were not exposed to much practical experience in running a business during the course of their entrepreneurship education programme. They complained about the drudgery of going through lectures in which they would only listen to the lecturer and take notes. The following remarks made by one of the participants provide the evidence to that effect:

> 'While our lecturers always emphasised the importance of entrepreneurial careers, we were never attached to any mentors to learn how entrepreneurs operate. Neither were established entrepreneurs ever invited to give talks nor motivational lectures on the merits of pursuing entrepreneurial careers.' (Participant E6, male, aged 23)

The preceding quote insinuates that when adult learners embark on an educational course of study, they usually have specific expectations about the nature of the learning content and methods which they will be exposed to. If other factors are unchanged, one would expect that students' frustration in the classroom may undermine the attainment of learning outcomes such as the development of positive attitudes towards entrepreneurship.

Transmission pedagogies

Participants pointed out a disgruntlement with the manner in which entrepreneurial knowledge and skills were transmitted to them. The following quote serves as an illustration:

> 'Yes I learnt how to prepare a business plan, but I am not sure if I can put it into practice. All that I know about entrepreneurship is limited to the notes I got during the lectures.' (Participant B6, male, aged 23)

The sentiments expressed here are intricately connected to those noted in the previous sub-theme and they seem to reflect the potentially alienating effect of existing learning methods. However, these sentiments are somewhat a contradiction given the participants' overwhelming intention to engage in entrepreneurship upon graduating. Possibly, other factors like the harsh economic realities could have exerted a greater influence on swaying participants to articulate a positive inclination towards entrepreneurial careers.

The ambiguity of learning outcomes

A key requirement for meaningful learning to take place in a higher education context is the need to communicate clear learning outcomes to learners. This is particularly relevant in an adult learning context where self-directed and autonomous learning is encouraged. However, the sentiments expressed by some participants in the current study portrayed a picture of ambiguity and learner disinterest. This can be observed in the following quote:

> 'I am not sure of what innovative activity I can engage in on graduation. After all, I am only doing secretarial studies. I only did entrepreneurship studies because it is a requirement that I complete the subject as a condition for graduation.' (Participant B2, male, aged 23)

The preceding quotation is a classic case of a disengaged and coerced learner whose goal is to graduate and find the available means to achieve that. It would be surprising if such a student would eventually go on to become an entrepreneur as evidenced by an apparent lack of a clear entrepreneurial goal. If anything, the self-professed intention to engage in entrepreneurship in the future may turn out to be not authentic.

Lack of authenticity

An important sub-theme which also emerged during the course of the study is related to the perceived lack of entrepreneurial authenticity in the entrepreneurship education programme which students underwent. The respondents felt that what they learnt did not reflect the reality prevailing in actual entrepreneurship practice. The following remark is an example of such a sentiment:

> 'While we learn about what is required to start and run a small business, there are just too many risks involved in running a real business that is not emphasised by our lecturers. I have heard some people, including those already in business, complaining about many risks and challenges associated with operating a business entity. In our case, why can't the college commit resources towards assisting interested current and former students with settingup new businesses?' (Participant AS2, female, aged 21)

The remark presented above reflects how adult participants in entrepreneurship education are problem-centred in their perspective. Evidently, adult learners are more interested in acquiring knowledge and skills that adequately equip them with the tools to cope with the harsh realities of an actual business environment rather than accumulating basic knowledge about entrepreneurship. It is possible that the entrepreneurial intention expressed by the participants may not be realised if they feel a sense of entrepreneurial inadequacy.

Lack of a practical orientation

The last sub-theme that emerged from the responses is related to the lack of practical orientation. Participants mentioned how their entrepreneurial learning was confined to the lecture room and textbook content. What was evident from their sentiments was a desire to experience actual entrepreneurship as part of the learning process. One participant aired the following view:

> 'Why can't our lecturers arrange for formal field visits to established entrepreneurial business so that we can visit some established entrepreneurial businesses in our locality. There are plenty of those around. If such trips are too costly for the institution, I don't think that it would be that expensive to invite some entrepreneurs to come and explain to us how they went about setting up their businesses, the challenges they faced and how their businesses continue to survive.' (Participant AS5, male, aged 24)

The preceding statement insinuates a need for entrepreneurship educators to depart from the orthodox, passive pedagogies to more engaging, action-oriented and student-centred teaching and learning. In such instances, students learn by doing or experience and are afforded the opportunity to practically develop their skills.

Discussion of findings

The findings section unveiled the various themes that emerged from the study participants' responses. In this section, these themes are discussed in relation to existing literature on the topic.

On the conception and value of entrepreneurship themes, the findings of this study revealed that participants had a constricted and reductionist outlook which limited the appreciation of entrepreneurship to small business ownership and self-employment. The deficiency of this perspective is underscored by some scholars who highlighted the differences between small business ownership and entrepreneurship (Carland et al. 2007; Cuervo, Ribeiro & Roig 2007). Others highlighted the possibility of large firms and their employees also being able to engage in entrepreneurial behaviour (Sharma & Chrisman 2007). The source of the simplistic interpretation of entrepreneurship may be traced to the widely distributed publicity messages accompanying some of the Zimbabwean government's recent economic empowerment initiatives. The pitch of most of these communications emphasises only the self-employment and small business ownership aspects of entrepreneurship. As a result, by virtue of being consumers of such communications, the students embraced a similar narrow understanding. Against this background, a cautionary tale would be that probably the participants' professed entrepreneurial intentions were essentially plans to start small-scale survivalist activities as opposed to innovation-driven enterprises.

Turning to the entrepreneurial attitude and self-efficacy themes, most polytechnic students interviewed in the current study who had undergone entrepreneurial education demonstrated a positive entrepreneurial attitude and self-efficacy. This suggested that exposure to entrepreneurial education through polytechnic lectures and business plans

had attracted the students to consider entrepreneurial careers. This finding corroborated Robinson et al.'s (1991) claim that positive attitudes could be reinforced and entrenched through educational processes. More so, the findings resonate with previous findings that attitude explained between 30% and 50% of intention to engage in a particular behaviour (Autio et al. 2001; Packham et al. 2010). Moreover, Schwarz et al. (2009) also confirmed the significance of attitudes in strengthening the entrepreneurship intentions of university students.

Nevertheless, researchers should be cautious when interpreting the influence of attitude on entrepreneurship intention. Dohman et al. (2011) warn that sometimes individuals (including students) deliberately alter their articulated attitudes because of self-serving biases, lack of serious attention and other strategic motives. Against the troubled economic context of Zimbabwe, the attitudes expressed by participants in the current study could have been a reflection of desirable aspirant sentiments influenced by the prevailing socio-economic conditions in the country rather than a genuine intention to create new ventures. Hence, situated socio-political circumstances such as lack of decent employment, desire for political correctness towards the indigenisation and black economic empowerment programme the Zimbabwean government is peddling could have influenced participants' positive sentiments towards entrepreneurial careers.

One of the themes to emerge from the study was entrepreneurial self-efficacy. This relates to individuals' belief in their own abilities to work towards a targeted goal (Bandura 2006) of pursuing entrepreneurship. According to Bandura (1994), self-efficacy beliefs reflect the degree to which one is committed to a goal regardless of obstacles encountered on the way. A substantial number of participants in this study expressed some degree of self-belief in their ability to launch and run their own businesses. It is possible that the college students' exposure to entrepreneurial education at polytechnic level could have provided a displacement event (pull factor) which cemented self-belief about their entrepreneurial capabilities. This corroborated the claims of Shapero's (1982) MEE that people could be pushed towards considering entrepreneurship careers if they experienced an eye-opening event, which shook them out of their comfort zone, and convinced them about the feasibility and viability of venturing into entrepreneurship. It is plausible to expect that entrepreneurship education experiences coupled with a hostile economic environment could have exerted pressure on the participants to consider an entrepreneurial career.

Furthermore, a close analysis of the study findings revealed the emergence of the social valuation theme. In line with some past studies, the results affirmed the roles of the socially close in influencing student expectations to participate in new venture creation in the future. However, such effect depends on the willingness of participants to comply with the significant others' expectations (Souitaris Zerbinati & Al-Laham 2007). Some studies confirm that the nature of the entrepreneurship education acquired plays a critical role in shaping normative beliefs and the willingness of respondents to comply with the expectations of the socially closed. This finding contradicts previous research that has shown that compared to the other antecedents of entrepreneurship intention, normative beliefs exert the least effect on intentions and consequently have weak predictive power (Autio et al. 2001; Fini et al. 2009). However, social approval does not, in the practical sense, translate students' sentiments into the actual new venture creation. In view of this, the overwhelming social approval of entrepreneurship which was insinuated by participants must not be uncritically affirmed. What is important is the willingness of the participants to comply with such expectations.

Although the positive role of social approval in modelling entrepreneurship intention is not new (see Entrialgo & Iglesias 2016; Shiri et al. 2017; Thomson & Minhas 2017), the current study uncovered the important role of social ambivalence and environmental dynamism in the entrepreneurship education–entrepreneurship intention interface. Notwithstanding the mixed feelings towards entrepreneurship careers expressed by their socially close participants in this study, the participants were confident of their capacity to succeed in entrepreneurship. This suggests that a supportive environment, just like a hostile environment which increased tolerance for ambiguity and resilience to succeed, can exert a positive psychological disposition towards entrepreneurship.

Another theme that emerged from the study is the nature of pedagogical approaches used in entrepreneurial education. As far as the methods of instructions employed were concerned, this study reported the predominance of theoretical approaches to teaching entrepreneurship and the absence of a hands-on approach to implementing it. Although such methods are a useful point of departure for a jobless economy, they could be counterproductive if no authentic strategies for accomplishing practical entrepreneurship were harnessed to convert entrepreneurial aspirations into reality. This finding buttresses the growing consensus that contemporary entrepreneurship education should have different content and pedagogical foci. It also resonates with Williams and Gentry's (2017:9) proclamation that 'until students are allowed out of their seats to engage in behaviours other than note taking, they will not understand how to act entrepreneurially'. Hence, andragogical teaching and experiential learning via games, simulations or even actual venture creation may improve learning outcomes like entrepreneurship intentions (Rideout & Gray 2013).

It also emerged from the study that the participants were discontent with passive teacher-centred approaches to learning, which were dependent on highly decontextualised theoretical content. In addition, some participants complained about the ambiguity of learning outcomes. Further, they raised concerns about the lack of authenticity of their learning

programmes as demonstrated by what they perceived as the failure of entrepreneurship education to reflect the actual entrepreneurship environment. This revelation highlights the centrality of fulfilling learners' needs and resonates with contemporary learning theories that propagate the adoption of self-directed and student-centred learning approaches as integral to realising learning outcomes (Altinyelken 2011; Bron, Bovill & Veugelers 2016; Merriam, Caffarella & Baumgartner 2012; Toh 2016). In addition, the findings demonstrate the emergence of critical learners who enrol in educational programmes not only for certification purposes but also for other skills relevant to their lives. Against this background, there is a need to shift orientation from preparing students for examination to transfer of contextualised skills if the meaningful education of future entrepreneurs were to take place.

In addition to what has been discussed, the current study made some subtle contributions to the entrepreneurship education–entrepreneurship intention nexus discourse. While many studies stress the role of entrepreneurship education in shaping entrepreneurial intention (Fayolle & Liñán 2014; Hattab 2014; Iacobucci & Micozzi 2012; Malebana & Swanepoel 2015), they tend to neglect the influence of environmental hostility in shaping entrepreneurship intention and other associated variables. It emerged that harsh economic circumstances with limited economic choices compelled individuals to have entrepreneurship inclinations. Equally important, the study revealed how personal resilience and a tolerance for uncertainty under harsh economic circumstances engendered entrepreneurial intentions.

Conclusion and recommendations

This study provided some important qualitative insights into the influence of students' experiences of entrepreneurship education on their entrepreneurship intentions in a struggling economy context. While statistical validation could have been an alternative to qualitative research to allow for the interrogation of the significance of these antecedent variables as shown by numerous proximal researchers, the current study was concerned about the crystallisation of collective views of students to provide diverse opinions and comparisons of student perspectives. The qualitative findings suggested that the students' perceptions of the teaching and learning process influenced their attitudinal beliefs, normative beliefs and entrepreneurial efficacy and subsequently entrepreneurship intentions. The existing educational practices positively influenced the entrepreneurial intentions of participants given the overwhelming student willingness to engage in business. Though not undermining the explanatory and predictive power of the TPB, it emerged that the participants showed an inclination towards replicative entrepreneurship activities. Only a minority, mostly information technology students, expressed their intention to innovate without doubting their capacity. The explanations for failure to engage in groundbreaking innovative activity included lack of seed funding, the absence of capacity, building support to initiate and deepen venture creation, lack of practical knowledge of innovation and perception of the risky and adventurous nature of new start-ups.

Following the participants' explicit desire for active learning processes, entrepreneurship education programmes at Zimbabwean polytechnics can be strengthened through a number of ways. For institutions with very restricted budgets to support student entrepreneurship activities, the introduction of business plan competitions for students could be a good starting point. Such competitions give participants an alternative and yet compelling source of motivation for preparing business plans apart from developing them for the purpose of earning course marks. Monetary rewards that participants win in such competitions can constitute start-up capital required for initiating their businesses.

Another way of enriching educational programmes is for polytechnic colleges to set up business incubators for the purpose of providing physical space where entrepreneurship students can meet, engage in creative thinking and generate business ideas that serve as springboards for launching their business ventures. At the same time, such incubators should contract business mentors and industry experts who can provide students with practical business advice.

In collaboration with external stakeholders, polytechnics can establish entrepreneurship mentorship programmes. Networks of experts, captains of industry and successful entrepreneurs can support such programmes by mentoring, supporting and guiding student entrepreneurs with conception, launching and management of their own business ventures.

Lastly, classroom activities can be enlivened through the use of case studies and computer-based programs, which generate simulated business scenarios that unleash students' creative thinking and problem-solving capabilities. Such an approach can reduce the monotony of the teaching and learning process as well as encourage students to engage in authentic entrepreneurship in the future.

Policy implications

The findings from the study have implications for the appropriateness of current teaching and learning methods for breeding innovative entrepreneurs. Precisely, the effect is that there is a need to transform traditional and passive teacher-centred methods of teaching into practically grounded, student-centred approaches to adequately equip and prepare graduates for new and innovative venture start-ups. In addition, curricula developers at polytechnics and other HEIs should put in place institutional support mechanisms that include student venture funding, business incubators and entrepreneur mentoring schemes to give students the requisite practical innovation experiences. Ostensibly, students will get a chance to learn by experimenting in a relatively benign environment before they independently engage in actual and risk-ridden entrepreneurial activities.

Limitations of the study

Finally, a number of important limitations need to be considered. Firstly, the findings of the study are not transferable to the entire population given that a qualitative approach and convenience sampling were used. Secondly, the study focused on the views of participants sampled from a single institution of higher learning. This means that the findings obtained from such participants represented a localised perspective. Future studies could be usefully extended to include polytechnic students from other geographical locations in Zimbabwe. Thirdly, the study did not consider the influence of a number of factors which are relevant to the link between entrepreneurship education and entrepreneurship intentions. For instance, there was no specific consideration of whether: (1) participants were studying full-time or part-time, (2) participants had experience in entrepreneurship prior to undergoing entrepreneurship education at the polytechnic and (3) whether participants were already inclined towards entrepreneurship prior to undergoing entrepreneurship education. Thus, future studies should incorporate these factors to get a fuller understanding of the relationship between entrepreneurship education and entrepreneurship intentions.

Acknowledgements

The authors are grateful to the students who responded to this study.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article

Authors' contributions

T.N. conducted the field work and wrote the introduction, literature review, methodology and findings sections, while P.R. wrote the data analysis section, interpretation and policy implications.

References

Ajzen, I., 1991, 'The theory of planned behaviour', *Organizational Behaviour and Human Decision Processes* 50(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I., 2015, 'The theory of planned behaviour: Reactions and reflections', *Psychology and Health* (26)9, 1113–1127.

Altinyelken, H.K., 2011, 'Student-centred pedagogy in Turkey: Conceptualisations, interpretations and practices', *Journal of Education Policy* 26(2), 137–160. https://doi.org/10.1080/02680939.2010.504886

Autio, E., Keeley, R.H., Klofsten, M., Parker, G.C. & Hay, M., 2001, 'Entrepreneurial intent among students in Scandinavia and in the USA', *Enterprise and Innovation Management Studies* 2(2), 145–160. https://doi.org/10.1080/14632440110094632

Bae, T.J., Qian, S., Miao, C. & Fiet, J.O., 2014, 'The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review', *Entrepreneurship: Theory & Practice* 38(2), 217–254. https://doi.org/10.1111/etap.12095

Balan, P. & Metcalfe, M., 2012, 'Identifying teaching methods that engage entrepreneurship students', *Education Training* 54(5), 368–384. https://doi.org/10.1108/00400911211244678

Bandura, A., 2006, 'Guide for constructing self-efficacy scales', *Self-Efficacy Beliefs of Adolescents* 5(1), 307–337.

Bandura, A., Rumsey, M. & Walker, C., 1994, 'Regulative function of perceived self-efficacy, in M.G. Rumsey, C.B. Walker & J.H. Harris (eds.), *Personal selection and classification*, pp. 261–271, Erlbaum, Hillsdale, NJ.

Baumol, W.J., 2005, 'Education and innovation: Entrepreneurial breakthroughs versus corporate incremental improvements', *NBER Innovation Policy and the Economy* 5(1), 33–56. https://doi.org/10.1086/ipe.5.25056170

Belitski, M. & Heron, K., 2017, 'Expanding entrepreneurship education ecosystems', *Journal of Management Development* 36(2), 163–177. https://doi.org/10.1108/JMD-06-2016-0121

Bird, B., 1988, 'Implementing entrepreneurial ideas: The case for intention', *Academy of Management Review* 13(3), 442–453. https://doi.org/10.5465/amr.1988.4306970

Boyd, N.G. & Vozikis, G.S., 1994, 'The influence of self-efficacy on the development of entrepreneurial intentions and actions', *Entrepreneurship Theory and Practice* 18, 63–77. https://doi.org/10.1177/104225879401800404

Braunerhjelm, P., 2010, 'Entrepreneurship, innovation and economic growth: Past experiences, current knowledge and future policy implications', Working papers series, *Swedish Entrepreneurship Forum*, pp. 1–75, Royal Institute of Technology, Stockholm.

Bron, J., Bovill, C. & Veugelers, W., 2016, 'Students experiencing and developing democratic citizenship through curriculum negotiation: The relevance of Garth Boomer's approach', *Curriculum Perspectives* 36(1), 1–30.

Bruton, A., 2014, 'Innovating university-based entrepreneurship in order to inform innovation for the 21st century', in *Innovative Pathways for University Entrepreneurship in the 21st Century*, pp. 145–170, viewed 07 October 2014, from http://doi.org/10.1108/S1048-473620140000024006

Bruton, G.D., Ahlstrom, D. & Obloj, K., 2008, 'Entrepreneurship in emerging economies: Where are we today and where should the research go in the future', *Entrepreneurship Theory and Practice* 32(1), 1–14. https://doi.org/10.1111/j.1540-6520.2007.00213.x

Burnard, P., 1991, 'A method of analysing interview transcripts in qualitative research', *Nurse Education Today* 11(6), 461–466. https://doi.org/10.1016/0260-6917(91)90009-Y

Cohen, L., Manion, L & Morrison, K., 2007, *Research methods in education*, 6th edn., Routledge, London.

Davies, L.G. & Gibb, A.A. (eds.), 1991, *Recent research in entrepreneurship*, Avebury, Aldershot.

Dohman, T., Falk, A., Huffman, D., Sunde, U., Schupp, J. & Wagner, G.G., 2011, 'Individual risk attitudes: Measurement, determinants, and behavioral consequences', *Journal of the European Economic Association* 9(3), 522–550. https://doi.org/10.1111/j.1542-4774.2011.01015.x

Entrialgo, M. & Iglesias, V., 2016, 'The moderating role of entrepreneurship education on the antecedents of entrepreneurial intention', *International Entrepreneurship and Management Journal* 12(4), 1209–1232. https://doi.org/10.1007/s11365-016-0389-4

Fayolle, A. & Liñán, F., 2014, 'The future of research on entrepreneurial intentions', *Journal of Business Research* 67(5), 663–666. https://doi.org/10.1016/j.jbusres.2013.11.024

Fini, R., Grimaldi, R., Marzocchi, G.L. & Sobrero, M., 2009, 'The foundation of entrepreneurial intention', *Summer Conference 2009*, Frederiksberg, Denmark, June 17–19, 2009, 1–37.

Fulgence, K., 2015, 'Assessing the status of entrepreneurship education courses in higher learning institutions The case of Tanzania education schools', *Education + Training* 57(2), 239–258. https://doi.org/10.1108/ET-05-2013-0063

Griffiths, M., Kickul, J., Bacq, S. & Terjesen, S., 2012, 'A dialogue with William J. Baumol: Insights on entrepreneurship theory and education', *Entrepreneurship: Theory and Practice* 36(4), 611–625. https://doi.org/10.1111/j.1540-6520.2012.00510.x

Hattab, H.W., 2014, 'Impact of entrepreneurship education on entrepreneurial intentions of university students in Egypt', *Journal of Entrepreneurship* 23(1), 1–18. https://doi.org/10.1177/0971355713513346

Heuer, A. & Kolvereid, L., 2013, 'Education in entrepreneurship and the theory of planned behaviour', *European Journal of Training and Development* 38(6), 506–523. https://doi.org/10.1108/EJTD-02-2013-0019

Hosho, N., Muguti, E. & Muzividzi, D.K., 2013, 'Unlocking Zimbabwe's global competitiveness through compulsory entrepreneurship education: Evidence from Chinhoyi University of Technology', *Zimbabwe Open University International Research Conference*, Harare, Zimbabwe, July 30–31, 2012.

Iacobucci, D. & Micozzi, A., 2012, 'Entrepreneurship education in Italian universities: Trend, situation and opportunities', *Education Training* 54(8), 673–696. https://doi.org/10.1108/00400911211274828

Jones, P. & Colwill, A., 2013, 'Entrepreneurship education: An evaluation of the Young Enterprise Wales initiative', *Education + Training* 55(8), 911–925. https://doi.org/10.1108/ET-04-2013-0052

Kaijun, Y. & Sholihah, P.I., 2015, 'A comparative study of the Indonesia and Chinese educative systems concerning the dominant incentives to entrepreneurial spirit (desire for a new venturing) of business school students', *Journal of Innovation and Entrepreneurship* 4(1), 1–16. https://doi.org/10.1186/s13731-014-0014-0

Koshkaki, E.R. & Solhi, S., 2016, 'The antecedents of entrepreneurial innovative behavior in developing countries, a networked grounded theory approach (case study Iran)', *Journal of Entrepreneurship in Emerging Economies* 8(2), 1–52.

Krueger, N.F., 2000, 'The cognitive infrastructure of opportunity emergence', *Entrepreneurship Theory and Practice* 24(3), 5–23. https://doi.org/10.1177/104225870002400301

Krueger, N. & Kickul., 2006., 'So you thought the intentions model was simple? Cognitive style and the specification of entrepreneurial intentions models', *US Association for Small Business and Entrepreneurship Conference*, Tucson, AZ, January 15, 2006, pp. 1–24.

Krueer, Jr., N.F & Brazeal, D.V., 1994, 'Entrepreneurial potential and potential entrepreneurs', *Entrepreneurship Theory and Practice* 18(3), 91–104. https://doi.org/10.1177/104225879401800307

Krueger, Jr., N.F., Reilly, M.D. & Carsrud, A.L., 2000, 'Competing models of entrepreneurial intentions', *Journal of Business Venturing* 15(5–6), 411–432. https://doi.org/10.1016/S0883-9026(98)00033-0

Krueger, N.F. & Carsrud, A.L., 1993, 'Entrepreneurial intentions: Applying the theory of planned behaviour', *Entrepreneurship & Regional Development* 5(4), 315–330. https://doi.org/10.1080/08985629300000020

Lee, J., 2010, 'Partnerships with industry for efficient and effective implementation of TVET', *International Journal of Vocational Education and Training* 17(2), 39–56.

Liñán, F., 2004, 'Intention-based models of entrepreneurship education', *Piccolla Impresa/Small Business* 3, 1–30.

Lincoln, Y.S. & Guba, E.G., 1985, *Naturalistic inquiry*, Sage, London.

Malebana, M.J. & Swanepoel, E., 2015, 'Graduate entrepreneurial intentions in the rural provinces of South Africa', *Southern African Business Review* 19(1), 89–111.

Manstead, A.S.R. & Parker, D., 2015, 'Behaviour evaluating and extending the theory of planned behaviour', *European Review of Social Psychology* 6(1), 69–95. https://doi.org/10.1080/14792779443000012

Marinova, E. & Borza, A., 2013, 'The creative industries and new trends in the economic world', *Economia. Seria Management* 16(2), 327–332.

Maritz, A., 2017, 'Illuminating the black box of entrepreneurship education programmes: Part 2', *Education + Training* 59(5), 471–482. https://doi.org/10.1108/00400911311309305

Maritz, A. & Brown, C.R., 2013, 'Illuminating the black box of entrepreneurship education programs: Part 1', *Education and Training* 55(3), 234–252. https://doi.org/10.1108/ET-02-2017-0018

Mars, M.M., 2013, 'Building toward a holistic model of innovation and entrepreneurship education: Transformation before commercialization. A cross-disciplinary primer on the meaning and principles of innovation', *Advances in the Study of Entrepreneurship, Technology and Innovation* 23, 113–124.

Mauchi, F.N., Karambakuwa, R.T., Gopo, R.N., Njanike, K., Mangwende, S. & Gombarume, F.B., 2011, 'Entrepreneurship education lessons: A case of Zimbabwean tertiary education institutions', *Educational Research* 2(July), 1306–1311.

Mayhew, M.J., Simonoff, J.S., Baumol, W.J., Wiesenfeld, B.M. & Klein, M.W., 2012, 'Exploring innovative entrepreneurship and its ties to higher educational experiences', *Research in Higher Education* 53, 831–859. https://doi.org/10.1007/s11162-012-9258-3

Mehtap, S., Pellegrini, M.M., Caputo, A. & Welsh, D.H.B., 2017, 'Educational barriers entrepreneurial intentions of young women in the Arab world socio-cultural and educational barriers', *International Journal of Entrepreneurial Behavior & Research* 23(6),880–902. https://doi.org/10.1108/IJEBR-07-2017-0214

Merriam, S.B., Caffarella, R.S. & Baumgartner, L.M., 2012, *Learning in adulthood: A comprehensive guide*, John Wiley & Sons, Hoboken, NJ.

Ministry of Higher Education and Technology-Zimbabwe, 2010, *Strategic plan 2010-2015*, Government Printers, Harare.

Mwasalwiba, E.S., 2009, *University entrepreneurship education in Tanzania: Teaching context, students' profile, expectations and outcome*, Vrije Universiteit Amsterdam, Amsterdam.

Nabi, G., Fayolle, A., Lyon, E.M., Krueger, N. & Walmsley, A., 2017, 'The impact of entrepreneurship education in higher education: A systematic review and research agenda' *Academy of Management Learning & Education* 16(2), 277–299. https://doi.org/10.5465/amle.2015.0026

Ndofirepi, T.M., 2016, *The impact of technological creativity and entrepreneurship education on the entrepreneurship intentions of students at particular tertiary institutions in Zimbabwe and South Africa*, PhD thesis, Central University of Technology, Bloemfontein.

Nziramasanga, C., 1999, *Report on the status of the educational sector*, Government Printers, Harare.

Ojastu, D., Chiu, R. & Olsen, P., 2011, 'Cognitive model of entrepreneurship', *Journal of Enterprising Culture* 19(4), 397–434. https://doi.org/10.1142/S0218495811000817

Oosterbeek, H., van Praag, M. & Ijsselstein, A., 2010, 'The impact of entrepreneurship education on entrepreneurship skills and motivation', *European economic review* 54(3), 442–454. https://doi.org/10.1016/j.euroecorev.2009.08.002

Packham, G., Jones, P., Miller, C., Pickernell, D. & Thomas, B., 2010, 'Attitudes towards entrepreneurship education: A comparative analysis', *Education + Training* 52(8/9), 568–586. https://doi.org/10.1108/00400911011088926

Phuthi, N. & Maphosa, N., 2007, *Transforming higher education for effective technical and vocational skills delivery in Zimbabwe*, viewed 13 April 2017, from http://ir.nust.ac.zw/xmlui/handle/123456789/572

Pittaway, L. & Edwards, C., 2012, 'Assessment: Examining practice in entrepreneurship education', *Education + Training* 54(8/9), 778–800. https://doi.org/10.1108/00400911211274882

Rideout, E.C. & Gray, D.O., 2013, 'Does entrepreneurship education really work ? A review and methodological critique of the entrepreneurship education', *Journal of Small Business Management* 51(3), 329–351. https://doi.org/10.1111/jsbm.12021

Robinson, P., Stimpson, D.V., Huefner, J.C. & Hunt, H.K., 1991, 'An attitude approach to the prediction of entrepreneurship', *Entrepreneurship Theory and Practice* 15(4), 13–20. https://doi.org/10.1177/104225879101500405

Saeed, S., Yousafzai, S.Y., Yani-De-Soriano, M. & Muffatto, M., 2014, 'The role of perceived university support in the formation of students' entrepreneurial intention', *Journal of Small Business Management* 53(4), 1127–1145. https://doi.org/10.1111/jsbm.12090

Schlaegel, C. & Koenig, M., 2014, 'Determinants of entrepreneurial intent: A meta–analytic test and integration of competing models', *Entrepreneurship Theory and Practice* 38(2), 291–332. https://doi.org/10.1111/etap.12087

Schmuck, C., 2017, 'Catching up on studies not employment', in C. Schmuck (ed.), *Women in STEM Disciplines*, pp. 157–167, Springer, Zurich.

Schwarz, E.J., Wdowiak, M.A., Almer-Jarz, D.A. & Breitenecker, R.J., 2009, 'The effects of attitudes and perceived environment conditions on students' entrepreneurial intent: An Austrian perspective', *Education + Training* 51(4), 272–291. https://doi.org/10.1108/00400910910964566

Shah, N. & Soomro, A.S., 2017, 'Investigating entrepreneurial intention among public sector university students of Pakistan', *Education + Training* 59(7/8), 841–855. https://doi.org/10.1108/ET-11-2016-0168

Sharma P. & Chrisman S.J.J., 2007, 'Toward a reconciliation of the definitional issues in the field of corporate entrepreneurship', in A. Cuervo, D. Ribeiro & S. Roig (eds.), *Entrepreneurship*, pp. 83–103, Springer, Berlin.

Shapero, A., 1982, 'Social dimensions of entrepreneurship', in C. Kent, D. Sexton & K. Vesper (eds.), *The Encyclopedia of entrepreneurship*, pp. 72–90, Prentice-Hall, Englewood Cliffs.

Shiri, N., Shinnar, R.S., Mirakzadeh, A.A. & Zarafshani, K., 2017, 'Cultural values and entrepreneurial intentions among agriculture students in Iran', *International Entrepreneurship and Management Journal* 13(4), 1157–1179. https://doi.org/10.1007/s11365-017-0444-9

Singh, S. & Verma, H.L., 2010, 'Impact of entrepreneurship training on the development of entrepreneurs', *Interdisciplinary Journal of Contemporary Research in Business* 1(02), 61–73.

Souitaris, V., Zerbinati, S. & Al-Laham, A., 2007, 'Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources', *Journal of Business Venturing* 22(4), 566–591. https://doi.org/10.1016/j.jbusvent.2006.05.002

Taatila, V.P., 2010, 'Learning entrepreneurship in higher education', *Education + Training* 52(1), 48–61. https://doi.org/10.1108/00400911011017672

Thompson, E.R., 2009, 'Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric', *Entrepreneurship Theory and Practice*, May, 669–694. https://doi.org/10.1111/j.1540-6520.2009.00321.x

Thomson, G.S. & Minhas, W., 2017, 'Enabling entrepreneurship: Entrepreneurial intentions among Emirati students', *Journal of Enterprising Culture* 25(02), 211–237. https://doi.org/10.1142/S021849581750008X

Toh, Y., 2016, 'Leading sustainable pedagogical reform with technology for student-centred learning: A complexity perspective', *Journal of Educational Change* 17(2), 145–169. https://doi.org/10.1007/s10833-016-9273-9

Ulvenblad, P., Berggren, E. & Winborg, J., 2013, 'The role of entrepreneurship education and start-up experience for handling communication and liability of newness', *International Journal of Entrepreneurial Behaviour & Research* 19(2), 187–209. https://doi.org/10.1108/13552551311310374

Urbano, D. & Guerrero, M., 2013, 'Entrepreneurial universities : Socioeconomic impacts of academic entrepreneurship in a European region', *Economic Development Quarterly* 27(1), 40–55. https://doi.org/10.1177/0891242412471973

Vincett, P.S. & Farlow, S., 2008, 'Start-a-business': An experiment in education through entrepreneurship', *Journal of Small Business and Enterprise Development* 15(2), 274–288. https://doi.org/10.1108/14626000810871673

Von Graevenitz, G., Harhoff, D. & Weber, R., 2010, 'The effects of entrepreneurship education', *Journal of Economic Behaviour and Organization* 76(1), 90–112. https://doi.org/10.1016/j.jebo.2010.02.015

Weber, R., 2012, *Evaluating entrepreneurship education*, Springer, Munich.

Williams, J.L. & Gentry, R.J., 2017, 'Keeping it real: The benefits of experiential teaching methods in meeting the objectives of entrepreneurship education', in D.F. Kuratko & S. Hoskinson (eds.), *The great debates in entrepreneurship*, pp. 9–20, Emerald Publishing Limited, West Yorkshire.

Wiseman, A.W. & Anderson, E., 2013, 'International educational innovation and public sector entrepreneurship', *International Perspectives on Education and Society* 23, 85–123. https://doi.org/10.1108/S1479-3679(2013)0000023013

Impact of unemployment and income on entrepreneurship in post-apartheid South Africa: 1994–2015

Authors:
Darma Mahadea[1]
Irrshad Kaseeram[2]

Affiliations:
[1]School of Accounting, Economics and Finance and Economics, University of KwaZulu-Natal, South Africa

[2]Department of Economics, University of Zululand, South Africa

Corresponding author:
Darma Mahadea,
mahadead@ukzn.ac.za

Background: South Africa has made significant progress since the dawn of democracy in 1994. It registered positive economic growth rates and its real gross domestic product (GDP) per capita increased from R42 849 in 1994 to over R56 000 in 2015. However, employment growth lagged behind GDP growth, resulting in rising unemployment.

Aim and setting: Entrepreneurship brings together labour and capital in generating income, output and employment. According to South Africa's National Development Plan, employment growth would come mainly from small-firm entrepreneurship and economic growth. Accordingly, this article investigates the impact unemployment and per capita income have on early stage total entrepreneurship activity (TEA) in South Africa, using data covering the 1994–2015 period.

Methods: The methodology used is the dynamic least squares regression. The article tests the assertion that economic growth, proxied by real per capita GDP income, promotes entrepreneurship and that high unemployment forces necessity entrepreneurship.

Results: The regression results indicate that per capita real GDP, which increases with economic growth, has a highly significant, positive impact on entrepreneurial activity, while unemployment has a weaker effect. A 1% rise in real per capita GDP results in a 0.16% rise in TEA entrepreneurship, and a 1% rise in unemployment is associated with a 0.25% rise in TEA.

Conclusion: There seems to be a strong pull factor, from income growth to entrepreneurship and a reasonable push from unemployment to entrepreneurship, as individuals without employment are forced to self-employment as a necessity, survival mechanism. Overall, a long-run co-integrating relationship seems plausible between unemployment, income and entrepreneurship in South Africa.

Introduction

Entrepreneurship is currently the focus of policy interest globally. Against a backdrop of poverty, income inequality, and rising unemployment in South Africa, vigorous entrepreneurship, as partly manifested through the creation and expansion of small and medium enterprises (SMEs), is critical for economic development (Herbst & Mills 2015; Herrington, Kew & Kew 2015). Entrepreneurship brings labour and capital together, and it is the pathway to employment and economic growth.

South Africa has had a record of economic expansion since democracy in 1994. Accompanying this growth, employment increased by over 3.5 m during the past 20 years. However, more people enter the labour market each year in search of employment, resulting in a rise in the unemployment rate. If one includes the discouraged work effect (about 2.5 million individuals), then unemployment in South Africa was close to 34% in 2016, which is extremely high by global standards. Even using the narrow 'official' definition, the unemployment rate increased from 20% in 1994 to 23% in 2008 to over 26% in 2016; youth unemployment is shockingly higher at 53% in 2016 [South African Reserve Bank (SARB) 2016]. While in absolute terms employment increased with economic growth over time, more so for skilled labour, there has also been some job destruction with business closures (Johnson 2015; Kerr Winttenberg & Arrow 2014).

The National Development Plan (NDP) envisages that, if unemployment is to fall to 14% by 2020 and 6% by 2030, South Africa needs an average annual gross domestic product (GDP) growth of 5.4%. It further suggests that entrepreneurship in the small-firm sector would be critical in

generating growth in employment and income. The post-apartheid government has put in place various strategies to enhance entrepreneurship and job creation. These include the growth, employment and redistribution strategy, National Empowerment Fund, Accelerated and Shared Growth Initiative of South Africa, the Small Enterprise Finance Agency, Youth Development Agency, NDP, and a new ministry for small business recently. Despite all these initiatives, South Africa's contemporary growth (Figure 1) and unemployment rates (Figure 2) are worryingly a development concern. Encouragingly, in September 2016, the SME Fund was launched to stimulate entrepreneurship. This is a CEO initiative, where a group of 90 business executives and leaders from the private sector in South Africa established a fund of R1.5b to boost SMEs and employment, together with the state.

There is an apparent 'tension' in the literature, where arguments have been put forward that entrepreneurship can be 'bad' for the economy due to overinvestment by entrepreneurs leading to business failures and other social costs (de Meza & Webb 1987). The business demise argument is sensitive in the South African context, as vulnerable groups with a low asset base, for example, blacks and women, tend to lose the most from business failures. Yet, they are the most targeted groups by entrepreneurship promotion policies. However, the literature and empirical studies also suggest that promoting an entrepreneurship ecosystem spurs competition, innovation, employment, venture development and economic growth as well as reducing poverty (Herrington et al. 2015; Kantor 2017; Naude 2008; Nieman & Nieuwenhuizen 2014; Urban 2013).

Following Schumpeter, entrepreneurship and economic growth are positively related; an increase in the number of entrepreneurs leads to an increase in economic growth and income, largely through their introductions of innovative technologies, products and services in existing and new ventures. New firms create additional business opportunities,

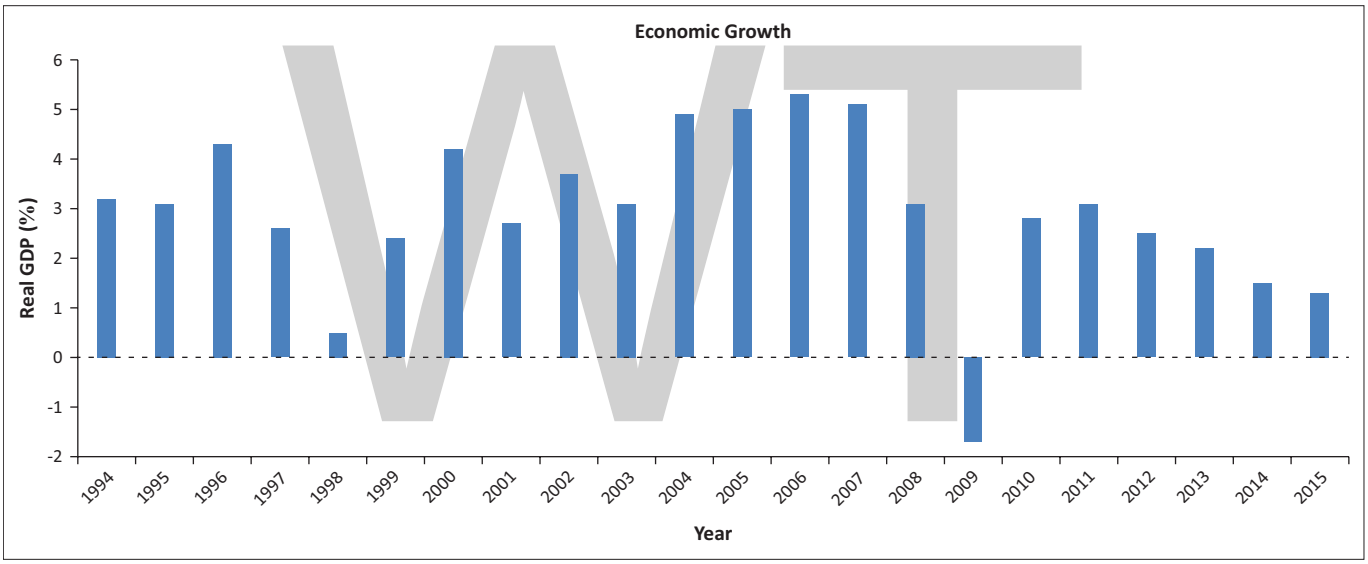


FIGURE 1: Economic growth in South Africa: 1994–2015.

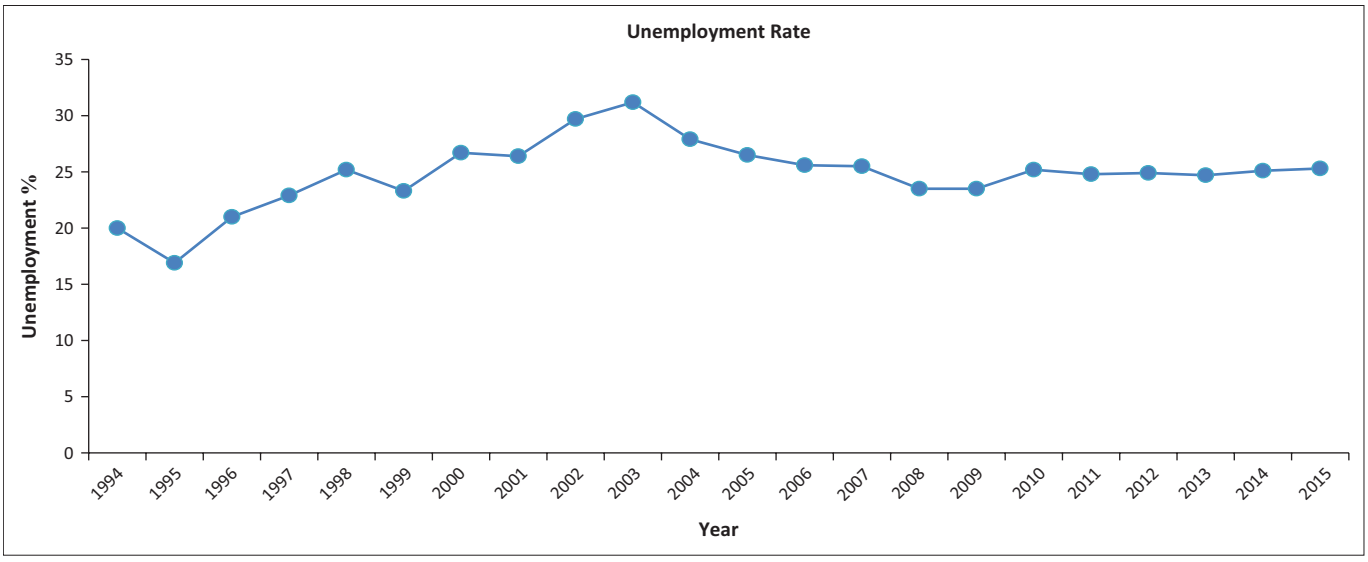


FIGURE 2: Unemployment rate in South Africa: 1994–2015.

boost aggregate demand and generate new employment opportunities (Kritikos 2014). South Africa is critically in need of vigorous entrepreneurship to address the problems of poverty, income generation and slow economic growth as well as historical imbalances resulting from apartheid (Herbst & Mills 2015). Accordingly, in light of these insights, this article seeks to assess whether a credible long-run cointegrating relationship exists between GDP income, entrepreneurship and unemployment in post-apartheid South Africa. The article consists of five sections; the first provides an overview of unemployment, economic growth and entrepreneurship. The second section briefly links entrepreneurship to economic growth via the neoclassical and endogenous growth models. The third section covers the research methodology, and the last two sections discuss the findings and policy directions regarding entrepreneurship.

Unemployment, income and entrepreneurship in South Africa

South Africa has registered positive economic growth since democracy in 1994, an average economic rate of 3.6% during 1994–2012 and 5% for a couple of years (Figure 1). With the positive economic growth rates, income has consistently increased. As a result, real GDP per capita has increased from R42 849 in 1994 to R55 508 in 2012 and to R56 169 in 2015 (SARB 2016). However, employment lagged behind economic growth during the same period. While unemployment decreased between 2004 and 2009, the trend is on the rise (Figure 2); unemployment increased from 20% in 1994 to 26% in 2015 despite numerous policy interventions, of which SME entrepreneurship features prominently.

In South Africa, SMEs contribute over 40% towards the country's overall GDP and provide more than 50% of employment to labour (Kelly, Singer & Herrington 2016; Parsons 2013). However, according to the Global Entrepreneurship Monitor (GEM) reports, South Africa, as an efficiency-driven economy similar to countries like Russia, Brazil, Mexico and Thailand, has a low level of total early stage entrepreneurship activity (TEA). Total entrepreneurship activity is the percentage of the adult population who are in the process of starting or have started a business that has been operational for at least 42 months. South Africa's TEA ranged from 9.4% in 2001 to 10.6% in 2013; the figure dropped to 6.97% in 2014, but increased to 9.2% in 2015 (Kelly et al. 2016).

An OECD (2017) report asserts that South Africa can unlock significant employment creation and business opportunities through aligning of skills acquisition with labour market needs, addressing skills development and investment for both workers and employers, through on-the-job learning; and policies facilitating the entry of migrants with sought-after scarce skills. This article makes the conceptual argument that an economy that sets up the necessary infrastructure, skill set and investor-friendly policies will advance economic growth which, in turn, will promote small business development.

Linking entrepreneurship to economic growth

Within the tradition of the Austrian school of entrepreneurship, the entrepreneur is the alert individual who discovers new opportunities, acts on them and introduces change for profitable ends in a market that is never in equilibrium but is always tending to it (Mahadea & Youngleson 2013; Urban 2008). Kirzner (1997, 2009) asserts that entrepreneurs are alert in spotting profitable opportunities unnoticed by others, and they harness the necessary resources to exploit those opportunities for business success. In the Schumpeterian framework, entrepreneurs are those creative individuals who envision an invention or develop an innovation in the form of a new production function, a new product or process and a combination of ideas to create a new business and expand that business successfully (Luiz 2008). Schumpeter's entrepreneurs are distinguished by their ability to create 'new combinations' beyond the current production function. Through this innovative process, inefficient firms are displaced, but this creative destruction process is ultimately beneficial and is the main force behind productivity gains and economic growth (Aghion & Howitt 1992; Baumol 2011).

Shane (2003) argues that as an economy operates in a state of disequilibrium, entrepreneurship links opportunities to enterprising individuals. He adds that opportunities always exist in a society but lack an agency; hence human actions are necessary for the opportunities to be exploited by discerning entrepreneurs who recombine resources to create a new business and a new means–end framework for profit. By so doing, they enhance economic growth and bring about changes to the production frontier (Audretsch & Keilbach 2011; Wennerkers & Thurik 1999).

The production function model, expressing the relationship between economic output and inputs (capital, labour and technology), has dominated growth economics since Solow (1956). It is represented by the following equation:

$$Y_t = F(K_t, L_t, A_t) \quad \text{[Eqn 1]}$$

The neoclassical model suggests that aggregate output (Y_t) is a function of capital (K_t), labour (L_t) and technology (A_t), and all the variables are time dependent. An advancement in technological innovation makes a given amount of capital and labour more productive. Entrepreneurship is considered as part of the residual factor, entering the neoclassical model through the technology variable. Although technology is critical in the growth process, it remains exogenous in the Solow model.

As a response to the limitations of the Solow model, in the 1980s the endogenous growth models emerged (Mankiw 2014). Herein, economic growth arises through internal processes from within the system, such as the enhancement of a society's human capital (education and training), which in turn leads to new ideas, to research and development, new

forms of technology and infrastructure, as well as the advancement of efficiency in production systems. These progressions are underpinned largely by the actions of entrepreneurs (Barro 2003; Grossman & Helpman 1991; Romer 1990).

Economic growth and entrepreneurship can be viewed endogenously as a virtuous circle where innovations and economic advancement, in turn, create more entrepreneurial opportunities which generate incentives for potential entrepreneurs to become alert to them, thus creating wealth and leading to sustained economic growth. Parker (2009) asserts that a thriving economy provides greater scope for entrepreneurship expansion (opportunity entrepreneurship). On the other hand, high unemployment may push certain individuals to take the self-employment route to earn an income, out of necessity or desperation (necessity entrepreneurship). High unemployment may also reflect low economic growth and hence low entrepreneurial opportunities (Audretsch & Keilbach 2011; Baumol 2009).

According to the occupational choice perspective, one becomes an entrepreneur if wage income from gainful employment is much less than the income benefits and other perks accruing from self-employment (Burton, Sorensen & Dobrev 2016; Casson 2003). This study asserts that high unemployment in South Africa, low earnings from certain types of gainful employment and insecurity or poor career mobility prospects at the workplace, partly because of employment equity, drive many people to seek refuge in entrepreneurship by opening a small formal or informal business where start-up costs are low. This perspective might explain why there is an expanding informal sector in the South African economy. Stats SA has noted the unskilled workers as a group have the highest unemployment rates (SARB 2016).

On the other hand, the high wage structure in South Africa might encourage the majority of skilled and semi-skilled individuals to opt for secure gainful employment in the private and public sectors instead of delving into entrepreneurship, which is fraught with income uncertainties and risks (Lings 2014). This assertion is supported by the GEM Report (2015), which notes that entrepreneurial activity in South Africa is much lower than its emerging market peers.

Accordingly, this article assesses whether there is a link between income, entrepreneurship and unemployment, using dynamic ordinary least squares (DOLS) regression. In this regard, two hypotheses were tested, as indicated below. Income is proxied by real per capita GDP for the 1994–2015 period, and entrepreneurship by the TEA rate post-1994. Unemployment is measured according to the narrow official definition, taken as the percentage of the economically active population (aged 15–64) who were available to work and took active steps to seek employment during the preceding 2 weeks but did not succeed and hence did not work (Mohr 2016).

Methodology

Stemming from the literature discussed above, this article attempts to assess two hypotheses over the long run:

- an increase in unemployment in the South African economy leads to a rise in entrepreneurial activity
- a rise in national income creates opportunities for entrepreneurship development.

In order to test these hypotheses, this study adopts the following model specified by Plehn-Dujowich (2011) and Ghavidel, Farjadi and Mahammadpour (2011):

$$E_t = \beta_0 + \beta_1 U_t + \beta_2 Y_t + \varepsilon_t \quad \text{[Eqn 2]}$$

where E_t represents TEA entrepreneurship, measuring the proportion of working age population both about to start an entrepreneurial activity and those that have been engaged in one for at most 3.5 years, measured in percentages; U_t represents the unemployment rate (unemployed relative to total working age population measured in percentages). The narrow definition of unemployment is used. Y_t represents the natural log of real GDP at 2010 constant prices; ε_t represents the error terms, which are assumed to be normally distributed with a zero mean and constant variance. Total entrepreneurship activity was obtained from the GEM reports and website, while data on the unemployment rate and real GDP were obtained from the South African Reserve Bank. All data were measured at a yearly frequency.

Data issues

Data on TEA in South Africa is available only from 2001. Accordingly, the TEA data for 1994–2000 had to be extrapolated. So, the study used simple but robust trend techniques to back-cast the TEA series to 1994 to increase the sample size for the purposes of regressing reasonable long-run relationships. The following trend regression was estimated using the 2001–2015 (15 observations) estimates of TEA:

$$E_t = 3.921667 + 0.214\ Trend \quad \text{[Eqn 3]}$$
$$t\text{-}statistic \quad (3.42) \quad (2.07)$$

It is to be noted that both coefficients were statistically significant at the 1% and 5% levels, respectively. The graph in Figure 3 depicts the complete (1994–2015) TEA dataset used in this study together with real per capita GDP. The first seven data points were generated using equation 3. The extrapolated TEA thus ranged from 4.1% (1994) to 5.3% (2000). These points are considered to be plausible since the ushering of the democratic era unlocked business opportunities for all citizens in 'rainbow' South Africa. Both the per capita GDP income and TEA series show an upward trend over the period under consideration (Figure 3). The 15 data points (2001–2015) used to derive equation 3 show a positive trend, which justifies its use in extrapolating the earlier seven points.

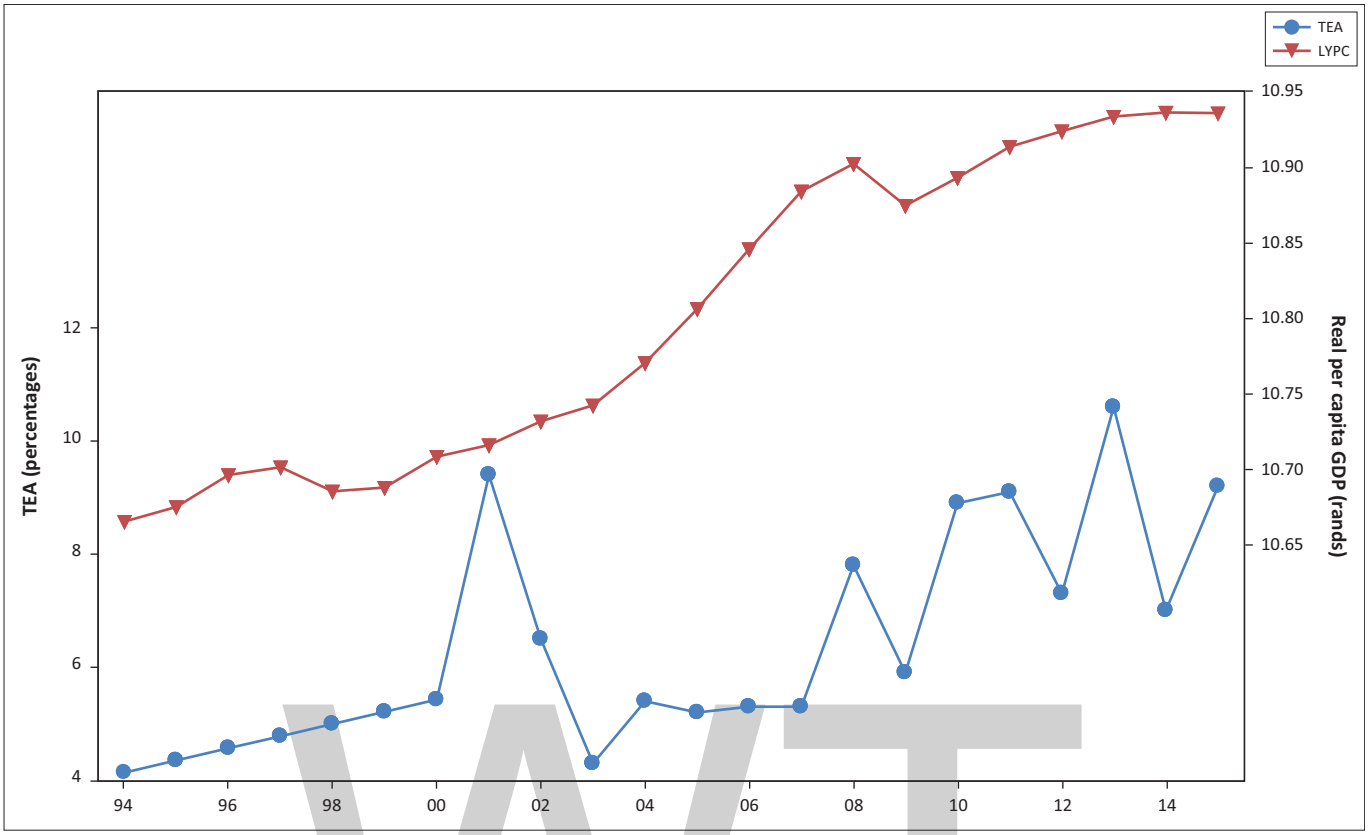


FIGURE 3: Graph of total entrepreneurship activity and real per capita gross domestic product.

TABLE 1: Unit root tests.

Variable	Levels		First difference	
	Tau statistic	Critical value	Tau statistic	Critical value
TEA	-1.93	-4.43 (1%)	-7.57	-4.50 (1%)
Real per capita GDP	-2.13	-4.98 (1%)	-2.19	-1.96 (5%)
Unemployment	-2.02	-3.79 (1%)	-51.8	-3.81 (1%)

Note: All bracketed percentages indicate significance level of the critical statistic.

Trend and intercept were used to estimate the levels tau statistic for TEA and real per capita GDP series, while only intercept was used for the unemployment one; GDP, gross domestic product; TEA, total entrepreneurship activity.

Statistical modelling procedure

Since this article deals with an extremely small dataset (21 observations), the Stock and Watson (1993) DOLS modelling technique was chosen as a preferred procedure. Monte Carlo simulations have shown that the DOLS estimator generates superior results, in small samples, compared to alternative approaches (e.g. Johansen VAR 1991 and fully modified ordinary least squares [OLS] of Phillips & Hansen 1990). This article estimates the long-run relationship as expressed in equation 2, which in the Stock and Watson (1993) DOLS form: $B = [\beta_0, \beta_1, \beta_2]'$, $X = [1, U_t, Y_t]$, where B and X are the long-run coefficient and variable vectors, respectively, which enter into the following DOLS specification:

$$E_t = B'X_t + \sum_{j=-J}^{j=J} \gamma_j \Delta U_{t-j} + \sum_{j=-k}^{j=k} \lambda_j \Delta Y_{t-k} + \xi_t \qquad \text{[Eqn 4]}$$

This DOLS specification enables the study to estimate the long-run parameters through regressing any I(1) variables on other I(1) variables, any I(0) variables and leads and lags of the first differences of any I(1) variables. However, since the sample size is a constraint, only one lead and lag of a variable was selected.

Presentation and discussion of results

As this study seeks to establish a long–run association between the variables, it is critical to avoid the possibility of spurious regressions. Hence, the augmented Dickey Fuller (ADF) unit roots tests were first conducted to ensure that all variables entering the regression are integrated of the same order [i.e. I(1)], commonly known as 'nonstationary variables'. This is a standard practice in time series econometrics since unrelated variables entering a regression may lead to valid regression results due to common trends in the data, despite there being no economic reason for such relationships. However, in justified long-run economic relationships, regressions involving I(1) variables will generate residuals that tend to be stationary [i.e. I(0)]; such variables are said to be cointegrated in the sense they exhibit a sensible dynamic co-movement over time.

Table 1 reports the ADF unit root tests. These confirm that all the series entering the regression were I(1); since in levels the tau calculated statistics for all three series (-1.93, -2.13, -2.02) are greater than the tau critical at 1% significance, upon first differencing the tau statistic in all cases (-7.57, -2.19, -51.8) are less than their corresponding tau critical values at conventional significance levels.

TABLE 2: Dynamic ordinary least squares regression results – Dependent variable: Total entrepreneurship activity.

Variables	Coefficient	R^2	Standard error of regression	Standard error	*t*-Statistic	Sum of squared residuals	Long-run variance
Constant	-175.5	0.665	1.454	32.447	-5.41***	21.315	0.842
Log Real per capita GDP	16.30	-	-	2.9714	5.48***	-	-
Unemployment rate	0.24	-	-	0.1350	1.77*	-	-

Note: Adjusted sample was from 1996 to 2014, where 19 observations were included after adjustments, fixed lead and lag specification (lead = 1, lag = 1). The long-run variance estimate (Bartlett kernel, Newey-West fixed band width = 30 000).

***, ** and * represent 1%, 5% and 10% significance levels.

GDP, gross domestic product.

TABLE 3: Cointegration tests.

Test	Value	Probability
Engle Granger cointegration test:		
Engle Granger tau statistic	-4.073	0.059
Engle Granger *Z*-statistic	-19.302	0.043
Phillips-Ouliaris cointegration test:		
Phillips-Ouliaris tau statistic	-4.196	0.048
Phillips-Ouliaris *Z*-statistic	-20.231	0.031

Since all the variables were integrated of the same order, entering them in the DOLS regression in their levels form was justified. Table 2 presents the results of the DOLS regression.

The DOLS regression results show that both the natural log of real per capita GDP (b = 16.30) and the unemployment rate (b = 0.24) have a positive and statistically significant causal effect on TEA (Table 2). The coefficient associated with real per capita GDP suggests that a 1% rise in per capita GDP results in a 0.163% rise in TEA, perhaps reflecting opportunity entrepreneurship. The coefficient associated with the unemployment rate indicates that a 1% rise in unemployment results in a 0.24% rise in TEA. This may reflect a measure of displacement or necessity entrepreneurship, as unemployed individuals are forced to seek refuge by starting up a business, because they have no alternative employment opportunities or no other means to gain income. The entrepreneurship elasticity of unemployment, though significant, is rather low and inelastic, possibly reflecting a lack of relevant skills and resources for venturing into self-employment among the unemployed.

The results of Table 2 convincingly – especially when considered in conjunction with the confirmation of cointegration in Table 3 – demonstrate that a valid long relationship between the variables does exist that is consistent with economic reasoning. The interpretation of the slope coefficients suggests that output growth is a critical factor that explains the rise in entrepreneurial activity in the South African economy. As the theory asserts, a growing economy creates opportunities for new firms to emerge, existing businesses to expand, for new enterprises displacing outdated ones and entirely new innovative concerns taking root, producing hitherto unknown goods and services. As individuals and economies develop, they accumulate income and wealth through economic growth, which promote further entrepreneurship (Herrington and Kew, 2016). The weak impact of unemployment on TEA suggests that in an economy with low growth, employment opportunities are limited. Hence, some unemployed individuals by necessity seek refuge as a last resort by venturing into the self-employment route. However, this may not necessarily reflect as high a level of entrepreneurial activity as opportunity entrepreneurship.

The long-run relationship presented in Table 3 is plausible, especially since the Engle Granger tau and Z-statistics confirm that the variables are cointegrated with the respective p-values of 0.59 and 0.043. Moreover, these results are corroborated by the Phillips-Ouliaris cointegration tests, where the tau and Z-statistics are significant with the p-values of 0.048 and 0.031, respectively (Table 3).

Overall, since cointegration is confirmed, the regression coefficients are statistically significant, and the diagnostic tests discussed below indicate that the DOLS model is a robust one. This implies that the estimated regression possesses strong predictive value for the South African economy, consistent with those found for the USA and Pakistan by Plehn-Dujowich (2011) and Ghavidel et al. (2011), respectively.

Diagnostic tests

The study considered the diagnostic tests for normality of residuals, serial correlation and heteroscedasticity, which are reported in the appendix. The Jarque-Bera statistic reported in Figure 1-A1 of the appendix is about 1.04, and the probability of obtaining such a statistic under the normality assumption is 59.4%; thus one does not reject the null hypothesis that the residuals are normally distributed.

The Q-statistics and their corresponding p-values for the correlogram of the 12 lags of the residuals depicted in Figure 2-A1 of the appendix demonstrates that serial correlation is not a problem.

Figure 3-A1 of the appendix shows the Breusch–Pagan–Godfrey heteroscedasticity test results, demonstrating that the null hypothesis of homoscedasticity should be accepted since the probability of obtaining the F-statistic, $n \times R^2$ and the scaled explained sum of squares (ESS) statistics are high at 59.96%, 56.2% and 52.51%, respectively.

In light of all the diagnostic tests as well as the cointegration tests, one may conclude that the study has generated a credible model to explain the impact of per capita income and unemployment on entrepreneurial activity. However, it should also be pointed out that the limited data on TEA is perhaps a limitation of the study. However, this was overcome by the extrapolation method. Nevertheless, the results are sufficiently robust, pointing to a policy guidance of a strong

long-run relationship between unemployment, income and entrepreneurship in South Africa.

Accordingly, there is support for the two hypotheses formulated earlier. If more employment and entrepreneurial capabilities are to be created, it is critical to have an economy that exhibits high growth rates which in turn generates growth in real per capita income. This is consistent with the NDP's suggestion that South Africa needs higher levels of SME entrepreneurship and economic growth rates to reduce unemployment and inequality. If entrepreneurial capacity, especially among the unemployed youth, can be enhanced, more individuals can be their own job creators by venturing into self-employment and expanding small businesses, rather than be job-seekers as salaried labour. Evidently, this entails that the constraints that inhibit business entrepreneurship be identified and addressed.

Study limitations and future directions

In its quest to examine cointegrating relationships between TEA, per capita GDP and unemployment, the study was forced to use a small available data set, as TEA data on South Africa have only been available since 2001. Due to the statistical need of maintaining maximum degrees of freedom when running regression models, it was not possible to include control variables. Furthermore, the study only focused on South Africa. Hence, future studies might include other emerging economies in a panel data framework. This will also allow control variables, such as structural reforms, ease of doing business index, political stability and levels of corruption, to mention a few, to be examined and how these generate comparative dynamic relations between economic or income growth, (un)employment and entrepreneurship over time.

Policy suggestions and conclusion

The South African economy is not growing fast enough to absorb the rising annual number of job-seekers. The rising unemployment is likely to push individuals, especially the youth, into entrepreneurship out of necessity to earn an income to survive. However, their aspirations should not be foiled by a hostile regulatory environment.

As the results of the present study indicate, the entrepreneurship elasticity of unemployment is rather low, only 0.24%, though significant. This might be a reflection that the unemployed have few requisite skills. They may suffer from serious constraints to make a rational entry into entrepreneurship. Banking institutions might not be prepared to offer assistance to such high-risk cases.

A related concern to entrepreneurial activity is the quality of the workforce and poor levels of education and training (Herrington 2012; Lings 2014). The 2014 GEM clearly indicates that a strong correlation exists between perceived skills of individuals of all participating countries and TEA. According to the World Economic Forum's (WEF) Global Competitiveness Report 2015/2016, South Africa ranks rather low on quality of education (120th out of 140 countries), making it difficult to generate the required type of skills needed for a competitive economy. The education system in South Africa is devastating because it is limiting (Mashaba 2015). Acquisition of a high level of human capital is thus necessary for South Africa to move from its present 'low growth equilibrium' level to a higher platform of entrepreneurship (FNB 2010; Herrington 2012; Parsons 2013).

It is no surprise that only 10.9% of individuals in South Africa have entrepreneurial intentions, although about 74% regard entrepreneurship as a good career (Kelly et al. 2016). This low entrepreneurial propensity among certain groups could also arise because of their fear of failure. The corporate or public sector employment then becomes a more attractive and less risky job option. Enhancing the quality of education and training can make labour more employable and attract more people of ability to become entrepreneurs (Chen & Thompson 2016). Government ought to adopt technical skills development programmes among the unemployed to improve their self-confidence and prospects of entering into self-employment.

On the other hand, as indicated by the GEM and World Economic Forum (WEF) reports, environmental factors relating to South Africa's entrepreneurial ecosystem are perceived to be unfriendly. These include high levels of corruption, government regulations and red tape, crimes and violence, poor quality education and levels of productivity, labour market rigidities and adverse labour relations (Herrington 2012; Parsons 2013). All these augment transaction costs and impose heavy burdens on competitiveness as well as making entrepreneurship less attractive. This is also evidenced by the World Bank's Doing Business Report for 2016, which saw South Africa ranked 73rd globally, down five places since 2015. Thus, unless a propitious environment is created to address these constraints, our growth potential will remain low, entrepreneurship will not flourish fully and the growing number of jobless youth and unemployed individuals in South Africa will have little hope of realising their income and employment aspirations.

Increases in real per capita GDP income are found, in the present study, to have a highly significant influence on enhancing entrepreneurship. The prospects of real growth in GDP income and poverty alleviation or job creation are weak in a stagnant economy. Income increases with economic growth and provides greater scope for entrepreneurship and employment; a 1% increase in GDP per capita income is found to be associated with a 0.16% rise in early stage entrepreneurship. Income growth thus has a positive scale effect on enhancing the scope of entrepreneurship. Given the strong relationship between GDP and entrepreneurship, the foundation for an entrepreneurial economy needs to be strengthened in South Africa. This will call for pragmatic and prudent macroeconomic policies which include low inflation, incentives for entrepreneurs, contained government

spending, the provision of infrastructure, addressing corruption and political risks and uncertainties.

Acknowledgements

The authors would like to extend their thanks to the managing editor of this journal and to the reviewers for their feedback and assistance on this article.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

The conceptualisation of the article was done by D.M. and the statistical part was done by I K. Both contributed to the writing of the article.

References

Aghion, P. & Howitt, P., 1992, 'A model of growth through creative destruction', *Econometrica* 60, 323–351. https://doi.org/10.2307/2951599

Audretsch, D.B. & Keilbach, M., 2011, 'Knowledge Spillover Entrepreneurship, innovation and economic growth', in D.B. Audretsch, O. Falck, S. Heblich & A. Lederer (eds.), *Handbook of research on innovation and entrepreneurship*, pp. 245–272, Edward Elgar, Cheltenham, UK.

Barro, R.J., 2003, 'Determinants of economic growth in a panel of countries', *Annals of Economics and Finance* 4(2), 231–274.

Baumol, W.J., 2009, *The microtheory of innovative entrepreneurship*, Princeton University Press, Princeton, NJ.

Baumol, W.J., 2011, 'Invention and social entrepreneurship: Social good and social evil', in D.B. Audretsch, O. Falck, S. Heblich & A. Lederer (eds.), *Handbook of research on innovation and entrepreneurship*, pp. 3–11, Edward Elgars, Cheltenham, UK.

Burton, M., Sorensen, J. & Dobrev, S., 2016, 'A careers perspective on entrepreneurship', *Entrepreneurship Theory and Practice* 40(2), 237–248. https://doi.org/10.1111/etap.12230

Casson, M., 2003, *The entrepreneur: An economic theory*, Edward Elgar, Aldershot.

Chen, L. & Thompson, P., 2016, 'Skill balance and entrepreneurship', *Entrepreneurship Theory and Practice* 40(2), 289–306. https://doi.org/10.1111/etap.12220

De Meza, D. & Webb, C., 1987, 'Too much investment: A problem of asymmetric information', *Quarterly Journal of Economics* 102, 281–292. https://doi.org/10.2307/1885064

FNB, 2010, *The state of entrepreneurship in South Africa*, FNB, Johannesburg.

Ghavidel, S., Farjadi, G. & Mahammadpour, A., 2011, 'The relationship between entrepreneurship and unemployment in developed and developing countries', in *International Conference on Applied Economics,* ICOAE, August 25–27, Perugia, Italy, pp. 189–192.

Grossman, G.M. & Helpman, E., 1991, 'Growth and welfare in a small open economy', in E. Helpman & A. Razin (eds.), *International trade and trade policy*, pp. 141–163, MIT Press, Cambridge, MA.

Herbst, J. & Gills, G., 2015, *How South Africa works*, Macmillan, Johannesburg.

Herrington, M., 2012, 'African entrepreneurship lacking!', *Business Brief* 17(5), 14.

Herrington, M. & Kew, P., 2016, *Global Entrepreneurship Monitor- South African Report 2015/16: Is South Africa heading for an economic meltdown?* Development Unit for New Enterprise, UCT, Cape Town.

Herrington, M., Kew, J. & Kew, P., 2015, *2014 GEM report SA: The crossroads – A goldmine or a time bomb?* DUNE, Western Cape Government, Cape Town.

Johansen, S., 1991, 'Estimation and hypothesis testing of cointegration vectors in Gaussian Vector autoregressive models', *Econometrica* 59(6), 1551–1580. https://doi.org/10.2307/2938278

Johnson, H.W., 2015, *How long will South Africa survive?* Jonathan Ball Publishers, Cape Town.

Kantor, B., 2017, *Get South Africa Growing*, Jonathan Ball, Johannesburg.

Kelly, D., Singer, S. & Herrington, M., 2016, *GEM 2015/16 Global Entrepreneurship Monitor, South African Report*, GSB, University of Cape Town, Cape Town.

Kerr, A., Wittenberg, M. & Arrow, J., 2014, 'Job creation and destruction in South Africa', *South African Journal of Economics* 82(1), 1–19. https://doi.org/10.1111/saje.12031

Kirzner, I.M., 1997, 'Entrepreneurial discovery and the competitive market process: An Austrian approach', *Journal of Economic Literature* 35(1), 60–85.

Kirzner, I.M., 2009, 'The alert and creative entrepreneur: A classification', *Small Business Economics* 32(2), 145–152. https://doi.org/10.1007/s11187-008-9153-7

Kritikos, A.S., 2014, 'Entrepreneurship and their impact on jobs and economic growth', *IZA World of Labour* 8, 1–10.

Lings, K., 2014, *The missing piece: Solving South Africa's economic puzzle*, Macmillan, Johannesburg.

Luiz, J.M., 2008, 'Economic perspectives of entrepreneurship', in B. Urban (ed.), *Frontiers in entrepreneurship*, pp. 63–84, Heinemann, Johannesburg.

Mahadea, D. & Youngleson, J., 2013, *Entrepreneurship and small business management*, Pearson, Cape Town.

Mankiw, G., 2014, *Macroeconomics*, Harvard, Worth Publishers, New York.

Mashaba, H., 2015, *The capitalist crusader: Fighting poverty through economic growth*, Bookstorm, Johannesburg.

Mohr, P., 2016, *Economic indicators*, Van Schaik, Braamfontein.

Naude, W., 2008, 'Entrepreneurship in the field of development economics', in B. Urban (ed.), *Frontiers in entrepreneurship*, pp. 85–114, Heinemann, Johannesburg.

Nieman, G. & Nieuwenhuizen, C., 2014, *Entrepreneurship: A South African perspective*, 3rd edn., Van Schaik, Pretoria.

OECD, 2017, *Getting skills right: South Africa*, OECD Publishing, Paris. https://doi.org/10.1787/9789264278745-en

Parker, S.C., 2009, *The economics of entrepreneurship*, Cambridge University Press, Cambridge, UK.

Parsons, R., 2013, *Zumanomics*, Jacana, Johannesburg.

Phillips, P.C.B. & Hansen, B.E., 1990, 'Statistical inference in instrumental variables regression with I(1) processes', *Review of Economics Studies* 57, 99–125. https://doi.org/10.2307/2297545

Romer, P.M., 1990, 'Endogenous technological change', *Journal of Political Economy* 98, 71–102. https://doi.org/10.1086/261725

SARB, 2015, *South African Reserve Bank Quarterly Bulletin*, SARB, Pretoria, p. 277.

SARB, 2016, *South African Reserve Bank Quarterly Bulletin*, SARB, Pretoria, p. 280.

Shane, S., 2003, *A general theory of entrepreneurship*, Edward Elgar, Northampton, MA.

Solow, R.M., 1956, 'A contribution to the theory of economic growth', *Quarterly Journal of Economics* 70, 65–94. https://doi.org/10.2307/1884513

Stock, J. & Watson, M.W., 1993, 'A simple estimator of cointegration vectors in higher order integrated systems', *Econometrica* 61(4), 783–820. https://doi.org/10.2307/2951763

Urban, B., 2008, *Frontiers in entrepreneurship*, B. Urban (ed.), Heinemann, Johannesburg.

Urban, B., 2013, 'Influence of the institutional environment on entrepreneurial intentions in an emerging economy', *The International Journal of Entrepreneurship and Innovation* 14(3), 179–192. https://doi.org/10.5367/ijei.2013.0122

Wennerkers, S. & Thurik, R., 1999, 'Linking entrepreneurship and economic growth', *Small Business Economics* 13(1), 27–55. https://doi.org/10.1023/A:1008063200484

Innovation through accelerators: A case for open innovation

Authors:
Lerato E. Mohalajeng[1]
Japie Kroon[1]

Affiliations:
[1]School of Business Management, North West University, South Africa

Corresponding author:
Lerato Mohalajeng,
lerato.mohalajeng@nwu.ac.za

Background: Open innovation is becoming a progressive business practice in Southern Africa because it plays a significant role in economic development through promoting the commercialisation of new ideas. The challenge is that while the benefits of open innovation are widely spoken about, not much is understood about the challenges and successes of open innovation accelerators (OIAs) in taking ideas to market.

Aim: The purpose of this research was to investigate an OIA in South Africa for taking ideas to market.

Setting: The Innovation Hub is a science park in Pretoria, South Africa, using open innovation to stimulate entrepreneurship in South Africa. Through The Innovation Hub Open IX, a web-based platform, an opportunity to investigate the bridging from invention to commercialisation is presented.

Methods: A qualitative research method using semi-structured, in-depth interviews was applied to collect data. Five key stakeholders of the OIA were interviewed.

Results: The findings suggest that stakeholder buy-in is essential for commercialisation through OIAs in South Africa. By involving stakeholders in the initial phases of the open innovation process, the likelihood of a solution being incorporated and fitted into the organisation's business strategy is increased.

Conclusion: The insight gained from this research suggests policymakers, research institutions and commercial businesses ought to explore various innovations across industries relevant to their open innovation proficiencies. This research makes a significant contribution to an in-depth understanding of what is needed to bridge the gap from invention to successful commercialisation through open innovation.

Introduction

In today's globally competitive environment, innovation has become the key measure of a business's sustainability (Manceau *et al*. 2011:4). Businesses are required to increasingly innovate in order to obtain a competitive advantage. In turn, government, universities, research institutions and even individuals have become attracted to forming industry partnerships in the hope of monetising their research (Huston & Sakkab 2006:2).

This implies that businesses and various role-players have become less confidential with their innovation practices and have leaned towards the idea of leveraging each other's innovation assets. This form of mass collaboration has brought about open innovation (Chesbrough 2003:5). This implies the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation, respectively (Park & Yoon 2013:206).

Businesses in Southern Africa, regardless of their industry, are starting to implement open innovation in order to maintain their competitive advantage, maintain more effective product development management and essentially to meet consumer needs (Shurrab & El Bouassami 2013). Open innovation plays a significant role in the economy, as it stimulates total early-stage entrepreneurial activity (TEA) through the commercialisation of ideas (Iakovleva 2013:18).

South Africa is a middle-income country with relatively low GDP per capita income (Dutta & Lanvin 2013:307). In an effort to raise this GDP per capita income, the government has turned towards entrepreneurship and small and medium-sized enterprise (SME) development. There have been a number of initiatives and incentives that aim to achieve this. However, South Africa

has shown very little early-stage entrepreneurial activity with a mere 9.2% TEA rate in 2015, which is still far below the 15% average for efficiency-driven economies – 1.6 times higher than South Africa's TEA rate (Herrington & Kew 2016:28). The low level of early-stage entrepreneurial activity in South Africa limits economic growth and job creation in the country.

One of the reasons for the low entrepreneurial activity is that, while there have been policy pronouncements at a macro-level, there has been very little follow-up at the meso-level, as well as disinterest from the micro-level (Bodhanya 2008:7). The meso-level is made up of government and private agencies, as well as intermediaries who serve to translate government policy into tangible benefits for the micro-level, i.e. entrepreneurs and SMMEs. Contributors in the meso-level include science parks and incubators. While most of these meso-players have concentrated on traditional incubation services, there has been a recent interest in using innovative approaches, such as open innovation, to stimulate entrepreneurship (Cunningham, Cunningham & Ekenberg 2016:2).

The Innovation Hub is a science park in Pretoria, South Africa. It uses open innovation as one of the methods to implement the Gauteng Innovation and Knowledge Economy Strategy (GIKES). One of the aims of this strategy is to stimulate innovation and successful commercialisation. The Innovation Hub Open Innovation Solution Exchange (referred to as Open IX), a web-based platform, presents an opportunity to investigate the bridging or crossing of the chasm from invention to commercialisation (Anon 2016).

Problem statement

Although the benefits of open innovation are widely spoken of, very little is known about the open innovation intermediaries that help entrepreneurs in commercialising their ideas. Investigating the people, products and challenges of the platform can lead to an in-depth understanding of what is needed to bridge the gap from invention or idea to market or successful commercialisation.

The purpose of this paper is to investigate an open innovation platform for taking ideas to market.

To achieve the purpose of this paper, the following objectives were formulated:

- To discuss the open innovation platform that is used in Southern Africa to foster commercialisation.
- To understand the challenges faced by the key stakeholders of the open innovation platform.
- To recommend what is needed for the success of the open innovation platform.

The research will assist policy-makers in making better decisions about what is needed to improve success in taking ideas to market and in essence promote TEA. This research will also assist inventors to make better decisions in taking their ideas to the market by enabling them to better understand the intricacies and complexities of what is required to successfully take an idea to market.

Literature background

The open innovation process

Traditionally, businesses develop their technology and products internally, resulting in innovation relying solely on internal resources, according to Mortara *et al*. (2009:12). Open innovation eradicates these boundaries and allows businesses to share and corporate resources with partner organisations and internal business units. Open innovation suggests that a business should not confine its discovered knowledge to its internal market mediums alone, nor should internal pathways necessarily be limited to bringing only the business' internal knowledge to market (Chesbrough 2003). According to Bogers *et al*. (2016:3), open innovation is concluded as a distributed innovation process based on purposively managed knowledge flows across organisational boundaries. It is a form of mass collaboration used to connect the various role-players within government, industry and academia in order to leverage their innovation capabilities (Piller & Diener 2013:6). The relationship between university, industry and government is referred to as the triple-helix model. It is, in essence, the crossing over of businesses, public research and government regulations. (Leydesdorff 2006:3).

Open Innovation entails three core processes: outside-in, inside-out and coupled processes. Not all businesses select the same core process, as each business chooses a core process that best suits its strategic objectives (Gassmann & Enkel 2004:60).

Outside-in open innovation process

Outside-in open innovation, as a core process, involves collaborating with suppliers and customers and integrating any external knowledge gained (Chesbrough & Crowther 2006:229). In an attempt to increase innovation capacity, businesses develop and augment their own knowledge base through integrating suppliers, customers and external knowledge sources (Gassmann & Enkel 2004:7). Businesses screen the industry in order to in-source technology and knowledge over and above their own research and development (R&D) (Spithoven, Clarysse & Knockaert 2009:2). Outside-in activities include in-licensing and buying of patents, earlier supplier integration, customer co-development and external knowledge integration (Bianchi *et al*. 2011). By possessing the necessary competence and supplier management capabilities, businesses can extend new product development activities across organisational boundaries (Fritsch & Lukas 2001:302).

Inside-out open innovation process

Inside-out open innovation, as a core process, involves externalising the business' innovation and knowledge in order to commercialise ideas more rapidly than the business

is able to do through internal development (Gassmann & Enkel 2004:10). It depicts the outward transfer of technology in open utilisation processes (Lichtenthaler 2009:318). This situation can arise, for instance, when the business does not have the ability to realise sufficient revenue in its own market or when the technology is a spin-off, which cannot be used for the core business (von Nell & Lichtenthaler 2011:133).

With inside-out processes, businesses gain insights by means of opening their boundaries and increasing their advantage by allowing ideas to flow outwards; as a result, fixed costs of R&D are decreased and risks are shared (Gassmann & Enkel 2004:11).

Coupled open innovation process

The coupled open innovation process integrates both inside-out and outside-in processes, thereby not only bringing in external knowledge but also bringing ideas to various markets (Gassmann & Enkel 2004:12). Companies that establish the coupled process co-create with corresponding partners through joint ventures, alliances and cooperation and in doing so, jointly develop and commercialise innovation (Enkel, Gassmann & Chesbrough 2009:311).

Challenges faced in implementing open innovation

Open innovation has a realistic influence on a business's innovation strategy and performance and may pose challenges that a business may incur when adopting an open innovation process. The most complex dilemma facing businesses that institute open innovation programmes is the prospect of revealing a business' intellectual property (IP) (von Dyck 2015). A business revealing its IP by disclosing ideas or inviting other businesses into its innovation process is often seen as a weakness (Gaskell 2013). Furthermore, Marais and Schutte (2010:106) suggest that with open innovation, the possible decrease of a business' competitive advantage could result in future planned products or services being blemished. Although setting legal agreements involves complex administrative procedures, managing and regulating IP rights effectively can yield optimal outcomes for both innovators and society at large (Fisher & Oberholzer-Gee 2013:174). As IP rights are prioritised, an increased protection of new innovations in South Africa will result.

Collaborative relationships are at the core of open innovation (Slowinski & Sagal 2010:38). However, encouraging parties within the business to commit is an unstated challenge. According to von Dyck (2015), without an internal structure in place, no systematised mechanism for accepting and implementing solicited and/or unsolicited submissions exists. This, in turn, affects the monitoring of the programme and benchmarking of performance. Businesses often assume that the source of the innovation, in some cases the open innovation accelerator (OIA), will continue with the production and implementation of the innovation within the business (West & Gallagher 2006:323). This free-riding behaviour and lack of internal commitment hinder the success of open innovation. Additionally, the cognitive, cultural, institutional and organisational differences between the collaborating businesses as well as the lack of resources and skills needed to understand and combine the new innovation with the business' internal innovation pose a challenge, influencing collaboration (van de Vrande *et al*. 2009:427).

The challenges to successful open innovation lie in its involvement in a business' key functions right through the innovation process (Anon 2009:1). Open innovation is characterised by its participation in the different stages of the innovation process and not just R&D (Mortara *et al.* 2009:12). While businesses have their own innovation process and R&D departments, they are still inadequate and have limited experience on how to successfully manage open innovation activities. This is because acquiring external ideas and sharing internal IP do not epitomise the core strategy of most businesses (Lichtenthaler & Ernst 2008).

In an effort to overcome the challenges experienced with open innovation, businesses often depend on the support from intermediary services (Nambisan & Sawhney 2007). Intermediaries play a major role in the open innovation procedures and are involved in an estimated 20% of all technology transactions. Very little is known about the intermediaries using open innovation to aid in accelerating ideas to the market and/or businesses in commercialising their ideas. These intermediaries are known as OIAs (Piller & Diener 2013). An OIA, as defined by Howells (2006:720), is an organisation or body acting as an agent or broker in any facet of the innovation process. These service providers support businesses in executing open innovation projects and can be from the private or public sectors. OIAs either run the open innovation project on behalf of their clients (thereby providing a solution to a given task) or aid their clients in building their own open innovation proficiencies (Piller & Diener 2013:4).

An open innovation accelerator in South Africa

The Innovation Hub, located in the capital of South Africa, Pretoria, has piloted one of Africa's first OIA s: The Innovation Hub Open Innovation Solution Exchange (now referred to as OpenIX). The OpenIX is a web-based innovation network, which connects experts from various businesses, research scientists, SMMEs and government to relevant R&D problems across Gauteng. Businesses or governmental entities with a particular business need, which could not be solved internally, post these needs, referred to as challenges, on the platform. Researchers, innovators, entrepreneurs, SMMEs and larger businesses are invited to respond to these challenges posted on the platform, by submitting potential solutions. These experts are referred to as solution providers or solvers, while businesses posting the challenges are referred to as solution seekers (The Innovation Hub 2013:6).

The methodology of the OpenIX was built upon Ninesigma's open innovation process (The Innovation Hub 2013).

It is referred to as the 'C4' methodology. This methodology takes place in four phases, namely challenge definition, connect, consider and commit. Challenge definition involves identifying a list of needs within the business and structuring the needs in such a way that it creates a position for specific challenges. Huston and Sakkab (2006:3) argue that, during this phase, it is imperative that the OIA ask the business who is seeking a solution what previously undefined needs the consumer may have. In doing so, the business could possibly increase their product and brand growth. This is needed because often their researchers work on problems that are of interest to them, rather than those that stem from deep consumer insight, thereby leading to increased brand growth (Khan 2015).

The connect phase involves promoting the challenge by stimulating the local innovation ecosystem. By marketing the challenge and networking, solution seekers are connected to a variety of external possible solution providers who are often new and unknown to the seeker (Piller & Diener 2013:5).

During the consider phase, the proposed solutions are evaluated, shortlisted and feedback is provided to the selected solution providers. Huston and Sakkab (2006:6) further stress that solutions should be screened through due diligence, information gathering, sampling and testing, scanning patents and meeting with laboratory managers, among others.

For The Innovation Hub Open Innovation Exchange, evaluation is done by following a dashboard approach, testing what has been delivered alongside the defined need. This involves meeting with solution providers, final shortlisting and providing feedback to the selected few (Anon 2016). Upon shortlistings and feedback from both solution seekers and providers, a commitment by the solution seeker has to be made. This takes place during the commit phase, the last phase of the C4 methodology (The Innovation Hub 2013:8). The commit phase is a confidential process between the solution seeker and the solution provider, unless the OIA is required to facilitate this process. The objective of this phase is to reach some form of agreement where a deal is made.

It is clear that, although the platform is web-based, the majority of the tasks related to connecting the seeker with the solver are done by the OIA, namely The Innovation Hub project team. This hand-driven process is vital in assuring that the right solutions are found for the challenges. The project team has to ensure that challenges are defined to their lowest level, because the challenges are campaigned to various stakeholders within the triple-helix. The word campaigning is frequently used in the innovation setting. The project team also ensures that the challenges are distributed across various media platforms, which include telephone calls, e-mailing and advertising to the relevant stakeholders. The evaluation and commitment to solutions are a collaborative effort carried out by the expert facilitators in the project team as well as the solution seeker's team (The Innovation Hub 2013:4).

Research methodology

A post-positivism world view was used as it reflects the need to identify and assess the causes that influence outcomes. The knowledge developed through a post-positivist lens is based on careful measurement of the objective reality that exists (Creswell 2009:7). The research involved a qualitative approach allowing for data to be collected in the format of semi-structured interviews. Interviews were conducted on a one-on-one basis allowing open-ended questions to be asked (Bradley 2010:234). Asking open-ended questions helped in obtaining an understanding of the cognitive and interpretive processes of key stakeholders of the open innovation platform by learning of their judgements about the experience and issues on the platform and factual information regarding the open innovation platform, i.e., how the platform had been run and what challenges and opportunities had been presented, as well as potential commercialisation opportunities, partnerships and further developments.

Sample profile

Nine participants were identified and approached for interviews, of whom five participants agreed to be interviewed. These participants represented the core project team of the open innovation platform. The participants were involved in both the design and management of the open innovation platform in addition to having extensive knowledge on supporting mechanisms for taking ideas to the market through the use of open innovation. Participants had an in-depth understanding of open innovation within the South African context, the open innovation platform and the components needed in accelerating ideas (solutions posted onto the platform) into commercialised entities.

Data analysis process

All semi-structured interviews were recorded and transcribed for analysis. When analysing the qualitative component of this research, a content analysis method was utilised. Content analysis entails systematically categorising responses with the aim to identify overall trends and patterns (Vaismoradi, Turunen & Bondas 2013:400). The aim of content analysis is to obtain a condensed and broad description of the phenomenon, and the outcome of the analysis is concepts or

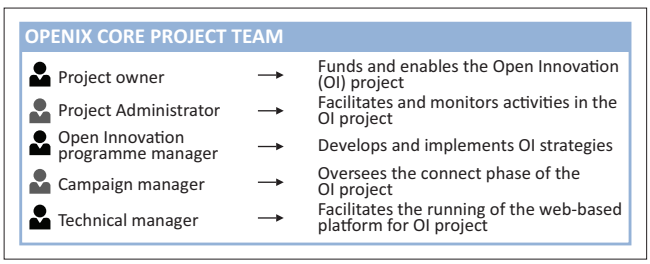


FIGURE 1: List of participants and their responsibilities.

categories that describe the phenomenon (Elo & Kyngäs 2008:108). Therefore, content analysis served to determine the characteristics of the transcribed interviews' content by examining who says what, to whom and with what effect (Bloor & Wood 2006:58).

Consequently, the data underwent a content analysis process that concerned deriving categories from the qualitative data. The data generated through these qualitative interviews were synthesised into three major themes, i.e. OIA, commercialisation and open innovation.

Reliability and validity

Two issues contributed to the reliability of the qualitative data, namely its dependability and its confirmability (Miles, Huberman & Saldana 2014:312). Bias and deceit were avoided because the transcription of the interviews was done by an expert in the specific field of research and also evaluated by the researcher to ensure accuracy. To confirm the originality of the qualitative results, direct quotations were used from the discussions so that recurring themes from different interviews could be seen. The researcher also acknowledged any limitations of the investigation and the potential effects thereof (Shenton 2004:73). Transferability measures to what extent the results or findings are relevant to a wider population or a different case (Matthews & Ross 2010:12). The data obtained from the interviews provided detailed information regarding the open innovation platform. Therefore, the information provided cannot be applied to different cases, but could serve as a guideline for such cases.

The limitation of this research: This research only focused on using an open innovation platform as a method of accelerating commercialisation. Other approaches to accelerating commercialisation were not investigated. Because of time and financial constraints, the research was only conducted on one open innovation intermediary in Southern Africa. Other open innovation intermediaries within the Southern African Development Community region were excluded.

Ethical consideration

Completed in accordance to the NWU ethic guidelines.

Results

The five interviewees, who are stakeholders of the open innovation platform, were asked questions that provided them the opportunity to discuss factual information regarding the platform (objective 1), to share their experiences regarding how the platform had been run and to indicate any challenges (objective 2) and opportunities that had been presented through the platform (objective 3).

Understanding the open innovation accelerator

Participants' feedback regarding OpenIX provided detailed insight into the platform thus far. The insight provided by the participants emerged into four themes, namely, challenge definition, evaluating solutions, marketing and deal-making (Table 1).

According to these participants, the OIA ensures that a business clearly defines its needs in a manner that ensures the transferability of the needs across domains outside the business' own. The procurement team, open innovation experts, technical experts and other parties play a role in the transferability of the challenge and plan accordingly during the kick-off meeting. Through the kick-off meeting, an increase in the possibility of absorbing the new solution into the business ensured. Participants added that the economic and technical feasibility of a solution is always evaluated, while considering the costs and legalities around the solution and the relationship the challenge owner is looking for.

TABLE 1: Direct quotations of responses regarding the open innovation accelerator.

Objective 1	Theme components	Description (*verbatim quotes*)
Open innovation accelerator	Challenge definition	'A challenge is a real business need'; 'We narrow down the issue [need] by prioritising a challenge with a client'; 'We will rank and prioritize them [the needs],and see where the business wants a solution as a matter of urgency'; 'Choose one would be the most suitable for open innovation … then presenting it in a way that is transferable across different domains outside of the core domain'; 'If we don't define also the human process then the chances of absorption of the technology to be found gets less'; 'The business development manager and our Open Innovation expert sit with a team from the specific organisation'; 'It's important to look at whether there is budget to solve and to pay for the implementation of the proposed solution'.
	Evaluating solutions	'They need solutions to address their operational problems, or technical problems'; 'We are looking for solutions that are feasible both economically and technically'; 'What are the technical elements that are of interest to the client? The solution will work at a certain cost point… and it must be legal'; 'We have some standard evaluation criteria'; 'The challenge brief will outline the specifications for a solution'; 'there will be specific criteria that every solution has to meet'.
	Marketing	'We have various networks at universities, relationships that we build'; 'We send it [the challenge brief] to their databases'; 'The campaigning team phones these companies and ask them to submit proposals to challenges'; 'We specifically, actively look for people who can potentially solve the challenge'; 'We read on the websites to then make a decision if we're going to email them the challenge or not'.; '…it relies on the campaign people to see where opportunities lie'; 'We use bulk email, we use personal emails, telephone calls, newsletters, Open Innovation workshops'; 'We invite people to attend the workshop, then we explain the challenge, they see an opportunity then they will respond'; 'We also do our own Google searches and we make use of LinkedIn'; 'It is quite a human driven process'; 'We send it [challenge brief] out in a newsletter and send it out on the website, then wait for responses'; 'The innovation network receives notification of the challenge but it is part of the innovation news'; 'They can visit the website to see the challenge'.
	Deal-making	'There's quite a specific boundary'; 'we go up to a point … and up to where the agreements are made between the solution provider and the solution seeker'; 'the initial engagement, we do one engagement between the challenge owner and the solution providers and then we hand over to the client normally'; 'we arrange the meetings, we arrange the shortlist presentations'; 'make sure that they sign the necessary agreements'; 'We protect them [solution providers] and make sure that they sign the necessary agreements'; '…whatever we give the challenge owner is credible enough, it's got a fit for purpose and there's enough interest take it forward'; 'We try to align the solutions to the criteria set during the challenge definition kick-off meeting'.

The stakeholders further explained that the OIA facilitates communication between challenge owners and solution providers when making a deal. This is done by arranging meetings, shortlisting presentations and advising the SMMEs regarding IP. The solution providers who are shortlisted sign a non-disclosure agreement (NDA). Signing the NDA, according to the participants, ensures that solutions submitted are not published, except between the solution seeker and the provider.

To accelerate taking ideas to market, participants explained that the OIA uses various networks and industry associations to market the challenges to potential solution providers. Marketing the challenges requires from the campaigning team to identify opportunities in the different sectors. This is accomplished by pro-actively identifying emails and telephone numbers of potential solution providers and inviting them to take part in the challenge. The participants then run challenge workshops not only to create awareness of open innovation in Southern Africa but also to provide detailed information regarding each challenge. The OIA's database is used and grown as each challenge is marketed. Apart from this hand-driven process, participants added that challenges are posted onto the website and on newsletters in the hope that potential solution providers will log in and respond to the challenge. Table 1 reflects the direct quotations of participants regarding understanding the OIA.

Challenges faced by stakeholders: Intellectual property protection and collaborative partnerships

Three main themes, namely IP protection, collaboration and triple-helix, were identified from the participants' description of their experiences regarding how the platform had been run and the challenges they face when operating such a platform. The direct quotations regarding these themes are reflected in Table 2.

IP protection should play a vital role in accelerating commercialisation through OIAs in South Africa. The importance of protecting the IP of possible solutions when dealing with OIAs was emphasised by the stakeholders. According to the participants, the OIA plays an advisory role when dealing with the protection of IP. Participants stated that OIA prevents the leakage of IP by advising the solution providers on what content they should and should not provide. This means that the OIA facilitates communication between the solution provider and solution seeker until a NDA is signed; thereafter, the deal-making becomes a negotiation between the solution seeker and the solution provider. Apart from authenticating the potential solution providers' credibility by verifying their backgrounds and facts and the reputations of the key contributors involved and investigating the technical competencies of the possible solution, participants added that a more rigorous approach to protecting IP is necessary.

Open innovation, in its core, is based on collaborative relationships (Slowinski & Sagal 2010:38). Businesses often assume that the source of the external innovation (the solution provider) will continue with its production within the business (West & Gallagher 2006:323). However, this is often not the case. Participants detailed that obtaining buy-in from stakeholders within the business of the solution seeker was an unstated challenge. Participants emphasised that it is difficult to monitor collaboration through technology offers. Participants explained that technology offers are a good entry point into various organisations, and therefore broadening partnerships; however, facilitating these technologies has been a passive process as it is relatively under resourced and therefore difficult to monitor. Using the website and sending out occasional newsletters regarding technology offers are done, but is not an effective way of promoting and monitoring collaboration.

Furthermore, the participants emphasised the importance of the involvement of the triple-helix when promoting open innovation. According to the participants, large businesses mainly launched challenges on OpenIX, while academia and smaller businesses posted their innovations onto the platform as technology offers in addition to submitting solutions to the challenges posed by large businesses. Government plays the role of the intermediary,

TABLE 2: Direct quotations of responses regarding the challenges faced when commercialising ideas the open innovation.

Objective 2	Theme components	Description (*verbatim quotes*)
Challenges faced regarding OpenIX	Protecting intellectual property	'Everything is on a non-disclosed basis, which means it is open for the public'; 'We position it as a non-confidential process'; 'All solutions that we receive are considered to be confidential'; 'We then advise the client and the potentially commercial partner to sign a NDA' 'We would then facilitate the NDA between the solution provider and the challenge owner'; 'We position it as a non-confidential process'; 'We try to advise the solution providers on what content they should be providing'; 'they might seek IP protection first before going a step further'. 'More can be done regarding IP'.
	Collaboration	'coming from this various partners – universities, SMEs and individual innovators'; 'Venture capitalist and dealmakers to actually get easy access'; 'Owners have got different interests'; 'a good entry point for us into quite a few organisations'; '…looking to broaden their relationships'; 'It's essentially been passive because it's under resourced'; 'The aim is not necessarily to drive deal makings'; 'It's a demonstration of our ability to bring in technologies'; 'our role is the intermediary is to facilitate engagement'; 'We don't know if ultimately did it [collaboration/deal-making] happen'; 'And it's very possible that the partnerships that happen outside the website…it's difficult to monitor it'.
	Triple-helix	'The involvement of the triple-helix is to get this underlined process [Open Innovation through deal-making] going'; '…to facilitate the collaboration between triple-helix players'; 'Private sector has become our clients… smaller ones [businesses] become our solution providers'; 'he enabler in this case was government'.; '… government is acting as an intermediary'; 'The universities have given us some technology offers'; '…just opens up a research community'; 'Regarding the actual implementation of the project, a lot of role-players were brought into as steering and advisory committee, we included government, state-owned companies, we included the universities'.

enabling open innovation in Gauteng. Participants mentioned the difficulty of bringing industry and government into the same room.

Table 2 reflects the direct quotations of participants regarding challenges faced on the open innovation platform.

Measuring success

Because open innovation is relatively new in Southern Africa, participants have focused on other measures of the OIA's success apart from the actual deal-making. Table 3 reflects the direct quotations of participants regarding how the success of the platform has been measured.

Participants indicated that the increased numbers of registrations of the platform, submissions to solutions and visits to the website indicate a better awareness of open innovation over time. They added that the platform's alignment with the province's key strategies also serves as a measure of success. OpenIX was launched to boost the Gauteng Employment Growth and Development Strategy and the GIKES (The Innovation Hub 2013:2). One of the key objectives of Gauteng is to stimulate SME development; participants emphasised that the OIA provides opportunities for SMEs as they showcase their technology and, in turn, build their businesses through partnerships and investment.

Participants stated that innovators, SMMEs and universities with different interests are also offered the opportunity to collaborate with desired partners by posing their innovations onto the platform in the form of technology offers. This is in addition to posing solutions to challenges. Participants also mentioned that the platform encourages technology transfer and partnerships between universities and industry on particular business needs.

Stakeholders added that, apart from SMME development, the OIA has tackled service delivery issues by identifying solutions that affect municipalities and are being implemented at the community level.

Conclusion and recommendations

The objective of this research was mainly to investigate an OIA in Southern Africa used to take ideas to market. This was accomplished by firstly discussing factual information regarding the open innovation platform through a literature review and qualitative data; secondly, identifying the challenges faced by the key stakeholders of the open innovation platform; and lastly, identifying the successes of the open innovation platform thus far. From the findings presented in this research, it is apparent that the acceleration of commercialisation through OIAs such as OpenIX, although relatively new in South Africa, should not be overlooked. Conclusions and recommendations regarding the research can be made as follows:

Apart from their own business networks and databases, OIAs need to build an overall innovation ecosystem. This means having a diverse array of members (triple-helix stakeholders) and resources that contribute to and are necessary for ongoing innovation. These include entrepreneurs, investors, researchers, university faculties, venture capitalists and policy-makers. In addition, stakeholders could also include business development and other technical service providers such as accountants, designers, contract manufacturers and skills training and professional development services. Having these different styles of thinking and incongruent understandings will enable OIAs to operate effectively across multiple clusters of specialisation. These cross-industry associations and wide-spread knowledge regarding industry-specific issues may result in the OIA's increased ability to provide multiple value-added services that hold enough legitimacy to influence the development of technology, thereby establishing a common language of reference and transforming interpretations through innovation.

Measuring collaboration is quite a challenge for the OIA. It is recommended that stakeholders look across a range of tools to tell a holistic story. There cannot be one approach that can measure collaboration on its own. Exploring a few different approaches and tools to measure various collaboration efforts is recommended. A strong marketing strategy in addition to collaboration with a media partner is recommended in order to build a culture for and interest in research technologies in South Africa over a longer period of time. Sustainable partnerships need to be built beyond simply requesting the distribution of the challenge brief to industry associations and research institutions. This will grow the platforms database and contribute to building an open innovation ecosystem. Furthermore, a database gap analysis in terms of what is available on the database and what data need to be recruited is recommended.

In order to ensure stakeholder buy-in, it is essential that OIAs involve key stakeholders from the client's side

TABLE 3: Direct quotations of responses regarding the key success factors.

Objective 3	Theme components	Description (*verbatim quotes*)
Open Innovation success	Measuring success	'We are looking for an actual deal'; 'what's the size of the deals over a period?'; 'we identify the number of registrations, submissions, the visits during the campaigning process'; '...measuring the number of solutions that are implemented'; 'It [OpenIX] has to support our incubation and our skills development programs'; 'There are wider benefits and we haven't figured out exactly how to capture it'; 'The project objectives which are driven, which are aligned to the Gauteng objectives'; 'the project managed to stimulate SME's development'; 'By putting challenges of a business's needs on a platform and making the best opportunities visible to the SME's'; 'Yes, we managed to identify solutions that are impacting municipalities'; 'They [solutions] are actually implemented the solution that is now actually impacting lives on community level'; 'We managed to get universities partner with the industries on particular business needs'.

(the solution seeker) during the challenge definition phase of the open innovation project. When stakeholders are involved at this initial phase of the open innovation process, it increases the likelihood of a solution being incorporated and fitted into the organisation's business strategy and day-to-day operations.

The OIA should consider technical measures to actively prevent IP leakage, rather than simply advising the solution providers regarding IP. Various IP protection programmes and methods exist and should be looked into as value-added services.

In conclusion, businesses need to embrace open innovation as it presents opportunities in this fast-paced knowledge economy, thereby increasing a business' competitive advantage. No one structure for open innovation is likely to be sufficient in the future. It is recommended that policy-makers, research institutions and businesses explore various technologies across industries relevant to their open innovation proficiencies. Flexibility is vital when implementing open innovation. Triple-helix role-players embracing open innovation should seek to find approaches of collaboration that are the most appropriate for them and for the open innovation project at hand, keeping in mind that these approaches are likely to change.

Acknowledgements

This study was funded by WorkWell: Research Unit for Economic and Management Sciences.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced the in writing this article.

Authors' contributions

Both authors contributed equally to the work presented in this article.

References

Anon, 2009, 'Creating an environment for open innovation', *IFM Briefing* 1(4), 1–2.

Anon, 2016, *OpenIX: Open innovation exchange by The Innovation Hub,* viewed 12 March 2016, from www.openix.theinnovationhub.co.za

Bianchi, M., Cavaliere, A., Chiaroni, D., Frattini, F. & Chiesa, V., 2011, 'Organisational modes for open innovation in the bio-pharmaceutical industry: An exploratory analysis', *Technovation* 31(1), 22–33. http://dx.doi.org/10.1016/j.technovation.2010.03.002

Bloor, M. & Wood, F., 2006, *Keywords in qualitative methods: A vocabulary of research concepts,* Sage, Thousand Oaks, CA.

Bodhanya, S., 2008, *Systemic competitiveness and local economic development,* Jörg Meyer-Stamer, Duisburg.

Bogers, M., Zobel, A.K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L. *et al*., 2016, 'The open innovation research landscape: Established perspectives and emerging themes across different levels of analysis', *Industry and Innovation* 23 1–33. http://dx.doi.org/10.1080/13662716.2016.1240068

Bradley, N., 2010, *Marketing research: Tools and techniques,* 2nd edn., Oxford University Press, New York.

Chesbrough, H., 2003, 'Open platform innovation: Creating value from internal and external innovation', *Intel Technology Journal* 7(3), 5–9.

Chesbrough, H. & Crowther, A.K., 2006, 'Beyond high tech: Early adopters of open innovation in other industries', *R&D Management* 36(3), 229–236. http://dx.doi.org/10.1111/j.1467-9310.2006.00428.x

Creswell, J.W., 2009, *Research design: Qualitative, quantitative and mixed methods approaches,* 3rd edn., Sage, Los Angeles, CA.

Cunningham, P.M., Cunningham, M. & Ekenberg, L., 2016, 'Factors impacting on the current level of open innovation and ICT entrepreneurship in Africa', *The Electronic Journal of Information Systems in Developing Countries* 73(1), 1–23.

Dutta, S. & Lanvin, B., 2013, *The global innovation index: The local dynamics of innovation,* Cornell University, Geneva, Switzerland.

Elo, S. & Kyngäs, H., 2008, 'The qualitative content analysis process', *Journal of Advanced Nursing* 62(1), 107–115. http://dx.doi.org/10.1111/j.1365-2648.2007.04569.x

Enkel, E., Gassmann, O. & Chesbrough, H., 2009, 'Open R&D and open innovation: Exploring the phenomenon', *R&D Management* 39(4), 311–316. http://dx.doi.org/10.1111/j.1467-9310.2009.00570.x

Fisher, W.W., III. & Oberholzer-Gee, F., 2013, 'Strategic management of intellectual property', *California Management Review* 55(4), 157–183. http://dx.doi.org/10.1525/cmr.2013.55.4.157

Fritsch, M. & Lukas, R., 2001, 'Who cooperates on R&D?', *Research Policy* 30(2), 297–312. http://dx.doi.org/10.1016/S0048-7333(99)00115-8

Gaskell, A., 2013, *The commercial benefits of Open Innovation,* viewed 1 March 2016, from www.dzone.com/articles/commercial-benefitsopenwww.dzone.com/articles/commercial-benefits-open

Gassmann, O. & Enkel, E., 2004, *Towards a theory of open innovation: Three core process archetypes,* viewed 18 February 2016, from https://www.alexandria.unisg.ch/Publikationen/274

Howells, J., 2006, 'Intermediation and the role of intermediaries in innovation', *Research Policy* 35(5), 609–766. http://dx.doi.org/10.1016/j.respol.2006.03.005

Huston, L. & Sakkab, N., 2006, 'Connect and develop: Inside Procter & Gamble's new model for innovation', *Harvard Business Review* 84(3), 58–66.

Iakovleva, T., 2013, 'Open innovation at the root of entrepreneurial strategy: A case from the Norwegian oil industry', *Technology Innovation Management Review* 3(4)17–22.

Khan, M.D., 2015, *Precision innovation: An R&D strategy to drive top-line growth at PepsiCo,* viewed 15 February 2016, from http://cornerstonecapinc.com/2015/06/precision-innovation-an-rd-strategy-to-drive-top-line-growth-at-pepsico/

Leydesdorff, L., 2006, *The knowledge-based economy: Modeled, measured, simulated,* Universal Publishers, Boca Raton, FL.

Lichtenthaler, U., 2009, 'Outbound open innovation and its effects on firm performance: Examining environmental influences', *R&D Management* 39(4), 317–330. http://dx.doi.org/10.1111/j.1467-9310.2009.00561.x

Lichtenthaler, U. & Ernst, H., 2008, 'Innovation intermediaries: Why internet marketplaces for technology have not yet met the expectations', *Creativity and Innovation Management* 17(1), 14–25. http://dx.doi.org/10.1111/j.1467-8691.2007.00461.x

Manceau, D., Moatti, V., Fabbri, J., Kaltenbach, P. & Bagger-Hansen, L., 2011, *Open innovation: What's behind the buzzword?*, viewed 13 October 2014, from http://institut-innovation-competitivite.eu/sites/default/files/what_behind_the_buzzword_i7_institute_accenture_2011_0.pdf

Marais, S.J. & Schutte, C.S.L., 2010, 'The development of open innovation models to assist the innovation process', Masters dissertation, Department of Engineering, University of Stellenbosch.

Matthews, B. & Ross, L., 2010, *Research methods: A practical guide for the social sciences,* Pearson, London, England.

Miles, M.B., Huberman, A.M. & Saldana, J., 2014, *Qualitative data analysis: A methods sourcebook,* 3rd edn., Sage, Thousand Oaks, CA.

Mortara, L., Napp, J.J., Slacik, I. & Minshall, T., 2009, *How to implement open innovation: Lessons from studying large multinational companies,* University of Cambridge, Great Britain.

Nambisan, S. & Sawhney, M., 2007, 'A buyer's guide to the innovation bazaar', *Harvard Business Review* 85(6), 109–118.

Park, I. & Yoon, B., 2013, 'Identifying potential partnership for open innovation by using bibliographic coupling and keyword vector mapping', *International Scholarly and Scientific Research & Innovation* 7(2), 206–211.

Piller, F.T. & Diener, K., 2013, *The market for open innovation: The 2013 RWTH open innovation accelerator survey,* Lulu Publishing, Raleigh, NC.

Shenton, A.K., 2004, 'Strategies for ensuring trustworthiness in qualitative research projects', *Journal for Education for Information* 22, 63–75.

Shurrab, H. & El Bouassami, M., 2013, *The luxury of open innovation: A case study of Whirlpool,* viewed 14 March 2016, from http://www.academia.edu/3165935/The_Luxury_of_Open_Innovation_A_Case_Study_of_Whirlpool

Slowinski, G. & Sagal, M.W., 2010, 'Good practices in open innovation', *Research Technology Management* 53(5), 38–45.

Spithoven, A., Clarysse, B. & Knockaert, M., 2009, *Building absorptive capacity to organise inbound open innovation in low tech industries*, viewed 18 March 2016, from http://feb1.ugent.be/nl/Ondz/wp/Papers/wp_09_606.pdf

The Innovation Hub, 2013, *Open innovation solution exchange pilot project case study. The Innovation Hub Management Company,* viewed 14 March 2016, from http://solexinnovation.com/templates/images/TIH%20Solution%20Exchange%20CaseStudy.pdf

Herrington, M. & Kew, P., 2016, *Global entrepreneurship monitor report. South African report 2015/2016,* UCT, Cape Town.

Vaismoradi, M., Turunen, H. & Bondas, T., 2013, 'Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study', *Nursing and Health Sciences* 15, 398–405. http://dx.doi.org/10.1111/nhs.12048

Van de Vrande, V., De Jong, J.P.J., Vanhaverbeke, W. & De Rochemont, M., 2009, 'Open innovation in SMEs: Trends, motives and management challenges', *Technovation* 29, 423–437. http://dx.doi.org/10.1016/j.technovation.2008.10.001

Von Dyck, P., 2015, *Overcoming the challenges to successful open innovation. Innovation management,* viewed 15 March 2016, from http://www.innovationmanagement.se/2015/03/03/overcoming-the-challenges-to-successful-open-innovation/

Von Nell, P.S. & Lichtenthaler, U., 2011, 'The role of innovation intermediaries in the markets for technology', *International Journal of Technology Intelligence and Planning* 7(2), 128–139. http://dx.doi.org/10.1504/IJTIP.2011.043198

West, J. & Gallagher, S., 2006, *Challenges of open innovation: The paradox of firm investment in open-source software*, *R&D Management* 36(3), 319–331. http://dx.doi.org/10.5172/impp.11.3.279

Global sourcing risk management approaches: A study of small clothing and textile retailers in Gauteng

Authors:
Wesley Niemann[1]
Theuns Kotzé[1]
Karabo Mannya[1]

Affiliations:
[1]Department of Business Management, University of Pretoria, South Africa

Corresponding author:
Wesley Niemann,
wesley.niemann@up.ac.za

Background: Global sourcing has increased as buyers searched for new markets that offered better pricing, quality, variety and delivery lead times than their local markets. However, the increase in global sourcing has also exposed businesses to many supply risks.

Purpose: The purpose of this descriptive qualitative study was to explore the global sourcing supply risks encountered by small clothing and textile retailers in Gauteng and to determine what supply risk identification and management approaches they utilise.

Method: This study utilised semi-structured interviews conducted with 12 small clothing and textile retail owners.

Results: The study found that the three major supply risks encountered by these retailers were fluctuating exchange rates, communication barriers and costly and complicated logistics, which included high customs costs. Furthermore, although aware of the supply risks, none of the small clothing and textile retailers had formal identification and management approaches in place. Instead, risks are dealt with at the sole discretion of the owner as and when they occur. The study also found that informal identification and management approaches were being applied by some of the retailers. These included factoring exchange rate fluctuations into the profit margins and using translators to combat communication barriers.

Contribution: The study is one of the first empirical studies conducted on global supply risks and the associated identification and management approaches in the South African small business context, specifically focused on clothing and textile retailers.

Conclusion: Small clothing and textile retailers need to proactively identify and manage global sourcing risk using the identified approaches in order to reduce and mitigate potential supply disruptions.

Introduction

Although global sourcing can bring many benefits to a business, it can also expose it to several supply chain risks (Deane, Craighead & Ragsdale 2009:861; Kumar, Himes & Kritzer 2014:875). Disruptions in the supply chain can negatively affect the performance of a business in the short and long term, resulting in its inability to meet customer demands (Ellis, Henry & Shockley 2010:34–35). In 2014, the outbreak of Ebola in West Africa caused major supply chain disruptions across the globe, with many countries suspending flights to and from the region. This resulted in delays in all air and sea cargo destined for Europe, Asia and the United States, mainly from Guinea (aluminium ore), Liberia (rubber), Nigeria (oil) and Sierra Leone (iron ore) (BSI 2014:2–6). Furthermore, in 2013 the 4-week strike of workers in the South African car manufacturing industry led to a supply shortage of components and a slowdown in the manufacturing of motor vehicles. This resulted in disruptions in the supply of vehicles to international markets and a daily loss of approximately R600 million for BMW, GM, Ford, Mercedes-Benz, Nissan, Toyota and Volkswagen (Williams 2013). The ripple effects of supply disruptions transcend beyond national borders, with the impact being as severe – if not more severe – for countries beyond the place where the disruptions occurred. Such supply disruptions result from the complexities associated with global sourcing (Chopra & Sodhi 2014:74).

In South Africa, many clothing and textile retailers, both small and large, engage in global sourcing. This is because of the uncompetitive nature of the South African clothing and textile manufacturers compared to those in China and other low-cost countries, such as Bangladesh, India, Pakistan and Sri Lanka (Edwards & Jenkins 2015:448; Yang 2014:3–5). As these clothing and textile retailers source products globally, the proactive identification and management of global sourcing risks are vital to ensure security of supply for business continuity (Faertes 2015:1400–1401).

Muhos, Wang and Kess (2012:958) warn that small businesses can expect to be exposed to risks when sourcing globally and that they will be affected more severely because of their limited resources and lack of experience in conducting business internationally. Thun, Drüke and Hoenig (2011:5512) and Verbano and Venturini (2013:195) highlight that minimal research has been conducted globally on understanding the type of risks encountered by small businesses that engage in global sourcing and the global supply chain. In addition, only limited local studies have been undertaken on supply chain risks and global supply chains (Mndzebele 2013:16; Sayed & Sunjka 2016:125). Furthermore, most of the literature dealing with research done in sub-Saharan Africa focuses on both small and large businesses in mining (Mndzebele 2013:1–109), manufacturing and automotive (Black 2009:483–512; Maje & Sunjka 2014:1–14; Sayed & Sunjka 2016:122–135; Sunjka & Emwanu 2013:1–12).

Although very few studies have been undertaken with a view to understanding the risks that small businesses encounter as a result of global sourcing and global supply chains, substantial research on this topic exists with a focus on large businesses, mainly in Europe (Christopher et al. 2011:67–81; Hoffmann, Schiele & Krabbendam 2013:199–211; Muhos et al. 2012:968; Thun et al. 2011:5511–5525). According to these studies, various risk identification and management approaches are used by large businesses operating in various industries to address supply risks related to global sourcing and the global supply chain. Fang et al. (2013:1380) advocate the use of a contingent supplier alongside a regular supplier to mitigate risks associated with supplier delivery reliability, or alternatively the use of two regular suppliers. However, given the low volumes purchased by small businesses, in general, formalising relationships with multiple suppliers may not be viable. This could be partly because of the lack of volume leverage that makes suppliers prioritise large businesses over smaller ones (Adams, Khoja & Kauffman 2012:20–21). Kumar et al. (2014:888) found that organisations tend to compile risk mitigation strategies based on three factors: firstly, the organisation's level of dependency on global supply; secondly, the possible impact of the potential risk; and thirdly, what the required investment is. For example, if the impact of the potential risk and the dependency on global supply are low, and the required investment of a risk mitigation strategy is high, it may be beneficial for an organisation to opt to do nothing. However, for small clothing and textile retailers, this may be a more complex decision. Because of the uncompetitive local clothing and textile manufacturing industry (Yang 2014:3–5), many of these small clothing and textile retailers are highly dependent on global supply for their products. Given this high level of dependency, the impact of disruptions in the global supply would be severe for these small clothing and textile retailers. The purpose of this descriptive qualitative study was to explore the global sourcing supply risks encountered by small clothing and textiles retailers based in Gauteng and to determine what supply risk identification and management approaches they have in place.

The following research questions guided the study:

- Why do small clothing and textile retailers in Gauteng source globally?
- What supply risks are these small clothing and textile retailers exposed to as a result of global sourcing?
- How do these small clothing and textile retailers identify possible supply risks associated with sourcing globally?
- How do these small clothing and textile retailers manage the identified supply risks?

The study contributed to both academia and practice. Firstly, it expanded on the current literature by identifying the supply risks encountered by small clothing and textile retailers in Gauteng. Secondly, the study shed light on the supply risk identification and management approaches applied by some of the small retail owners. These approaches could be beneficial for other small retail owners and managers who encounter similar supply risks, but lack knowledge on possible approaches that can be applied. Lastly, the study enhances policymakers' understanding of the supply risks encountered by small clothing and textile retailers, and thus aid them in creating solutions that enable small clothing and textile retailers to reduce or eliminate these supply risks.

Literature review

Small businesses in South Africa

So far, minimal research has been conducted on how small and medium enterprises (SMEs) assess and manage general risk (Thun et al. 2011:5512; Verbano & Venturini 2013:195). According to Falkner and Hiebl (2015:125), this is problematic given the significant contributions that SMEs make to the economies of developing countries. The *South African National Small Business Act* (*Act 102 of 1996*) defines a small business as:

> a separate and distinct business entity, including cooperative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or subsector of the economy. (South African Government 1996:s. 1, ss. xv, 2)

Small businesses can be classified as medium, small, very small or micro businesses, based on their total number of full-time employees, total annual turnover and total gross asset value (South African Government 1996:15). Based on the *National Small Business Act* (*Act 102 of 1996*), small clothing and textile retailers are categorised under the retail and motor trade and repair services sector. Table 1 illustrates the defining characteristics for this sector. For the purposes of this study, the term small clothing and textile retailers encompassed small, very small and micro businesses, that is, all businesses with fewer than 50 full-time employees and an annual turnover of less than R15 million (South African Government 1996:15).

According to Groepe (2015:5), small, medium and micro enterprises contribute between 52% and 57% to the South

TABLE 1: Business classification according to the *National Small Business Act* (No. 102 of 1996).

Size or class	Total number of full-time employees fewer than	Total annual turnover less than (R million)	Total gross asset value less than (R million)
Medium	100	R30	R5
Small	50	R15	R2.5
Very small	10	R5	R0.50
Micro	5	R0.15	R0.10

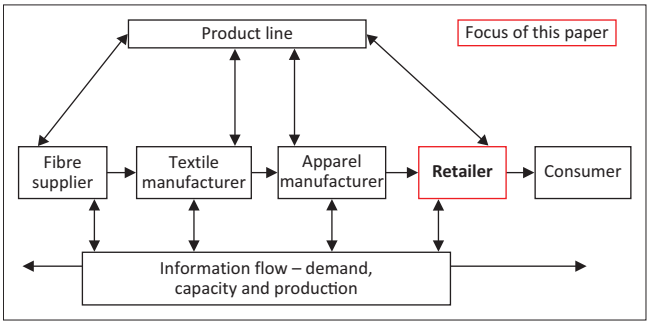
Source: South African Governement, 1996, *South African National Small Business Act, No. 102 of 1996*, p. 15, viewed 06 June 2016, from https://www.thedti.gov.za/sme_development/docs/act.pdf

African gross domestic product. The failure rate and risks associated with running these businesses are high, regardless of whether they source globally or not (Timm 2013). Lavastre, Gunasekaran and Spalanzani (2012:834) found that French SMEs tend to attempt to reduce and address risks single-handedly, while large businesses use collaborative relationships with supply chain partners. The lack of using collaborative relationships in the supply chain to address risks could be because of SMEs having limited resources (i.e. time, money and personnel) to dedicate to risk management (Smit 2012:182). In addition, another contributing factor could be the lack of formalised relationships with suppliers because of low-volume purchases and bargaining power compared to large businesses (Lavastre et al. 2012:834). Because of the low barriers to entry and economies of scale, many of these small businesses operate in the clothing and textile industry (Kunene 2008:14).

Global sourcing activities of clothing and textile retailers

The clothing and textile industry is a typical example of a global supply chain and a major contributor to the global economy and international trade (Su & Gargeya 2012:23–24). Turker and Altuntas (2014:838) state that globalisation has played a significant role in enabling global sourcing in many industries, including the clothing and textile industry. This industry consists of the production, marketing, distribution and selling of clothing and textiles. Figure 1 illustrates the clothing and textile supply chain. In this study, the focus was on the retail part of the supply chain, where businesses are focused on selling to end customers.

The retail portion of the clothing and textile industry is characterised by intense competition, a wide variety of products, volatile customer preferences and uncertainty in the markets (Su & Gargeya 2012:23–24). Furthermore, it is a fast-paced environment where retailers need to be able to provide customers with items that match the latest trends in the shortest possible time (Mehrjoo & Pasek 2016:28). These short life cycles result in markdowns or write-offs of items that do not sell fast enough (Routroy & Shankar 2014:58). Given these and other pressures facing clothing and textile retailers, regardless of their size, it is imperative that any risks that may threaten their long-term viability and security of supply be actively minimised or eliminated (Peter 2016:324–325).



Source: Kunene, T., 2008, 'A critical analysis of entrepreneurial and business skills in SMEs in the textile and clothing industry in Johannesburg, South Africa', p. 14, viewed 15 May 2016, from http://www.repository.up.ac.za/bitstream/handle/2263/24173/Complete.pdf?sequence=10

FIGURE 1: The clothing and textile supply chain.

Berg, Berlemann and Hedrich (2013:2) and Steven, Dong and Corsi (2014:241) indicate that most clothing and textile retailers have shifted their sourcing activities to lower cost countries to enable them, among other things, to take advantage of the lower cost of labour and other resources. In addition, Jia et al. (2014:285) point out that global sourcing grants businesses, and ultimately also their customers, access to products not available in the local market.

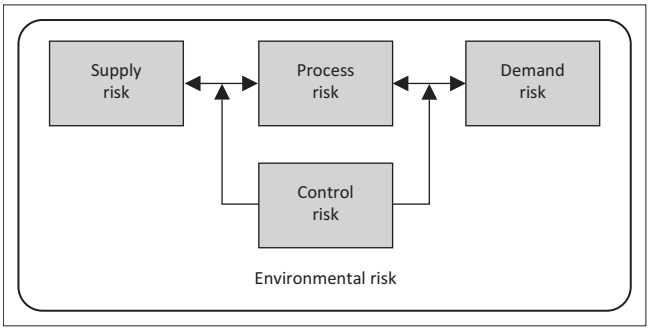
The focus of this study was on small clothing and textile retailers in Gauteng, which is recognised as the economic hub of South Africa (Badenhorst-Weiss & Waugh 2014:289). There has been a significant increase in the number of small clothing and textile retailers in the Gauteng area, and as a result of the uncompetitive nature of the local clothing and textile industry's manufacturers, most of them source merchandise from countries such as China, Dubai, Morocco and Thailand that offer lower cost, quicker turnaround times, more variety and better quality (Bruce, Daly & Towers 2004:155; Yang 2014:3–4).

Holweg, Reichhart and Hong (2011:334–335) identify three factors that prompt buyers to source globally. The first of these factors is access to cheaper labour and raw materials. The second factor is access to a wider range of resources and the third factor is the opportunity to gain a presence in new markets that are supported by larger product markets and financing prospects (Manuj & Mentzer 2008:134). All these factors were supported by the declining barriers to global sourcing as the economies of the world opened up to trade (Holweg et al. 2011:334–335).

Global sourcing risks

Kumar et al. (2014:873) note that it is difficult to predict disruptions associated with supply chain risks because of the uncertainty and variability of the risks. Routroy and Shankar (2014:53) define supply chain risk as the degree to which supply chain outcomes are unpredictable or vulnerable to disruptions. Furthermore, Ho et al. (2015) define it as:

> the likelihood and impact of unexpected macro and/or micro level events or conditions that adversely influence any part of a supply chain resulting in operational, tactical, or strategic level failures or irregularities. (p. 5035)



Source: Christopher, M., 2011, *Logistics and supply chain management*, 4th edn., p. 195, Pearson Education, Great Britain

FIGURE 2: Sources of risk in the supply chain.

According to Christopher et al. (2011:68) and Routroy and Shankar (2014:53), risk categorisation is based on the source of the risk, with these sources being supply, demand, process, control and environmental risk. Supply and demand risks are both internal to the focal firm (Srinivasan, Mukherjee & Gaur 2011:262); process and control are external to the focal firm but internal to the supply chain; and environmental risks are external to both the focal firm and the supply chain (Christopher et al. 2011:68). Figure 2 depicts the relationships between the various sources of risk in the supply chain.

Global supply chains have opened up opportunities for small and large businesses to source globally and are concerned with movement of goods from suppliers in one country to buyers who are in another country. The intention is for the buyer to ultimately sell these goods to customers in their local market (Borges 2015:12). Deane et al. (2009:863) point out that global supply chains are complex and ever-evolving because of the many uncertainties they face. As a result of these uncertainties, global supply chains are exposed to various kinds of risks (Brammer, Hoejmose & Millington 2011:8) and can become costly if not well coordinated (Christopher 2011:171).

Holweg et al. (2011:334) define global sourcing as the sourcing of finished or intermediate products from other countries, with the intention to sell them to customers in the buyer's local market. For this qualitative study, global sourcing risks were categorised as supply, demand, process, control and environmental risks (Christopher et al. 2011:69), with the focus on supply risks associated with global sourcing.

Demand risk, which is associated with the movement of items from the focal firm to the customer, can arise as a result of inbound disruptions, such as seasonality, short product life cycles, volatile customer demands and the adoption of new products (Srinivasan et al. 2011:264). Process risks relate to the internal ability of the firm to make goods or provide services (Pfohl, Köhler & Thomas 2010:34). This risk is about the resilience of the manufacturing and production processes. Control risk relates to how an organisation's own internal control systems are likely to cause disturbances and distortions. For instance, safety stock policies can obscure real demand (Christopher 2011:194). External factors usually drive environmental risks such as weather, market forces and political issues, which are all able to affect the supply chain (Lockamy 2014:756). For this study, the focus was extended to understanding supply risks.

TABLE 2: Identified supply risks associated with global sourcing activities.

Author	Identified supply risks
Ho et al. (2015:5045)	Uncertainty about the supplier's capacity, late delivery, poor quality and poor supplier service
Holweg et al. (2011:334–335); Jiang and Tian (2009:19)	Supplier reliability, complicated and costly logistics, volatile economic and political environments, and communication and cultural barriers
Manuj (2013:90)	Political stability, cost of quality, currency fluctuations, increased lead times, rising fuel and transportation costs
Nunes (2016:147)	A decrease in the business's agility and flexibility; an increase in distance, cost and the number of intermediaries in the supply chain; the failure of logistics support; dealing with cultural differences, regulations and uncertainty in a country
Ray and Jenamani (2016:239)	The multiple possible reasons for failure in supply include insufficient supply of items or late to no delivery of the required items because of disruptions in the production process (i.e. machine breakdown), labour strikes, financial defaults and natural disasters

Supply risks

Pfohl et al. (2010:36) define supply risks as those that result in an interruption of the flow of goods from the supplier to the customer while Palaniappan (2014:22) defines supply risks as a business suppliers not being able to deliver required supply completely or on time. This impacts the ability of the business to ultimately deliver to the customers. Supply risks are associated with inbound supply and are concerned with the movement of material from the supplier to the purchasing firm and arise because global sourcing lengthens the supply chain (CIPS 2013:1). Thus, for businesses involved in global sourcing, supply risks increase even more as they have to deal with risks beyond the borders of the country in which they conduct their business (Chopra & Sodhi 2014:74). Table 2 summarises and indicates some of the supply risks that businesses can encounter because of globalisation.

In this study, these risks will be classified as follows: supplier reliability, complicated and costly logistics, fluctuating exchange rate, communication and cultural barriers and political and environmental volatility (Holweg et al. 2011:334–335; Jiang & Tian 2009:19).

Supplier reliability: Supplier failure as a result of disruptive events internal or external to the supplier can cause enormous loss and delays to buyers' ability to deliver to their customers (Ray & Jenamani 2016:238). Issues such as lack of capacity, poor quality and late deliveries can all compromise the supplier's reliability (Holweg et al. 2011:5045).

Complicated and costly logistics: Complicated and costly logistics result from increased delivery lead times, high customs costs and complicated customs requirements,

increased fuel prices and the consequent increases in transport costs (Jiang & Tian 2009:18), which all increase the likelihood of supply risks for businesses. Jain, Girotra and Netessine (2014:1202) mention that one of the disadvantages of global sourcing is the increased lead times that arise as a result of cross-border transit and customs clearance times. Adding to this, Berg et al. (2015:21) highlight the fact that all the administration around compliance with customs regulations could result in unexpected delays in buyers' attempts to have their products cleared and delivered to customers on time. Halldórsson and Kovács (2010:8–9) note that travelling and transport costs are highly likely to be escalated whenever the fuel price increases. All these complicated and costly logistical issues could result in the late arrival of the supplies required.

Fluctuating foreign currency: Borges (2015:17) indicates that exchange rate fluctuations can have either minor or major impacts on businesses that source merchandise globally. Fluctuations in exchange rates result in items being more expensive for the buyer (Gheibi, Kazaz & Webster 2016:2), as they usually diminish the purchasing power of the business. In addition, exchange rate fluctuations not only impact on the purchasing price but also impact on the profit margins of the business (Young 2016:4).

Communication and cultural barriers: Towers and Song (2010:529) found that communication and cultural barriers remain as major challenges, especially for businesses that have minimal sourcing experience in that sourcing country. Borges (2015:17) states that culture refers to conduct and beliefs that are acceptable in a particular global region. Communication and cultural barriers encompass the language used, which Oke, Maltz and Christiansen (2009:158) found to provide a good basis for facilitating transactions and lowering transaction costs. Jiang and Tian (2009:19) highlight that the risk associated with communication misunderstandings cannot be underplayed. This is because clear communication between the buyer and supplier provides the buyer with better negotiating grounds.

Political volatility and environmental conditions: Political volatility and environmental conditions are regarded as external risks that do not originate from the supply chain, but can have major impacts on them. Colicchia and Strozzi (2012:409) indicate that political and environmental risks are part of external supply chain risks, which are not within the control of the focal firm. However, these external risks can have major impacts on the focal firm. These external risks may arise from natural disasters, epidemics, political instability and wars. Businesses that source merchandise globally are exposed to supply risks when incidents of political unrest and adverse environmental conditions occur in the countries from which they source products (Jain et al. 2014:1205).

Global sourcing risk identification approaches

Kırılmaz and Erol (2017:56) highlight that risk identification is the most important step in the supply chain risk management process (SCRMP) as it triggers any further need for a business to do risk assessment or management. The SCRMP involves the identification, assessment and management of risks (Kırılmaz & Erol 2017:56). For this study, risk identification and management were the key focus. Risk identification involves identifying potential internal and external risks that can impact the business (Hoffmann et al. 2013:202; Smit 2012:62; Wieland & Wallenburg 2012:656). Many risk identification approaches exist in the literature such as the fault-tree analysis, event tree analysis, risk checklists and catalogues, strengths, weaknesses, opportunities and threats (SWOT) analysis, risk breakdown structures, internal business brainstorming session of risks and review of risk literature among others (Kırılmaz & Erol 2017:56; Sherwin, Medal & Lapp 2016:155; Tummala & Schoenherr 2011:475–476; Vilko 2012:45). However, in this study the approaches that could potentially be applied by the small clothing and textile retailers are explored. These approaches could be beneficial to small businesses given that they are simple to use and require minimal resources (Barroso, Machado & Machado 2011:169; Murray-Webster 2010:88):

- Supply chain mapping: Entails the mapping of the entire supply chain from the supplier to the customer, thereafter identifying along that value chain what possible risks could be encountered.
- PESTEL analysis: A simple framework that is commonly utilised in risk identification. Risks are identified along political, economic, sociological, technological, environmental and legal dimensions (Peace 2013:5). It may be helpful for the small clothing and textile retailers as it is a simple framework. However, Hopkin (2017:138–139) indicates that gaining access to external data of high quality along these dimensions may prove to be time consuming and expensive.
- Supplier pre-buying review: Gathering information on potential and current suppliers from publicly available information (Falkner & Hiebl 2015:133; Smit 2012:62) could be done by using online portals and e-marketplaces as a source of information on potential suppliers. In addition, buyers can visit a supplier's premises to get a sense of the supplier's product offering, quality control systems and production capacity (Palaniappan 2014:22).

Global sourcing risk management approaches

Olson and Wu (2010:697) indicate that because businesses that are engaged in global sourcing cannot avoid supply risks, it is imperative that managers establish ways of managing these risks. Risk is part of purchasing, especially because the purchasing business has very little to no control over the suppliers. There is thus an incentive for businesses to find the correct mix of risk reduction practices, given their available resources (Ellegaard 2008:425–432). According to Chopra and Sodhi (2014:74), managers who engage in the

proactive management of supply risk add value to their businesses through reduced risk and higher cost efficiency. Because very few businesses, regardless of size, have formal processes in place for managing supply risk, those that do make provision for such processes create a competitive advantage for themselves (Dittmann 2014:5).

Several risk management approaches that could be applicable to small businesses for addressing risks that arise because of global sourcing are discussed below. The approaches require a small cost element such as insurance, hedging and dual transportation, while local sourcing, probability reduction and increasing sourcing partners should be implementable with minimal to no additional cost. The low-cost element is essential for small businesses as they have limited resources available (Smit 2012:182).

- Insurance: Usually, insurance companies have formalised processes for assessing and managing risks, which makes the use of insurance beneficial to the businesses that use them (Kunreuther & Pauly 2014:2). Insurance can be used to cover for supply risks such as supplier defaults or delays (Sodhi, Son & Tang 2012:2). Despite the viability of insurance as a risk management approach, Abe and Ye (2013:571) found that SMEs were highly underinsured. This could be because of the cost associated with insurance (Olson & Wu 2010:698). In addition, Dittmann (2014:7) found that few supply chain professionals across retail, manufacturing and services businesses of varying sizes used insurance as a measure to mitigate risk.
- Increasing sourcing partners: Jain et al. (2014:1206) recommend that to ensure delivery reliability, a business may need to increase its supplier base and source from multiple partners. As highlighted by Ray and Jenamani (2016:238), multi-sourcing is considered a common practice to hedge against supply risks, and although it does not eliminate the occurrence of such risks, it does reduce the probability or the impact of disruption. Berg et al. (2015:5) point out that sourcing activities can be allocated across multiple countries to minimise the impact of supply risks that may arise in one country.
- Hedging: Jain (2013:26) indicates that hedging can be a means of minimising or eliminating foreign currency fluctuations for businesses at a cost. This could be particularly helpful for a small business that has access to limited cash flows and whose purchases are heavily reliant on foreign exchange. Young (2016:4–5) indicates that there are pros and cons to hedging and thus a thorough assessment of the market before selecting a hedging option or forward is essential.
- Risk probability reduction: This entails a business complete avoidance or elimination of the occurrence of a supply risk. This is achieved by choosing to avoid purchasing from certain suppliers or countries or certain products (Ellegaard 2008:432).
- Dual transportation: This entails the splitting of a single batch order into two and using different transport providers (Christopher & Holweg 2011:71). This will ensure that should one transport provider delay or lose the merchandise, the other batch will still be delivered to the buyer (Micheli, Mogre & Perego 2014:123).
- Local sourcing: Several arguments for local sourcing are highlighted by CIPS (2013:1–2). These included the increasing transport costs of moving goods, increasing supply chain risks such as extended lead times and exchange rate risks, and the heightened focus on sustainability in terms of businesses needing to reduce their carbon footprint (CIPS 2013:1–2). This aligns with Hendry, Sayed and Zorini (2015:3–4) and Shen (2014:6241) who also found that local sourcing results in reduced distances, the reduction in delivery lead times, product leftovers and carbon emissions.
- Supplier relationship development and management: Ho et al. (2015:5049) and Ellis et al. (2010:38) found that building strategic relationships with certain suppliers was beneficial but required time commitments from the buyer. In addition, Faes and Matthyssens (2009:246) highlight that loyalty sourcing, which is repeat buying from a single supplier with or without the use of contracts, enhances buyer and supplier relationships. This provides better grounds for negotiation for the buyer.

Methodology

Research design

This study followed a descriptive qualitative research design. Plano Clark and Creswell (2015:289) state that the purpose of a descriptive qualitative research design is to explore a phenomenon by exploring different perspectives on a topic through the identification of underlying themes that emerge from discussions with participants. A descriptive qualitative research design was deemed appropriate as the aim of this study was to explore the perceptions of small clothing and textile retailers in Gauteng regarding the global sourcing supply risks they encounter and the risk identification and management approaches applied to address these supply risks.

Sampling

The unit of analysis consisted of 12 small clothing and textile retail owners based in Gauteng who are engaged in global sourcing. A total of 12 semi-structured interviews were conducted. According to Guest, Bunce and Johnson (2006:76), for a homogenous group, saturation is likely to be achieved at around 12 interviews. Further interviews are likely to provide minimal to no new insights. In this study, saturation occurred after the 11th interview. One additional interview was conducted whereafter data collection was terminated.

Purposive sampling was used for this study as it allowed for the identification and selection of information-rich individuals who could provide the required information (Palinkas et al. 2015:533). The small clothing and textile retail owners in the sample were all solely responsible for all sourcing and risk-related decisions, except two who co-owned the business each with one other person. In addition,

TABLE 3: Details of the small retail owners who participated in the study.

Pseudonym	Sourcing location	Percentage of merchandise sourced globally	Gender of the small retail owners	Duration of interview (minutes)
B1	China, Democratic Republic of Congo and Thailand	35	Male	48
B2	China	100	Female	35
B3	Ghana	100	Female	33
B4	Turkey and the United Kingdom	100	Male	32
B5	Brazil, Canada, the United Kingdom and the United States	60	Female	48
B6	China and Turkey	100	Female	26
B7	Ghana	100	Female	37
B8	Turkey	100	Female	23
B9	Turkey	100	Female	54
B10	Ghana, Nigeria and Mozambique	100	Female	31
B11	China, Italy and Turkey	100	Female	20
B12	China, Ghana, Kenya and Nigeria	70	Female	28

two purposive sampling strategies were used in this study, homogenous and snowballing. Homogenous sampling allowed for the selection of individuals based on specific characteristics (Plano Clark & Creswell 2015:334), which allowed for reduced variations and a more focused investigation. All the selected small clothing and textile retailers were based in Gauteng and were engaged in the global sourcing of clothing or textiles for resale on the local market. The second purposive sampling strategy that was applied was snowballing. This strategy was used to identify additional participants based on the recommendations made by the initial group of participants (Plano Clark & Creswell 2015:334; Polit & Beck 2012:517). Six of the 12 individuals who were interviewed were recommended by other participants. Details of the 12 individuals who were interviewed are presented in Table 3.

Data collection

The primary source of data was semi-structured interviews. Two of the interviews were conducted face to face, while the rest were telephonic interviews because of logistical constraints. The interviews were conducted between August 2016 and April 2017. According to Saunders, Lewis and Thornhill (2009:320), semi-structured interviews are most appropriate for prompting participants to provide detailed information. Semi-structured interviews were deemed appropriate as the aim of this study was to prompt small clothing and textile retailers to provide insights regarding the global sourcing supply risks they encounter. Additionally, the aim was to also understand what risk identification and management approaches they applied to address these supply risks. The researcher made use of the discussion guide from the study undertaken by Christopher et al. (2011:67–81). The discussion guide was pretested with a supply chain management academic and a methodology expert and with one of the identified small clothing and textile retailers. Some of the questions were amended following the pretest to ensure that all the questions included in the interview would contribute towards providing the information needed to answer the main research questions. An introductory email was sent to the participants to inform them of the context of the study and to obtain permission for their inclusion in the study. The interviews were audio-recorded and the duration of the interviews varied from 20 to 54 min, averaging 33 min. The researcher transcribed all audio recordings and replayed them while reading the transcripts to ensure the accuracy of the transcripts. Corrections were made where needed.

Data analysis

A thematic analysis allowed the researcher to identify, organise and highlight patterns concerning the research questions (Braun & Clarke 2012:57). A combination of both deductive and inductive approaches to thematic analysis was applied. The deductive approach allowed use of some of the already existing themes in the literature on supply risks, risk identification and management approaches. Inductive approach ensured that certain themes were derived purely from the data, and supporting literature was then identified. The six-phased thematic analysis process recommended by Braun and Clarke (2012:60–69) was followed. Familiarisation with the data was done by repeatedly listening to the audio recordings and making notes on the transcripts. This was done using the Microsoft Word comments tool. Then initial codes were generated by extracting data from the transcripts and notes made on them. The formulation of themes was done by identifying patterns across all the derived codes and grouping similar codes into sub-themes and then into main themes. Revision of all main themes was done to ensure no overlapping across the themes occurred. Each theme was then given a clear definition. The write-up of the findings was guided by the main themes and their link to the relevant research questions.

Trustworthiness

To ensure trustworthy findings, qualitative research needs to reflect transferability, confirmability, credibility and dependability (Shenton 2004:63). To ensure transferability, detailed descriptions of the research context, the participants and the research topic were provided (Polit & Beck 2012:526). To ensure confirmability and credibility, a triangulation strategy was used. This entailed having a wide range of informants, which allowed for the corroboration and

verification of individuals' opinions and experiences against others. This ultimately made it possible to provide 'a rich picture of the attitudes, needs or behaviour of those under scrutiny' (Shenton 2004:66). Peer debriefing ensured that trustworthiness issues could be identified and corrected (Polit & Beck 2012:594).

Ethical considerations

Ethical clearance for this study was obtained from a research ethics committee at a South African university prior to conducting fieldwork. To comply with the ethical principle of informed consent and voluntary participation, all the participants were required to read and sign the informed consent form. To ensure anonymity and confidentiality, the names of the participants and businesses were replaced with pseudonyms, which are listed in Table 3. Finally, the study adhered to the protection from harm principle as it did not focus on any psychologically sensitive issues.

Findings

The research identified key themes that aid in answering the initial research questions posed. Firstly, it identified the factors that influence why small clothing and textile retailers are engaged in global sourcing activities. Secondly, it identified the supply risks encountered by these small clothing and textile retailers as a result of their global sourcing activities. Thirdly, it indicated the risk identification approaches used by these small clothing and textile retailers. Lastly, it identified the risk management approaches, which many of the small clothing and textile retailers indicate are informal and are used to manage some of the identified supply risks. The findings of the analysis are summarised in Table 4.

The findings are discussed in the next section.

Reasons for global sourcing

Access to lower cost goods and better quality

Several factors influence why businesses source globally regardless of size. For the small clothing and textile retailers in this study, access to lower cost goods of better quality were major influencing factors for their sourcing globally from countries like China and Turkey. This aligns with Berg et al. (2013:2) who found that lower cost countries that offer superior quality goods are attractive sourcing locations for many businesses regardless of size. In addition, Yang (2014:3–5) highlights that the uncompetitive clothing and textile manufacturing industry in South Africa struggles to compete with a country like China in terms of lower pricing and quality:

> '… initially China was primarily on price, because you know that their stuff is quite cheaper compared to other areas. And then with Turkey, I think what influenced me was the quality on the apparel.' [B6, Female, Owner]

> 'I think the quality of the clothing, the type of material. There was a time when we tried to make clothing locally, and use local seamstress, and things like that to get them to make clothes for us and it just isn't the same.' [B2, Female, Co-owner]

Limited or lack of local supply and access to more variety

The lack of local suppliers and the limited local supply in terms of variety were also found to be push factors for the small clothing and textile retailers to source globally. This aligns with Jia et al. (2014:285) and Mehrjoo and Pasek (2016:28), who highlight that global sourcing grants businesses access to more variety of the latest trends and products not available in the local markets:

TABLE 4: Summary of findings.

Research questions and themes derived from participants' responses	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Why do small clothing and textile retailers in Gauteng source globally?												
Lower cost	x	x	-	x	-	x	-	-	x	x	-	x
Better quality	x	x	-	x	x	x	-	x	x	x	-	-
More variety	x	-	-	-	-	-	-	x	-	x	-	x
No local supplier	-	-	x	-	-	-	x	-	-	-	-	x
Ease of access to market (i.e. familiarity or have local contacts)	x	-	x	-	x	-	x	-	x	x	-	x
What supply risks are these small clothing and textile retailers exposed to as a result of global sourcing?												
Fluctuating exchange rate	x	x	x	x	-	x	x	x	x	-	-	-
Communication and cultural barriers	x	-	-	x	x	x	x	x	-	x	x	x
Costly and complicated logistics	x	x	x	x	-	x	-	x	x	x	x	x
Supplier reliability	x	x	x	-	-	x	-	-	-	x	x	x
Political volatility and adverse environmental conditions	x	x	-	-	-	-	x	-	x	x	x	
How do these small clothing and textile retailers identify potential supply risks associated with sourcing globally?												
Landscape analysis	x	-	-	x	x	-	-	-	-	x	-	X
Product quality checks	x	-	-	-	-	x	-	-	-	-	x	-
Supplier pre-buying review	-	x	-	x	x	x	-	x	-	-	-	X
Exchange rate monitoring	x	-	x	-	-	-	-	-	-	x	-	X
How do these small clothing and textile retailers manage the identified supply risks?												
Informal supplier relationship management	-	-	-	-	-	-	-	-	x	-	-	-
Exchange rate fluctuation buffers	x	-	-	-	x	-	-	-	-	-	-	-
Dual transportation	-	-	-	x	-	-	-	-	-	-	-	-
Communication management	-	-	-	-	x	-	-	-	x	-	-	-
Local sourcing	-	-	-	-	-	-	-	-	-	-	-	x

'But the whole point is the fact that it comes from West Africa, because there is no one who manufactures it here, it is not a South African thing.' [B3, Female, Owner]

'You have a wide variety of things to choose from ….' [B8, Female, Owner]

Ease of access to the market and familiarity with the sourcing market

A new influencing factor found in this study was that several small clothing and textile retailers also indicated that their familiarity with the sourcing market whether personally or having friends and family in those markets also influenced their choice of sourcing countries. Familiarity with the sourcing market was also supported with the ease of access to the market. Most of the small clothing and textile retailers indicated that the areas they source from were arranged as 'market-like setups' geared for trade. This supports Baldwin (2012:34) who indicates that, 'since firms source intermediate inputs from other firms, the presence of many firms in a given location tends to make that location attractive'.

'…my focus is not only on like Ghana per se, but I do want to bring out to other parts of Africa. But I think for now, it's just that I find it easier because I am from there and I know where to get the stuff and how much it costs, and how it works and stuff.' [B7, Female, Owner]

'Well, the thing is Nigeria was an easy access for me because I already have people that I know there.' [B10, Female, Owner]

'I think you know there's certain places that are destinations of trade so like by the time we step into Guangzhou there is literally a building that's like 15 stories high and it is geared to trade with people from other markets on particular things.' [B12, Female, Co-owner]

Supply risks encountered by the small clothing and textile retailers

This study identified several supply risks that small retail owners encountered because of global sourcing. These risks were categorised as complicated and costly logistics, fluctuating exchange rates, communication and cultural barriers, supplier reliability and volatile political environments.

Complicated and costly logistics

These are all the costs associated with the business owner travelling to and from the supplier, having items cleared by customs or having the items couriered or delivered to them. All the business owners indicated that customs remained a major challenge, with many of their items being either lost or damaged. In addition, they would also experience delays in the clearing of their items. This aligns with Jain et al. (2014:1202) and Berg et al. (2015:21) who mention that global sourcing exposes businesses to increased lead times because of cross-border administration and customs clearance and higher transport costs as distance and fuel prices increase:

'Customs mm, yeah, they are always a problem. They are always a problem, there is a lot of corruption in customs. Essentially, I lose a lot of stuff to customs.' [B1, Male, Owner]

'… the issue that we face as an African continent is that our imports and exports prices are very high. The cost that you will be charged as a small start-up business doesn't make sense in terms of your bottom line.' [B3, Female, Owner]

Fluctuating exchange rates

Most of the small clothing and textile retailers indicated that they paid for their purchases in US dollars. Thus, the constant fluctuations of the rand against the dollar tended to decrease their purchasing power. This aligns with Gheibi et al. (2016:2) and Young (2016:4) who highlight that exchange rate fluctuations impact not only on the businesses' purchasing power but also on profit margins. As found in this study, some of the small clothing and textile retailers indicated that exchange rate fluctuations meant that they have had to take profit margin cuts as they could not increase the selling price for their customers as often as the fluctuating exchange rate.

'Exchange rate fluctuations definitely, it is quite difficult. We started the business in 2014, 2013 actually – I can't even remember now. But the dollar was R9....' [B2, Female, Co-owner]

'Clients don't care about that, if you gave them a price a month ago, the fact that the rand has gotten low doesn't justify it in terms of charging them more today.' [B4, Male, Owner]

Communication and cultural barriers

Inability to clearly communicate with suppliers because of language meant that some of the small retail owners could not negotiate for better prices or ended up with delayed output. It also limited their ability to freely travel in some of these countries that they sourced from, unless they were originally from there or had assistance from a local. In addition, the cultural differences were also seen as a supply risk, as sometimes the health of the small clothing and textile retail owner would be compromised because of not being acquainted with the diet there. This would sometimes result in the small clothing and textile retail owner not being able to secure all the supplies they require on time as a result of health issues. This aligns with Oke et al. (2009:158) and Towers and Song (2010:529) who indicate that language barriers and cultural differences remain huge challenges in global sourcing and can also deter effective negotiation for the buyer (Jiang & Tian 2009:19):

'Language barriers, my God!!! It is a big thing (laughs). Language barrier is a big thing. So, you are not able to negotiate because of language barriers, you are unable to negotiate proper prices.' [B10, Female, Owner]

'No, they are always a challenge, and that is why in some countries you have got to have an agent if you want to save time because language barrier and cultural barriers are different so they will always be a challenge [risk].' [B11, Female, Owner]

'Being in this area where it is not the same diet and so you get a running tummy over the next three days, so it is kind of difficult ….' [B1, Male, Owner]

Other supply risks encountered by small clothing and textile retailers

Other supply risks were mentioned by some of the small retail owners. However, they were not mentioned by as many small

clothing and textile retailers as the supply risks identified above. These included supplier reliability, political volatility and adverse environmental conditions. Supplier reliability included issues such as poor quality from suppliers, which was usually an issue if the small retail owner presented the supplier with a specific design. In addition, stock unavailability meant that sometimes when certain items had been popular with their customers, these small clothing and textile retailers were unable to purchase more as suppliers had run out with no indication of when the item would be available. Failure by the supplier to meet deadlines in terms of production output and increased delivery lead times also had a knock-on effect on supplier reliability. All the issues raised with regard to supplier reliability align with Ho et al. (2015:5045) and Ray and Jenamani (2016:239) who also identified poor quality, insufficient supply and late or no delivery from supplier:

> '… they don't check all the merchandise that they send, so sometimes you find that they send you something that has a fault.' [B6, Female, Owner]

> '... they are not reliable … I mean it once happened where I started negotiating with a supplier while I was here [South Africa] and I gave her deadlines of when I would be, when the dates I will be in Nigeria, and therefore my stock, she needed to be finished making my bags by the time I get there. And I mean she wasn't finished, she wasn't finished!' [B10, Female, Owner]

> '…and if something was a hit you can't repeat a particular style because that space isn't that formalized you know, so you are literally going and sourcing from the women in the markets.' [B12, Female, Co-owner]

Political volatility and adverse environmental conditions were not mentioned as frequently by the participants. Those who did mention them raised issues such as the presence of specific political instabilities within the country [recent xenophobic attacks in South Africa], and even in the sourcing countries, as being hindrances for small clothing and textile retailers to continue with planned buying trips. Environmental conditions highlighted included adverse weather conditions in sourcing countries that the small retail owners were not particularly acclimatised to. As highlighted by Colicchia and Strozzi (2012:409), political and environmental conditions are external to a supply chain and out of the control of the focal firm:

> '…where [China] the weather is extremely hard.' [B1, Male, Owner]

> 'And ya personally the only other place that we go and that we are considering to go to is Istanbul but now because of all the fighting we can't go there.' [B2, Female, Co-owner]

> 'I mean now there is this whole xenophobia issue that we are having. … Trust me, I will not travel at this time when we are experiencing xenophobia in South Africa; I will not travel to those countries around the same time ….' [B10, Female, Owner]

Informal supply risk identification approaches used by the small clothing and textile retailers

Ates et al. (2013:35–36) highlight that SMEs tend to generally not have formalised decision-making processes in place. This aligns with findings from this study where although aware of the possible supply risks, none of the small clothing and textile retailers indicated having formal risk identification approaches in place. Instead, several informal risk identification approaches were applied, all at the discretion of the small clothing and textile retail owner.

Landscape analysis

Some of the small retail owners indicated that they assess how favourable the economic, environmental and political landscapes are for a buying trip. This entails assessing the landscape of both the small retail owners' country and the sourcing countries. The landscape analysis usually entails online research of the political, economic and environmental aspects. The outcome from this online research would determine whether a buying trip should proceed as planned or be put on hold. This aligns with Hopkin (2017:138–139) and Peace (2013:5) who advocate for the use of PESTEL analysis to identify things such as political stability, exchange rate fluctuations and understanding cultural norms:

> 'I go online and see what the current affairs are that are happening there and also to check tabs on the economy to before I travel.' [B1, Male, Owner]

> 'So most importantly is I will check how the weather is there [sourcing country]. Sometimes depending on what season, it is it could be a very raining season and then my trip is fruitless in terms of me being there you know.' [B10, Female, Owner]

Product quality checks

This entails small retail owners identifying any quality or design problems. The aims of the checks for the small clothing and textile retail owner is to ensure that the output of the products complies with and meets the order specifications in terms of quality and design. This is done before the supplier packages the items. None of the small clothing and textile retailers had quality management systems in place. Instead, quality is based on the discretion of the owner. Although this is done informally without the use of actual checklists or catalogues, it aligns with Tummala and Schoenherr (2011:475–476) who advocate for the use of a risk checklist and catalogue to identify potential risks:

> 'So instead of dealing with the backlog, for me it is much simpler if I buy a ticket and then make sure that the things that I have bought I am satisfied with it.' [B6, Female, Owner]

> 'You have to check before they [suppliers] wrap their merchandise to be shipped.' [B11, Female, Owner]

Supplier pre-buying review

Supplier pre-buying reviews are usually done by the small clothing and textile retail owner to check suppliers' business profiles using online searches, and to also review any performance reviews that could have been posted by other buyers on the suppliers' web page. Information is sourced from business websites and social media platforms such as Facebook and LinkedIn. This is in line with Falkner and Hiebl (2015:133) and Smit (2012:62) who advocate for gathering information on potential and current suppliers from publicly available information:

'Oh ok, on the platform we also check the uhm reviews, so we check reviews and feedback from other people who have bought from them [suppliers].' [B2, Female, Co-owner]

'You can now even use LinkedIn to find out more about your suppliers. You know in fact social media has made it all so simple and you don't have to travel and can do everything online.' [B5, Female, Owner]

Exchange rate monitoring

Exchange rate monitoring involves conducting regular checks of the exchange rate to assess the performance of the rand against the US dollar. Most of the participants indicated that this was important as most of their purchases were paid for using the US dollar. Use is made of online news sites and forex companies such as Bidvest to obtain forex information. This aligns with Hopkin (2017:138–139) and Peace (2013:5) who advocate for the use of PESTEL analysis to identify things such as exchange rate patterns:

'Ya the dollar exchange rate I watch every day (emphasis again every day). I listen for it very closely because I know that my business is very dependent on it.' [B2, Female, Co-owner]

'… if I had goods overseas and I had to send them here, I would say they must hold so that you can assess the rand volatility, and until it stabilises a little bit then you can send them if you want to save costs.' [B11, Female, Owner]

Informal supply risk management approaches used by small clothing and textile retailers

Christopher et al. (2011:67–81) found that large UK-based businesses followed no formal risk management approaches, but relied on the sole experience and discretion of the supply chain manager. This aligns with the findings of this study, where even small clothing and textile retailers indicated not having any formalised approaches, but made use of informal approaches to managing possible supply risks. These were applied at the sole discretion of the owners. These included establishing and building informal supplier relationship building, exchange rate buffers, use of dual transportation and communication management to facilitate trade with suppliers.

Informal supplier relationship building and management

Although Ho et al. (2015:5049) and Ellis et al. (2010:38) found that building strategic relationships with suppliers proved beneficial for buyers, this study found that very few small clothing and textile retail owners engaged in strategic supplier relationship building and management. For those small clothing and textile retailers who did engage in relationship building and management, it was done very informally without the use of formal service-level agreements nor contracts. This was done over time by learning the language, cultural practices and business practices of the sourcing countries to engage better with suppliers. The establishment of supplier relationship over time aligns with Nunes (2016:148) who found that experience and learning the language and business practices of a sourcing country improved business relationships with suppliers. In addition, some small clothing and textile retailers made use of loyalty buying as suggested by Faes and Matthyssens (2009:246). Being able to form these informal relationships meant that these small clothing and textile retailers could secure supply of items, and even be given a price discount:

'But when you have figured it out, you have built key relationships you figure out your own way to communicate and get it done.' [B4, Male, Owner]

'And it is also strengthening those relationships so that the more you buy from them the cheaper the costs are.' [B10, Female, Owner]

Exchange rate fluctuation buffers

Most of the participants managed exchange rate fluctuations by taking the knock in their profit margins either proactively or reactively. Although Jain (2013:26) and Young (2016:4) advocate for the use of hedging as a possible management approach to reduce erosion of purchase price and to ensure that the profit margins are not impacted, none of the small clothing and textile retailers made use of this approach. This is in part because of the additional costs associated with hedging and that most of the small retail owners did not view exchange rates fluctuations as a problem until recently:

'… in the past few years there was a lot of stability, I think the instability is coming only now, for the past few years. And obviously if you take that cover it is an additional cost….' [B11, Female, Owner]

'… so if you are using a, a, a dollar based (what is it?) pricing we would always factor like fluctuations.' [B12, Female, Co-owner]

Dual transportation

Dual transportation requires the small retail owner to split orders into batches and transport them separately. This is to avoid the possibility of total loss or delay of delivery from the supplier should anything happen (Micheli et al. 2014:123). Only one small retail owner used dual transportation as a supply risk management approach, while two others used it to avoid having to travel with excess luggage:

'… have figured out a way to say I am going to bring in things. So I am not going to bring in a whole container at once, I am going to break it up into pieces to minimise the risk.' [B4, Male, Owner]

'… flight, it gives me 30kg, and if I buy more stuff at times when they are bargains, I can post my stuff.' [B8, Female, Owner]

Communication and cultural barriers management

Misunderstandings in language and culture make it difficult for buyers and suppliers to transact successfully (Jiang & Tian 2009:19; Oke et al. 2009:158). In this study, findings show that small retail owners opted to counter communication and cultural barriers using translation applications and making use of a local who was usually a friend or family member to help facilitate the transactions with suppliers. Over time, some of the small clothing and textile retailers learnt the language. Improved communication between the small retailer and the suppliers helped in securing the supply and allowed for better negotiations:

'… on my second visit, I downloaded an APP, Google translator, where I actually type in English and it would translate it into their language [Turkish].' [B6, Female, Owner]

> 'I go there [fabric market] I would go with someone who has basically stayed in Ghana, and they would do most of the talking for me and the explaining.' [B6, Female, Owner]
>
> '… now you … we even know the language here and there … and you say bye in Turkish and they like you even more because they [suppliers] know you are trying.' [B9, Female, Owner]
>
> 'So, learning the lingo has helped me cause then I start talking like them, I start dressing up like them as well ….' [B10, Female, Owner]

Conclusion

Summary of findings and theoretical implications

The aim of the study was to explore the supply risks that small clothing and textile retailers in Gauteng encounter as a result of global sourcing and to determine how they identify and manage these supply risks. The first research question focused on understanding the factors that influence why small clothing and textile retailers engage in global sourcing activities. A detailed literature review was conducted to identify some of the possible influencing factors for global sourcing. The factors identified in the literature review aligned with those found in this study. These were lower cost and higher quality of products in sourcing countries, more variety and limited to no local supply of sourced items. One new emerging factor not identified from the literature was small clothing and textiles retail owners' familiarisation with the sourcing country. This was usually either because the small retail owner travelled extensively there for other business purposes or even sourcing activities, had friends or family living in those countries or was originally from there but currently lived in South Africa. The findings indicate that the influencing factors for small clothing and textile retailers to engage in global sourcing are similar, regardless of business size.

The second research question focused on exploring what supply risks were encountered by these small clothing and textile retailers because of opting to source globally. Findings indicate that small clothing and textile retailers have an awareness of possible supply risks. In line with the supply risks identified in the literature review, this study found that small clothing and textile retailers encountered fluctuating exchange rate risks as most retailers sourced in countries that priced using the US dollar. In addition, communication and cultural barriers and costly and complicated logistics were mostly challenges with high customs costs and high cost of travel to and within the sourcing country. Other supply risks highlighted by the participants included supplier reliability in terms of quality, stock unavailability and delayed delivery lead times, political volatility both locally and in their sourcing countries and adverse environmental conditions in the sourcing country.

The third research question focused on what risk identification approaches were used by the small clothing and textile retailers in identifying supply risks. Although some of the risk identification approaches available in literature require rigour and resource commitments, some of the small clothing and textile retailers seem to be using some approaches informally in identifying supply risks. The approaches used include quality checks, which could be formalised through risk checklists and catalogues, landscape analyses that focused on some elements of the PESTEL analysis and supplier pre-buying review.

The final research question focused on exploring the management approaches used by these small clothing and textile retailers in addressing the identified supply risks. Most of the management approaches identified from the literature review were cited as being used by these small clothing and textile retailers. However, this was done informally at the sole discretion of the owner and not on a frequent basis. These management approaches identified both from the literature and the study included sourcing from multiple partners, reduction of the probability of risks, dual transportation of goods, local sourcing where supplier was not able to meet delivery and another local retailer who had the required item and the building and management of informal supplier relationships. Only one small retail owner used contracts to formalise supplier relationships, whereas all others did this informally through loyalty sourcing among other things.

The study contributes to knowledge in two ways. Firstly, it confirms the similarities between findings from international studies and this one, which is based in the South African context. These findings include the similarities in the supply risks encountered by businesses, regardless of size or geographical location. Both these findings further affirm that businesses encounter and will continue to encounter supply risks regardless of their size or location. In addition, this study found similarities in how businesses of varying sizes identify and manage supply risks. Supply risks were identified and managed based on the sole discretion of either the small retail owner as per this study or as per the supply chain manager based on the international studies done. Secondly, this study identified a new influencing factor to global sourcing. This factor is ease of access to the market, which entailed small clothing and textile retailers electing to source from a specific country purely based on their familiarity with the country. This familiarity could be either that they were originally from that country or that they have local contacts in the form of close friends and family.

Managerial implications

This study indicates that there are several influencing factors that have resulted in small clothing and textile retailers sourcing globally. Consequently, many of them have been exposed to supply risks. Given the above, this study's findings provide small clothing and textile retail owners with two key insights. Firstly, it notes the supply risks known and identified by each of the small clothing and textile retail owners. Secondly, it shares the supply risks encountered by the other small retailers sourcing in similar and different

countries. Both these insights could be useful for small retail owners in broadening their awareness on the supply risks in their current and potential sourcing countries. This may also help to reduce the time and other resources that they may have had to invest in identifying these risks on their own. In addition, this study found that although aware of supply risks, none of the small clothing and textile retailers had formal risk identification and assessment approaches in place. However, even in the absence of these formal approaches, some of the small clothing and textile retailers have managed to find ways to address these supply risks. Thus, there is no strong evidence to confine small clothing and textile retailers to set up any formal approaches for identifying and managing supply risks. Instead, several of the informal approaches could be used. Some of the informal risk identifications from this study include random product quality checks and landscape analyses. The benefit to the small retailer of these findings is that there is no need to invest time and money resources in trying to find these informal approaches. Knowledge of these informal approaches could allow the small clothing and textile retailers to use resources for other purposes or finding additional informal approaches. The informal risk management approaches found include informal supplier relationship management and exchange rate buffer creation.

Limitations of this study and suggestions for future research

In this study, several limitations were noted that could provide areas for future research. Firstly, this study only focused on small clothing and textile retailers in the clothing and textile industry. A similar study exploring small businesses in a different industry engaged in global sourcing, which do not contend with the same challenges and weaknesses faced by the clothing and textile industry, may be particularly helpful. Findings will help to determine whether policymakers should introduce generic enabling solutions for small businesses that source globally or whether they may have to tailor solutions per industry. Secondly, under SCRMP, this study only focused on risk identification and management approaches and not assessment. It may be useful to small clothing and textile retailers if the risk assessment approaches were explored. This may help them in better understanding how to quantify the likelihood and impacts of supply risks, allowing them to determine which supply risks to address and commit their limited resources in terms of time and money on (Smit 2012:182). Thirdly, in this study across all the small clothing and textile retailers interviewed, none had more than 10 employees. In addition, because the small retail owner did all the sourcing activities, they also identified and managed supply risks informally and at their personal discretion. A similar study should be done on small clothing and textile retailers with at least 10 employees who directly engage in the sourcing activities. This may shed light on whether the small retailer owners still choose to have informal supply risk identification and management approaches and allow their employees to address them at their sole discretion. Global sourcing provides benefits to businesses and their local customer base. However, it also still exposes them to supply risks that need to be proactively identified and managed by the business owner or supply chain manager.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

This article is based on the MPhil dissertation of K.M. who was the main researcher. W.N. assisted as a supervisor with the conceptualisation, literature review, research instrument and review of the draft manuscript. T.K. provided methodological and technical guidance.

References

Abe, M. & Ye, L., 2013, 'Building resilient supply chains against natural disasters: The cases of Japan and Thailand', *Global Business Review* 14(4), 567–586. https://doi.org/10.1177/0972150913501606

Adams, J.H., Khoja, F.M. & Kauffman, R., 2012, 'An empirical study of buyer–supplier relationships within small business organizations', *Journal of Small Business Management* 50(1), 20–40. https://doi.org/10.1111/j.1540-627X.2011.00342.x

Ates, A., Garengo, P., Cocca, P. & Bititci, U., 2013, 'The development of SME managerial practice for effective performance management', *Journal of Small Business and Enterprise Development* 20(1), 28–54. https://doi.org/10.1108/14626001311298402

Badenhorst-Weiss, J.A. & Waugh, B.J., 2014, 'Business environmental factors affecting South Africa's supply chains and economic growth and development', *Problems and Perspectives in Management* 12(4), 238–291.

Baldwin, R.E., 2012, *Global supply chains: Why they emerged, why they matter, and where they are going*, CEPR Discussion Paper No. DP9103, viewed 17 May 2016, from https://ssrn.com/abstract=2153484

Barroso, A., Machado, V.C. & Machado, V., 2011, *Supply chain resilience using the mapping approach*, InTech Open Access Publisher, viewed 25 April 2016, from https://www.intechopen.com/books/supply-chain-management/supply-chain-resilience-using-the-mapping-approach

Berg, A., Berlemann, B. & Hedrich, S., 2013., *The global sourcing map – Balancing cost, compliance, and capacity*, McKinsey & Company, Germany, viewed 28 April 2017, from http://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/retail/articles/the_global_sourcing_map_balancing_cost_compliance_and_capacity.ashx

Berg, A., Berlemann, B., Hedrich, S., Magnus, K., Mathews, B. & Russo, B., 2015, *Sourcing in a volatile world: The East Africa opportuntity*, McKinsey & Company, viewed 28 April 2017, from https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/retail/pdfs/sourcing_in_a_volatile_world_the_east_africa_opportunity.ashx

Black, A., 2009, 'Location, automotive policy, and multinational strategy: The position of South Africa in the global industry since 1995', *Growth and Change* 40(3), 483–512. https://doi.org/10.1111/j.1468-2257.2009.00491.x

Borges, M.A., 2015, 'An evaluation of supply chain management in a global perspective', *Independent Journal of Management and Production* 6(1), 1–29. https://doi.org/10.14807/ijmp.v6i1.211

Brammer, S., Hoejmose, S. & Millington, A., 2011, 'Managing sustainable global supply chain: Framework and best practices', unpublished working document Ontario, University of Western Ontario, viewed 23 April 2016, from http://nbs.net/wp-content/uploads/NBS-Executive-Report-Supply-Chains.pdf

Braun, V. & Clarke, V., 2012, 'Thematic analysis', in H. Cooper (ed.), *APA handbook of research methods in psychology*, vol. 2, pp. 57–71, American Psychological Association, Washington, DC.

Bruce, M., Daly, L. & Towers, N., 2004, 'Lean or agile: A solution for supply chain management in the textiles and clothing industry?', *International Journal of Operations & Production Management* 24(2), 151–170. https://doi.org/10.1108/01443570410514867

BSI, 2014, *Supply chain impact of 2014 Ebola outbreak*, London, viewed 16 April 2017, from https://www.bsigroup.com/LocalFiles/Whitepaper%20Ebola_10.14_7.pdf

Chopra, S. & Sodhi, M., 2014, 'Reducing the risk of supply chain disruptions', *MIT Sloan Management Review* 55(3), 73–80.

Christopher, M., 2011, *Logistics and supply chain management*, 4th edn., Pearson Education, Great Britain.

Christopher, M. & Holweg, M., 2011, '"Supply Chain 2.0": Managing supply chains in the era of turbulence', *International Journal of Physical Distribution & Logistics Management* 41(1), 63–82. https://doi.org/10.1108/09600031111101439

Christopher, M., Mena, C., Khan, O. & Yurt, O., 2011, 'Approaches to managing global sourcing risk', *Supply Chain Management: An International Journal* 16(2), 67–81. https://doi.org/10.1108/13598541111115338

CIPS, 2013, 'Global vs. local sourcing', in CIPS (ed.), pp. 1–4, London, viewed 01 May 2016, from https://www.cips.org/Documents/Knowledge/Procurement-Topics-and-Skills/13-SRM-and-SC-Management/Global-Supply-Chains/Global_vs_Local_Sourcing.pdf

Colicchia, C. & Strozzi, F., 2012, 'Supply chain risk management: A new methodology for a systematic literature review', *Supply Chain Management: An International Journal* 17(4), 403–418. https://doi.org/10.1108/13598541211246558

Deane, J., Craighead, C. & Ragsdale, C., 2009, 'Mitigating environmental and density risk in global sourcing', *International Journal of Physical Distribution & Logistics Management* 39(10), 861–883. https://doi.org/10.1108/09600030911011450

Dittmann, J., 2014, 'Managing risk in the global supply chain', viewed 04 April 2016, from http://globalsupplychaininstitute.utk.edu/publications/documents/Risk.pdf

Edwards, L. & Jenkins, R., 2015, 'The impact of Chinese import penetration on the South African manufacturing sector', *The Journal of Development Studies* 51(4), 447–463. https://doi.org/10.1080/00220388.2014.983912

Ellegaard, C., 2008, 'Supply risk management in a small company perspective', *Supply Chain Management: An International Journal* 13(6), 425–434. https://doi.org/10.1108/13598540810905688

Ellis, S.C., Henry, R.M. & Shockley, J., 2010, 'Buyer perceptions of supply disruption risk: A behavioral view and empirical assessment', *Journal of Operations Management* 28(1), 34–46. https://doi.org/10.1016/j.jom.2009.07.002

Faertes, D., 2015, 'Reliability of supply chains and business continuity management', *Procedia Computer Science* 55, 1400–1409. https://doi.org/10.1016/j.procs.2015.07.130

Faes, W. & Matthyssens, P., 2009, 'Insights into the process of changing sourcing strategies', *Journal of Business & Industrial Marketing* 24(3/4), 245–255. https://doi.org/10.1108/08858620910939796

Falkner, E. & Hiebl, M., 2015, 'Risk management in SMEs: A systematic review of available evidence', *The Journal of Risk Finance* 16(2), 122–144. https://doi.org/10.1108/JRF-06-2014-0079

Fang, J., Zhao, L., Fransoo, J. & Van Woensel, T., 2013, 'Sourcing strategies in supply risk management: An approximate dynamic programming approach', *Computers & Operations Research* 40(5), 1371–1382. https://doi.org/10.1016/j.cor.2012.08.016

Gheibi, S., Kazaz, B. & Webster, S., 2016, *Global sourcing under exchange-rate uncertainty*, School of Management Syracuse University, New York.

Groepe, F., 2015, 'The role of small business in the economy', in *The role of business in local government and local economic development*, pp. 1–12, George, South Africa, viewed 09 October 2015, from https://www.resbank.co.za/Lists/Speeches/Attachments/452/Role%20of%20small%20business%202015%20.pdf

Guest, G., Bunce, A. & Johnson, L., 2006, 'How many interviews are enough? An experiment with data saturation and variability', *Field Methods* 18(1), 59–82. https://doi.org/10.1177/1525822X05279903

Halldórsson, Á. & Kovács, G., 2010, 'The sustainable agenda and energy efficiency: Logistics solutions and supply chains in times of climate change', *International Journal of Physical Distribution & Logistics Management* 40(1/2), 5–13. https://doi.org/10.1108/09600031011018019

Hendry, L., Sayed, M. & Zorini, M., 2015, 'Local buying: The easy answer for sustainable sourcing', viewed 24 May 2016, from https://www.researchgate.net/profile/Maysara_Sayed/publication/283855968_Local_Buying_The_easy_answer_for_Sustainable_Sourcing/links/5648ee4a08ae9f9c13ebba1e.pdf

Ho, W., Zheng, T., Yildiz, H. & Talluri, S., 2015, 'CISupply chain risk management: A literature review', *International Journal of Production Research* 53(16), 5031–5069. https://doi.org/10.1080/00207543.2015.1030467

Hoffmann, P., Schiele, H. & Krabbendam, K., 2013, 'Uncertainty, supply risk management and their impact on performance', *Journal of Purchasing and Supply Management* 19(3), 199–211. https://doi.org/10.1016/j.pursup.2013.06.002

Holweg, M., Reichhart, A. & Hong, E., 2011, 'On risk and cost in global sourcing', *International Journal of Production Economics* 131(1), 333–341. https://doi.org/10.1016/j.ijpe.2010.04.003

Hopkin, P., 2017, *Fundamentals of risk management: Understanding, evaluating and implementing effective risk management*, 4th edn., Kogan Page Publishers, London, United Kingdom.

Jain, A., 2013, 'Forex risk management: Ways for succeeding in turbulent economic times', *International Journal of Emerging Research in Management & Technology* 2(1), 26–30.

Jain, N., Girotra, K. & Netessine, S., 2014, 'Managing global sourcing: Inventory performance', *Management Science* 60(5), 1202–1222. https://doi.org/10.1287/mnsc.2013.1816

Jia, F., Lamming, R., Sartor, M., Orzes, G. & Nassimbeni, G., 2014, 'Global purchasing strategy and international purchasing offices: Evidence from case studies', *International Journal of Production Economics* 154, 284–298. https://doi.org/10.1016/j.ijpe.2013.09.007

Jiang, C. & Tian, Y., 2009, 'Problems and challenges of global sourcing: A study of Chinese manufacturing enterprises', master's thesis, Jonkoping University, viewed 12 March 2017, from www.diva-portal.org/smash/get/diva2:318924/fulltext01

Kırılmaz, O. & Erol, S., 2017, 'A proactive approach to supply chain risk management: Shifting orders among suppliers to mitigate the supply side risks', *Journal of Purchasing and Supply Management* 23(1), 54–65. https://doi.org/10.1016/j.pursup.2016.04.002

Kumar, S., Himes, K. & Kritzer, C., 2014, 'Risk assessment and operational approaches to managing risk in global supply chains', *Journal of Manufacturing Technology Management* 25(6), 873–890. https://doi.org/10.1108/JMTM-04-2012-0044

Kunene, T., 2008, 'A critical analysis of entrepreneurial and business skills in SMEs in the textile and clothing industry in Johannesburg, South Africa', pp. 1–268, viewed 15 May 2016, from http://www.repository.up.ac.za/bitstream/handle/2263/24173/Complete.pdf?sequence=10

Kunreuther, H. & Pauly, M., 2014, 'Role of deliberative thinking and emotions in insurance decision making: An experimental study', viewed 20 April 2016, from https://pdfs.semanticscholar.org/8bc0/eddad9705b6bac9b6e2401814d5e3e8245f4.pdf

Lavastre, O., Gunasekaran, A. & Spalanzani, A., 2012, 'Supply chain risk management in French companies', *Decision Support Systems* 52(4), 828–838. https://doi.org/10.1016/j.dss.2011.11.017

Lockamy, A., 2014, 'Assessing disaster risks in supply chains', *Industrial Management & Data Systems* 114(5), 755–777. https://doi.org/10.1108/IMDS-11-2013-0477

Maje, M. & Sunjka, B., 2014, 'The application of soft systems methodology to supply chain risk management small and medium enterprises', viewed 30 April 2017, from https://www.saiie.co.za/assets/saiie26/2014/Conference%202014%20Proceedings.pdf

Manuj, I., 2013, 'Risk management in global sourcing: Comparing the business world and the academic world', *Transportation Journal* 52(1), 81–107, viewed 25 March 2016, from http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=85112514&site=ehost-live&scope=site

Manuj, I. & Mentzer, J., 2008, 'Global supply chain risk management', *Journal of Business Logistics* 29(1), 133–155. https://doi.org/10.1002/j.2158-1592.2008.tb00072.x

Mehrjoo, M. & Pasek, Z., 2016, 'Risk assessment for the supply chain of fast fashion apparel industry: A system dynamics framework', *International Journal of Production Research* 54(1), 28–48. https://doi.org/10.1080/00207543.2014.997405

Micheli, G., Mogre, R. & Perego, A., 2014, 'How to choose mitigation measures for supply chain risks', *International Journal of Production Research* 52(1), 117–129. https://doi.org/10.1080/00207543.2013.828170

Mndzebele, M., 2013, *An assessment of supply chain risk management in Africa: The case of UNKI Platinum Mine in Zimbabwe*, Gordon Institute of Business – University of Pretoria, Pretoria, viewed 17 April 2017, from http://hdl.handle.net/2263/40577.

Muhos, M., Wang, L. & Kess, P., 2012, 'Experiences of Finnish SMEs sourcing from China', *China-USA Business Review* 11(7), 958–968.

Murray-Webster, R., 2010, *Management of risk: Guidance for practitioners*, 3rd edn., The Stationery Office, Norwich, United Kingdom.

Nunes, M., 2016, 'Motivations, risks, barriers, and results associated with the adoption of global sourcing by Brazilian companies: A case-based study', *Brazilian Business Review (English Edition)* 13(2), 135–157. https://doi.org/10.15728/bbr.2016.13.2.6

Oke, A., Maltz, A. & Christiansen, A., 2009, 'Criteria for sourcing from developing countries', *Strategic Outsourcing: An International Journal* 2(2), 145–164. https://doi.org/10.1108/17538290910973367

Olson, D. & Wu, D., 2010, 'A review of enterprise risk management in supply chain', *Kybernetes* 39(5), 694–706. https://doi.org/10.1108/03684921011043198

Palaniappan, P.K., 2014, 'Risk assessment and management in supply chain', *Global Journal of Research In Engineering* 14(2), 18–33.

Palinkas, L., Horwitz, S., Green, C., Wisdom, J., Duan, N. & Hoagwood, K., 2015, 'Purposeful sampling for qualitative data collection and analysis in mixed method implementation research', *Administration and Policy in Mental Health and Mental Health Services Research* 42(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Peace, C., 2013, 'Supply chain-related risk management', paper presented at Supply Chain Collaboration – The Way of the Future Conference, Tauranga, NZ, viewed 18 March 2016, from https://www.riskmgmt.co.nz/fileadmin/documents/RML_2013_WP0131_CBAFF_conference.pdf.

Peter, C., 2016, 'Managing risk and building resilient organisations in a riskier world', *Journal of Organizational Effectiveness: People and Performance* 3(3), 323–331. https://doi.org/10.1108/JOEPP-07-2016-0044

Pfohl, H., Köhler, H. & Thomas, D., 2010, 'State of the art in supply chain risk management research: Empirical and conceptual findings and a roadmap for the implementation in practice', *Logistics Research* 2(1), 33–44. https://doi.org/10.1007/s12159-010-0023-8

Plano Clark, V. & Creswell, J., 2015, *Understanding research: A consumer's guide*, 2nd edn., Pearson Higher Education, Upper Saddle River, NJ.

Polit, D. & Beck, C., 2012, *Nursing research: Generating and assessing evidence for nursing practice*, 9th edn., Lippincott Williams & Wilkins, Philadelphia, PA.

Ray, P. & Jenamani, M., 2016, 'Sourcing decision under disruption risk with supply and demand uncertainty: A newsvendor approach', *Annals of Operations Research* 237(1), 237–262. https://doi.org/10.1007/s10479-014-1649-8

Routroy, S. & Shankar, A., 2014, 'A study of apparel supply chain risks', *IUP Journal of Supply Chain Management* 11(2), 52–69.

Saunders, M., Lewis, P. & Thornhill, A., 2009, *Research methods for business students*, 5th edn., Pearson Education, Harlow, United Kingdom.

Sayed, Z. & Sunjka, B., 2016, 'Investigating and evaluating the influence of supply chain structure on supply chain risk', *South African Journal of Industrial Engineering* 27(3), 122–135. https://doi.org/10.7166/27-3-1645

Shen, B., 2014, 'Sustainable fashion supply chain: Lessons from H&M', *Sustainability* 6(9), 6236–6249. https://doi.org/10.3390/su6096236

Shenton, A., 2004, 'Strategies for ensuring trustworthiness in qualitative research projects', *Education for Information* 22(2), 63–75. https://doi.org/10.3233/EFI-2004-22201

Sherwin, M.D., Medal, H. & Lapp, S.A., 2016, 'Proactive cost-effective identification and mitigation of supply delay risks in a low volume high value supply chain using fault-tree analysis', *International Journal of Production Economics* 175, 153–163. https://doi.org/10.1016/j.ijpe.2016.02.001

Smit, Y., 2012, *A structured approach to risk management for South African SMEs*, Cape Peninsula University of Technology, viewed 11 May 2017, from http://hdl.handle.net/11189/651.

Sodhi, M., Son, B. & Tang, C., 2012, 'Researchers' perspectives on supply chain risk management', *Production and Operations Management* 21(1), 1–13. https://doi.org/10.1111/j.1937-5956.2011.01251.x

South African Governement, 1996, *South African National Small Business Act*, *No. 102 of 1996*, viewed 06 June 2016, from https://www.thedti.gov.za/sme_development/docs/act.pdf

Srinivasan, M., Mukherjee, D. & Gaur, A.S., 2011, 'Buyer–supplier partnership quality and supply chain performance: Moderating role of risks, and environmental uncertainty', *European Management Journal* 29(4), 260–271. https://doi.org/10.1016/j.emj.2011.02.004

Steven, A., Dong, Y. & Corsi, T., 2014, 'Global sourcing and quality recalls: An empirical study of outsourcing-supplier concentration-product recalls linkages', *Journal of Operations Management* 32(5), 241–253. https://doi.org/10.1016/j.jom.2014.04.003

Su, J. & Gargeya, V., 2012, 'Strategic sourcing, sourcing capability and firm performance in the US textile and apparel industry', *Strategic Outsourcing: An International Journal* 5(2), 145–165. https://doi.org/10.1108/17538291211257592

Sunjka, B. & Emwanu, B., 2013, 'A conceptual framework for the analysis of supply chain risk management in small and medium manufacturing enterprises in South Africa', paper presented at SAIIE25 Proceedings, Stellenbosch, viewed 30 April 2017, from http://conferences.sun.ac.za/index.php/saiie25/SAIIE25/paper/view/640/256

Thun, J., Drüke, M. & Hoenig, D., 2011, 'Managing uncertainty: An empirical analysis of supply chain risk management in small and medium-sized enterprises', *International Journal of Production Research* 49(18), 5511–5525. https://doi.org/10.1080/00207543.2011.563901

Timm, S., 2013, 'South Africa's poor performance in entrepreneurship events', *Mail & Guardian*, 29 November, viewed 07 May 2016, from http://mg.co.za/article/2013-11-29-00-south-africas-poor-performance-in-entrepreneurship-events

Towers, N. & Song, Y., 2010, 'Assessing the future challenges in strategic sourcing commodity from China: A case-study analysis', *Asia Pacific Business Review* 16(4), 527–544. https://doi.org/10.1080/13602380903068071

Tummala, R. & Schoenherr, T., 2011, 'Assessing and managing risks using the supply chain risk management process (SCRMP)', *Supply Chain Management: An International Journal* 16(6), 474–483. https://doi.org/10.1108/13598541111171165

Turker, D. & Altuntas, C., 2014, 'Sustainable supply chain management in the fast fashion industry: An analysis of corporate reports', *European Management Journal* 32(5), 837–849. https://doi.org/10.1016/j.emj.2014.02.001

Verbano, C. & Venturini, K., 2013, 'Managing risks in SMEs: A literature review and research agenda', *Journal of Technology Management & Innovation* 8(3), 186–197. https://doi.org/10.4067/S0718-27242013000400017

Vilko, J., 2012, *Approaches to supply chain risk management: Identification, analysis and control*, Lappeenranta University of Technology Digipaino, Lappeenranta, Finland.

Wieland, A. & Wallenburg, C., 2012, 'Dealing with supply chain risks: Linking risk management practices and strategies to performance', *International Journal of Physical Distribution & Logistics Management* 42(10), 887–905. https://doi.org/10.1108/09600031211281411

Williams, M., 2013, 'South Africa's carmakers suffer a month of strike disruption in supply chai', viewed 16 April 2017, from http://automotivelogistics.media/news/south-africas-carmakers-suffer-a-month-of-strike-disruption-in-supply-chain

Yang, Z., 2014, 'The impact of the emergence of China's economy on South Africa', Master of Arts, Universite Laval, Quebec, Canada, viewed 09 April 2016, from http://www.theses.ulaval.ca/2014/31088/31088.pdf

Young, J., 2016, 'Managing risk in global supply chains: The changing role of corporate treasury', viewed 05 February 2017, from https://financial.thomsonreuters.com/content/dam/openweb/documents/pdf/financial/managing-risk-in-global-supply-chains.pdf

Logistics outsourcing and performance of manufacturing small and medium-sized enterprises in Nairobi

Authors:
Joash Mageto[1]
Gerrie Prinsloo[1]
Rose Luke[1]

Affiliations:
[1]Department of Transport and Supply Chain Management, University of Johannesburg, South Africa

Corresponding author:
Joash Mageto,
jnmageto@gmail.com

Background: Logistics outsourcing has been accepted as a strategy through which small and medium-sized enterprises (SMEs) can access the logistics capabilities they lack internally at a lower cost. However, the actual effect of logistics outsourcing on firm performance, especially among the SMEs in Nairobi, remains unknown.

Aim: The study aimed to investigate the relationship between logistics outsourcing and firm performance of manufacturing SMEs in Nairobi.

Setting: The study sampled manufacturing SMEs in Nairobi City County.

Method: In this study, a convergent parallel mixed methods design was applied. Survey data were collected from 163 manufacturing SMEs. The data were analysed using structural equation modelling to test the relationship between logistics outsourcing and firm performance. Additionally, in-depth interviews were conducted in five manufacturing SMEs. Thematic analysis was used to analyse interview data to provide more insight in the quantitative data.

Results: The anticipated direct link between logistics outsourcing and performance of manufacturing SMEs was not statistically significant. However, the study revealed a statistically significant indirect positive effect of logistics outsourcing on the performance of manufacturing SMEs through logistics outsourcing performance as a mediator variable. This article further highlights reasons and the process of logistics outsourcing and deduces a logistics outsourcing model for manufacturing SMEs to help improve their firm's performance.

Conclusion: The established relationship and deduced logistics outsourcing model is likely to guide SME managers as to how to manage logistics outsourcing to improve performance. The finding that logistics outsourcing has a positive indirect effect on the performance of manufacturing SMEs through logistics outsourcing performance makes a significant contribution to theory.

Introduction

Manufacturing small and medium-sized enterprises (SMEs) in Kenya have performed dismally over the years despite their significance to the economy (Government of Kenya 2012; Papadavid 2016). This can be attributed to the high levels of uncertainty in the business environment, high costs of production, as well as inefficient transport and logistics operations, which hamper the smooth movement of raw materials to site and finished goods to the market (Chege, Ngui & Kimuyu 2016; Kimuyu 2010). In addition, SMEs operate in an environment characterised by rapid changes in technology, intense competition from Chinese products, dynamic customer requirements and the growing need for efficiency, high-quality products and increased productivity (Bowen, Morara & Mureithi 2009; Chew & Chew 2008; Were 2016). The poor performance of SMEs in Kenya has limited the benefits the sector should be providing to the government and other stakeholders, such as job creation, poverty reduction and industrialisation (Buculescu 2013). Were (2016) argues that the continued poor performance threatens the survival of the SME sector in Kenya. Thus, there is enormous pressure on the management of SMEs to take strategic decisions to improve performance (Murphy et al. 2012). Owing to limited resources in SMEs, they are compelled to allocate their meagre and hard-won resources to those areas of production that can generate the highest returns for shareholders (Murphy et al. 2012). This means that manufacturing SMEs should focus their limited resources on core business areas and outsource the non-core but essential functions to reduce costs and increase customer satisfaction (Solakivi et al. 2011; Sople 2012). One of the essential non-core areas that present an opportunity for improved performance of manufacturing SMEs if outsourced is logistics (Waugh & Luke 2011). Logistics outsourcing

allows enterprises to access capabilities they lack in-house, as per the resource-based view (RBV) theory, and at a lower cost than owning, as outlined by the proponents of transaction cost economics (TCE) theory (Halldorsson et al. 2007).

There are several studies that have investigated logistics outsourcing and firm performance (Cho, Ozment & Sink 2008; Kotabe & Mol 2009; Solakivi et al. 2011). However, the actual effect of logistics outsourcing on firm performance remains unknown as there is no consensus among the researchers as to whether the practice leads to improved firm performance (Kotabe & Mol 2009; Lahiri 2015). Some studies have claimed that logistics outsourcing has no effect on firm performance (Hsiao et al. 2010; Töyli et al. 2008). Cho et al. (2008) argued that logistics outsourcing can affect firm performance negatively, whereas Parashkevova (2007) claimed that it results in improved firm performance. Based on the divergent views among researchers, this study highlights that little is known about the relationship between logistics outsourcing and the performance of manufacturing SMEs, specifically in Nairobi. This study investigated the relationship using a theoretical framework that draws from the RBV and the TCE theory. Therefore, the study sought to answer the following research questions:

- Why do manufacturing SMEs practice logistics outsourcing?
- How do manufacturing SMEs outsource logistics?
- What is the relationship between logistics outsourcing and performance of manufacturing SMEs?

In this study, the relationship between logistics outsourcing and performance of SMEs has been established empirically. In addition, it advances logistics literature by proposing a logistics outsourcing model that SMEs can be applied to improve their firm's performance. The remainder of this article addresses the importance of SMEs in Kenya, logistics outsourcing and firm performance, methodology, findings, discussion and, finally, the conclusion.

Literature review

In this section, literature related to the importance of SMEs in Kenya, logistics outsourcing and firm performance is reviewed. This helped to develop a conceptual framework at the end of this section.

Importance of small and medium-sized enterprises in Kenya

The significance of SMEs to the economic growth and development of both developed and developing countries is recognised across the world (Nasr & Rostom 2013). SMEs require little capital to set up and have the potential to create jobs for the burgeoning number of unemployed youths in most developing countries (Gill & Biger 2012; Sonobe, Akoten & Otsuka 2011). Manufacturing SMEs boost economic activities in the areas in which they operate, because they produce goods that meet the immediate needs of locals, thus serving a market that the large enterprises have ignored (Chege et al. 2016; Sonobe et al. 2011). In Kenya, manufacturing SMEs account for about 80% of the number of firms in the manufacturing sector and employ over 80% of the workforce in this sector (Kenya National Bureau of Statistics 2016). To further emphasise the importance of SMEs to development, the Kenyan government recognised the sector in its 'Kenya vision 2030' strategic plan for its role in the country's industrialisation agenda (Government of Kenya 2007).

There are case studies of countries across the globe such as China (Chen 2006), Malaysia (Karikomi 1998) and India (Das 2008) that have industrialised by focusing on small and medium-sized manufacturers. This implies that countries in sub-Saharan Africa such as Kenya can also facilitate industrialisation by focusing on the development of manufacturing SMEs. However, as highlighted earlier, SMEs face resource challenges, making it difficult to own capabilities that can enable efficient and effective operations (Bowen et al. 2009). Some of the capabilities required by SMEs, especially in logistics, can easily be accessed through outsourcing (Murphy et al. 2012). It is expected that SMEs are more likely to focus on the quality of goods and distribute widely at lower costs, resulting in improved firm performance, once they contract expert logistics service providers (LSPs) (Soinio, Tanskanen & Finne 2012).

Logistics outsourcing and firm performance

Logistics outsourcing refers to the transfer of all or part of the logistics functions to be performed on behalf of the firm by third-party logistics service providers (Lieb & Randall 1996; König & Spinler 2016; Van Laarhoven, Berglund & Peters 2000). Pratap (2014) argued that logistics outsourcing can best be explained by the RBV and TCE theories. The RBV theory holds that an enterprise can acquire resources and capabilities through outsourcing to meet its customers' needs (Wong & Karia 2010). Similarly, the TCE theory highlights that logistics outsourcing provides an avenue for conducting business at lower transaction costs when compared to in-house operations, thus improving firm performance (Bolumole, Frankel & Naslund 2007; Pratap 2014). The RBV and TCE theories have been applied extensively in logistics outsourcing research (Liu et al. 2015; Pratap 2014), depicting their relevance to guiding development of predictive models in logistics management. Past research has identified the increased importance of logistics across the globe in determining overall firm performance, as supply chains become complex (König & Spinler 2016), thus reinforcing the importance of this study.

The growing significance of logistics among firms can further be revealed by the increased spending and its central role in improving customer service (Langley & Capgemini 2016). As logistics performance becomes more significant, firms are expected to focus on their core business areas, leaving logistics to be outsourced to expert LSPs (König & Spinler 2016; Rahman & Wu 2011). Using LSPs implies that the firms (in this case manufacturing SMEs) would access the logistics capabilities they lack in-house, as they focus on their core

manufacturing activities to improve performance (König & Spinler 2016; Langley & Capgemini 2016; Murphy et al. 2012). Thus, it is hypothesised that:

- Logistics outsourcing has a positive effect on firm performance

Logistics outsourcing is also adopted to reduce logistics costs and as a long-term strategy to increase customer satisfaction and improve overall enterprise performance (Fawcett, Magnan & McCarter 2008; Lee, Lin & Cheng 2013). Logistics activities that are commonly outsourced can be classified into operational (transportation, fleet management, clearing and forwarding), information processing (logistics information system, procurement and order management, product track and trace), and strategic and value-adding services (inventory, warehousing and packaging management) (Langley & Capgemini 2016; Liu et al. 2015; Solakivi et al. 2011).

Firm performance refers to how well a firm achieves its overall goals, both financial and non-financial (Kasie & Belay 2013; Quang et al. 2016). Financial measures such as return on assets (ROA) and profitability are objective as they make use of actual figures, whereas the non-financial measures, such as customer satisfaction, use perception and are generally subjective (Tseng & Liao 2015; Yang, Marlow & Lu 2009). Measuring firm performance is not an easy task as one should select the most appropriate measures for the industry, period (long-term and short-term) and firm size to achieve the desired results (Kasie & Belay 2013; Quang et al. 2016). As such, because SMEs lack clear management structures, the specific performance metrics selected, should be growth based and should focus on financial liquidity and customer satisfaction (Marchand & Raymond 2008; Raymond et al. 2013). Therefore, this study measured performance of manufacturing SMEs through growth in sales, profits, ROA, return on capital employed (ROCE), earnings before interest and tax (EBIT), number of employees and customer satisfaction (Solakivi et al. 2011; Tseng & Liao 2015).

High-performing SMEs are likely to deliver goods to meet local demand, create employment and improve living standards of communities where they operate (Chege et al. 2016; Nasr & Rostom 2013). Thus, improving the performance of manufacturing SMEs will go a long way to improving not only livelihoods but also economic growth. This study highlights that logistics presents the potential to improve the performance of SMEs if managed diligently (Waugh & Luke 2011). Logistics outsourcing has emerged as one such strategy that can be used to realise efficient and effective logistics operations, as the expertise of third-party logistics (3PLs) can be utilised (Waugh & Luke 2011). Although the common view is that logistics outsourcing leads to improved enterprise performance (Fawcett et al. 2008; Langley & Capgemini 2017), the actual relationship between logistics outsourcing and firm performance has not been established precisely in past research. Some past research has observed that logistics outsourcing improved firm performance (Lee et al. 2013; Parashkevova 2007), whereas Cho et al.'s (2008) study reported a negative relationship between logistics outsourcing and firm performance and Solakivi et al.'s (2011) study found no relationship with firm performance among Finnish SMEs. Therefore, this study sought to empirically investigate the relationship between logistics outsourcing and performance of small and medium-sized manufacturing enterprises in Nairobi.

Logistics outsourcing allows the SMEs to access capabilities of expert LSPs to achieve high logistics performance in terms of reduced cycle times, reduction of wasteful operations, increased flexibility, delivery timeliness and smooth operations in upstream and downstream activities (Green, Whitten & Inman 2008; Zailani et al. 2017). Green et al. (2008) argued that increased logistics performance positively influences firm performance. As such, it is hypothesised as follows:

- Logistics outsourcing has a positive effect on logistics performance.
- Logistics performance has a positive effect on firm performance.

Logistics outsourcing performance refers to the extent to which LSPs meet a firm's expectations (Wagner & Franklin 2008). Logistics outsourcing processes that take into consideration communication, trust levels, cooperation and innovation are likely to result in high logistics outsourcing performance (Deepen et al. 2008; Križman & Ogorelc 2010; Oshri, Kotlersky & Gerbasi 2015). In addition, Leuschner et al. (2014) highlight that logistics outsourcing performance positively affects logistics performance and consequently firm performance. Therefore, it is hypothesised as follows:

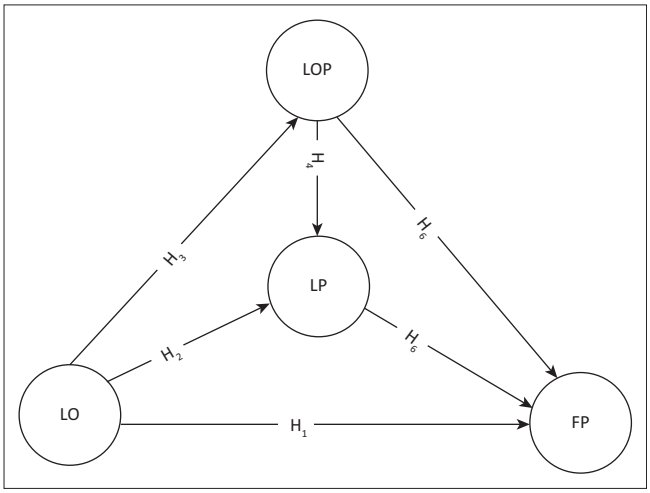
- Logistics outsourcing has a positive effect on logistics outsourcing performance.
- Logistics outsourcing performance has a positive effect on logistics performance.
- Logistics outsourcing performance has a positive effect on firm performance.

The relationship is investigated directly and indirectly through logistics outsourcing performance and logistics performance as mediating variables. The measures of logistics outsourcing performance in this study focus on the quality of communication and cooperation between SMEs and 3PLs (Deepen et al. 2008), trust levels (Huo, Ye & Zhao 2015) and innovative capabilities of the 3PLs (Oshri et al. 2015). Logistics performance is measured by operational efficiency and customer service indicators (Zailani et al. 2017). Finally, it is hypothesised as follows:

- Logistics outsourcing performance mediates the relationship between logistics outsourcing and firm performance.
- Logistics performance mediates the relationship between logistics outsourcing and firm performance.

These relationships are conceptualised, as illustrated in Figure 1.

The model (Figure 1) was used to test six hypotheses using structural equation modelling. Additionally, mediation



LO, logistics outsourcing; LOP, logistics outsourcing performance; LP, logistics performance; FP, firm performance; H, Hypotheses.

FIGURE 1: Conceptual framework for logistics outsourcing.

hypotheses were tested to measure the indirect effect of logistics outsourcing (LO) on firm performance (FP) through logistics outsourcing performance (LOP) and logistics performance (LP). Thus, the study tested the following hypotheses:

- **H_1:** Logistics outsourcing has a positive effect on firm performance.
- **H_2:** Logistics outsourcing has a positive effect on logistics performance.
- **H_3:** Logistics outsourcing has a positive effect on logistics outsourcing performance.
- **H_4:** Logistics outsourcing performance has a positive effect on logistics performance.
- **H_5:** Logistics outsourcing performance has a positive effect on firm performance.
- **H_6:** Logistics performance has a positive effect on firm performance.
- **H_7:** Logistics outsourcing performance mediates the relationship between logistics outsourcing and firm performance.
- **H_8:** Logistics performance mediates the relationship between logistics outsourcing and firm performance.

Research methods and design

This section presents first the research design followed in this study. Thereafter, the qualitative and quantitative approaches are described as used in this study.

Research design

The uniqueness of the SME context from industry to industry and even country to country calls for combined methods to better address the research questions, as claimed by Saunders, Lewis and Thornhill (2016). This study therefore adopted a pragmatist's philosophical orientation, which allows for a mixture of qualitative and quantitative research approaches in a single study (Takkashori & Teddlie 2010), that is, a mixed methods research design (MMD). MMD refers to the use of both qualitative and quantitative approaches to address a research problem (Creswell & Clark 2007; Jogulu & Pansiri 2011). The use of this design helped to answer the 'why' and 'how' research questions that required qualitative data and the 'what' question which required quantitative data. The quantitative approach helped to test the application of RBV theory to logistics outsourcing. The results from the qualitative approach enriched the quantitative findings and helped advance logistics management literature regarding performance of SMEs. The results from the two approaches were interpreted together to provide a comprehensive response to the research questions as opposed to using either of the approaches (Saunders et al. 2016). Convergent parallel design variant of MMD was used in this study, whereby quantitative and qualitative data were collected and analysed concurrently (Jogulu & Pansiri 2011). The qualitative approach was used to collect data that helped interpret the relationships tested between logistics outsourcing and firm performance. These two approaches were thus able to complement each other. Upon analysis of the data, the findings were interpreted together, whereby results from the qualitative approach helped explain the relationship with logistics outsourcing, hence addressing the research problem adequately (Creswell & Clark 2011). Specifically, qualitative data helped explain why SMEs outsource logistics services as well as the process they follow to outsource. This provided insights of the kind of statistical relationships that could be expected between logistics outsourcing and performance of the SMEs. The combination of qualitative and quantitative approaches overcame the shortcomings such as the bias of relying on a single approach, by providing triangulated data to study the research problem (Creswell & Clark 2011). The sampling techniques, instrument development and data collection are discussed in the following sections starting with the qualitative approach.

Qualitative approach

Purposive sampling was used to select five manufacturing SMEs, which participated in the interviews. It was used to select the manufacturing SMEs to provide rich data (Creswell 2014) regarding logistics outsourcing and firm performance. The enterprises selected represented the five main manufacturing categories in Kenya, as identified by Chege et al. (2016). Collecting data from multiple SMEs helped cross-checking to ensure that credible data were obtained.

Qualitative data were collected through face-to-face interviews using a semi-structured interview guide at the manufacturing SMEs' site. Conducting the interviews on site helped observe that actual manufacturing was taking place. The interview guide was piloted with two logistics managers. The piloting helped to adjust some questions which were not clear and drop others that were repetitive. In-depth interviews were conducted with directors or owners or managers in charge of logistics in their respective manufacturing SMEs. One interview was conducted in each of the SMEs. The selected respondents were those with all the relevant information

regarding the enterprises' logistics management practices. The five interviews were sufficient as there was no additional information obtained after the fifth interview. The five interviews were sufficient, considering the claim by Creswell and Clark (2007) and Jogulu and Pansiri (2011) that four to five case studies are appropriate to meet the requirements of a mixed methods design. Three interviews were recorded using an audio recorder, whereas two were captured in interview notes.

The qualitative data were analysed through thematic analysis to answer the why and how research questions (1 and 2, respectively). Thematic analysis involved searching for themes across the interview data, as described by Saunders et al. (2016). The qualitative data collected through in-depth interviews were transcribed and coded. Themes related to the research questions 1 and 2 were identified. The research process followed in the qualitative approach is outlined in Figure 2.

Quantitative approach

The units of analysis comprised manufacturing SMEs in Nairobi. The study population encompassed 406 manufacturing SMEs in Nairobi as of 01 March 2015 as per the Nairobi City County (NCC) Licensing Department. Only SMEs engaged in manufacturing within NCC were counted as units of analysis. SMEs within the manufacturing sector that were engaged in trading or were service orientated were excluded. As such, actual manufacturing was observed during data collection, otherwise the enterprise was excluded. All other manufacturing firms were included in the study, regardless of the use of 3PL services. This inclusivity allowed for the determination of the extent of logistics outsourcing within the SMEs.

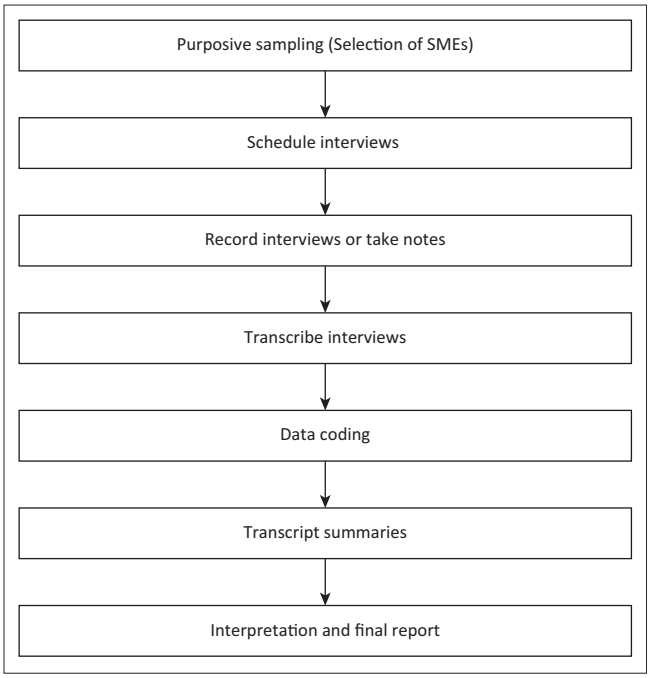


FIGURE 2: Qualitative research approach process.

Quantitative data were collected using a seven-point Likert-type survey questionnaire with end-points defined to help respondents understand the scale. Although there is no preferred number of points that specific rating scales should have, Krosnick and Presser (2010) argue that a lengthy scale (e.g. 7-point scale) may increase data validity compared to a 5-point scale. In addition to this, the 7-point scale was considered appropriate for this study because of the successful application of the same scale length in past studies (Cho et al. 2008; Liu et al. 2015). The questionnaire collected data on enterprise demographics, logistics outsourcing, logistics outsourcing performance, logistics performance and firm performance. Logistics outsourcing was measured by six items, which were self-developed in line with Langley and Capgemini (2016) and Solakivi et al. (2011). Logistics outsourcing performance was measured by 15 items comprising communication, trust, cooperation and innovation indicators (Deepen et al. 2008; Križman & Ogorelc 2010). Logistics performance was measured using five items adapted from Green et al. (2008). Similarly, firm performance was also measured by five items (Solakivi et al. 2011; Yang et al. 2009). The questionnaire was piloted among ten manufacturing SME managers involved in the day-to-day management of logistics in their enterprises. The piloting exercise led to rewording of some items to make them clear before the data collection.

The drop and pick later method was used to collect quantitative data from SME managers in charge of logistics operations. In some cases, the questionnaires were filled on the spot. In instances of collect later, three attempts (spaced one week apart) were made to collect the filled questionnaire. Any questionnaires that were not collected within the three attempts were counted as not returned. The method was appropriate as only the physical and postal addresses of the manufacturing SMEs were available at the NCC Licensing Department. Although some respondents promised to email or send the filled questionnaires through postal services, none of these were received through post or email.

The quantitative data were analysed using partial least squares structural equation modelling (PLS-SEM) to investigate the relationship between logistics outsourcing and performance of manufacturing SMEs. The study selected the PLS-SEM technique because of its predictive performance (Davcik 2014; Richter et al. 2016). Prior to SEM, the data were tested on suitability for exploratory factor analysis (EFA) using the Kaiser–Meyer–Olkin and Bartlett tests (Pallant 2010). EFA was performed, and it identified the latent constructs scales. The scales' reliability was tested and found satisfactory in preparation for confirmatory factor analysis using Smartpls 3 (Ringle, Wende & Becker 2015).

Ethical consideration

Ethical clearance was obtained from the relevant authorities within the university as an assurance that carrying out the study did not endanger any person or community. Acceptable research ethics were observed during planning, fieldwork,

data analysis and reporting. For instance, participation in the study was voluntary and respondents could withdraw at any stage. Respondents were assured of anonymity of their responses. Participants were also informed that the study was only for academic purposes. This means that the participants did not suffer any loss during or after the study. Those who wanted to have access to the final report were given contacts through which they could make their requests.

Results

The enterprises that participated in the qualitative approach included the following: (1) a metal fabricator that manufactures meter boxes and cable trucking accessories, with 25 employees; (2) an industrial chemical manufacturer with 93 employees; (3) a paper products manufacturer, employing 15 people; (4) a food (spices and snacks) manufacturer with 90 employees and (5) a clothes manufacturer with 17 full-time employees.

The enterprises outsourced logistics services to reduce costs associated with investing in logistics fixed assets, inventory and operations. The industrial chemical manufacturer highlighted that in addition to cost reduction, the enterprise wanted to minimise the risks associated with managing logistics in-house. The respondent from the enterprise observed that:

> '… in terms of transportation cost we were okay with our in-house team, but the invisible costs of transportation were very high. For instance, we could load a full truck and it is hijacked on the way. We lose the truck and all the goods. With outsourcing security of our goods in transit is not our concern as our LSPs take care of that … we outsource to reduce transport risk.' (Participant from Enterprise 2, Male, Head of Production and Dispatch)

Logistics outsourcing helped the enterprises to focus on manufacturing. Running logistics in-house means more employees and management time. The respondent from the metal fabricator noted:

> '… imagine what will happen when a vehicle in transit breaks down at night. The stress we will undergo is a lot. Our transport service providers are helping us a lot.' (Participant from Enterprise 1, Male, Supervisor)

Some of the enterprises, for example, the clothes manufacturer, highlighted that they lacked resources to invest in in-house logistics, and hence, they relied on outsourcing. In addition to the reasons offered above, the enterprises also observed that they adopted the use of 3PLs so as to achieve flexibility, timely deliveries, eliminate idle capacity of fixed assets, achieve high customer satisfaction and increased profits.

Based on the interview data, the enterprises highlighted that logistics outsourcing process must be managed diligently to accrue the expected benefits especially in the improvement of enterprise performance as also argued in the Waugh and Luke (2011) study. Three out of five of the manufacturing SMEs highlighted that they used *ad hoc* models to outsource logistics, whereas the other two had procurement guidelines that directed the outsourcing process. The *ad hoc* logistics outsourcing process was used to select the activities to be outsourced and the LSP. That is, they did not have a clear procedure to identify which logistics activity should be outsourced and to what degree, how to select a 3PL service provider and a contract outlining performance expectations from the prospective LSP. The enterprises that had guidelines, namely the metal fabricator, noted that '… our firm follows the procurement process as documented in our standard operating procedures and it helps us choose the right LSP' (participant from enterprise 1, male, supervisor). This could imply that price (lowest bidder) was the key determinant in selecting a 3PL. Although some manufacturing SMEs had clear guidelines of managing the purchase process, they lacked a specific process for logistics outsourcing that will lead to improved firm performance. For instance, once a decision was made on which logistics activity to outsource, the SMEs selected the 3PL service provider on the basis of price only. However, it may be difficult to achieve timely deliveries and high customer satisfaction through such a process. Hence, the need to develop a model that will help SMEs select the right LSP to improve performance. Analysis of data related to the survey is reported in the following paragraphs.

A total of 163 complete questionnaires were returned resulting in a 40.2% response rate. Non-response bias was ruled out based on the Armstrong and Overton (1977) study guidelines, entailing categorising the questionnaires into early responses and late responses. The late responses included questionnaires received after second and third collection attempts. This resulted in 141 and 21 questionnaires in the early and late responses categories. Non-response bias was tested by comparing mean for early and late responders, using logistics outsourcing and firm performance as the 'test variables' (Table 1). For both test variables, non-response bias was ruled out as there was no statistically significant ($p > 0.05$) difference between the responses of early and late responders (Table 1). The enterprises that participated in the survey were grouped into various manufacturing categories with 39.3% being from chemical and plastics category, metal processors accounted for 25.2%, wood and paper accounted for 16.6%, 12.3% represented food and animal feeds category, while clothing and textiles accounted for only 6.7%. About 80% of the enterprises had between 11 and 50 employees, whereas the rest had 51 to 100 employees. The demographics also revealed that the majority (52.1%) of the enterprises had <5 years' experience with logistics outsourcing, 24.5% had 6–10 years' experience and the rest had over 10 years' experience.

The quantitative data were certified suitable for EFA after revealing a Kaiser–Meyer–Olkin value of 0.894 and a statistically significant ($p < 0.05$) Bartlett's test (Pallant 2010). All the manifest indicators were modelled as reflective in this study. The indicators were subjected to a first round of EFA using the principal component analysis method and Varimax rotation, but resulted in a suboptimal solution as some factors

TABLE 1: Independent samples test for early and late respondents.

Item	Levene's test for equality of variances		*t*-test for equality of means						
	F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean difference	Std. error difference	95% confidence interval of the difference	
								Lower	Upper
LO	1.362	0.245	0.003	161	0.998	0.00091	0.31299	-0.61719	0.61901
FP	2.081	0.151	-0.487	161	0.627	-0.11241	0.23070	-0.56799	0.34317

LO, logistics outsourcing; FP, firm performance; Sig., significance; Std., standard.
Note: All probabilities at 95% ($p < 0.05$).

had low loadings. The factors with low loading were eliminated, and a second round of EFA was performed, resulting to four components accounting for 61.2% of the total variance explained. Each of the components had more than three indicators loading on it, revealing an optimal solution (Pallant 2010). The structure of the components revealed that the latent constructs were LOP, LP, LO and FP, as outlined in Table 2. Confirmatory factor analysis was conducted using Smartpls 3.0 (Ringle et al. 2015) for the SEM technique, in order to investigate the relationship between LO and FP directly and indirectly through LOP and LP as mediator constructs. The final model indicator loading after confirmatory factor analysis is illustrated in Table 2. All the indicators' loading ranged from 0.653 to 0.876 revealing substantial loading to the respective constructs.

The SEM technique requires that the final model's goodness of fit should be assessed. According to Hair et al. (2014), the final SEM model should be evaluated for goodness of fit by examining the outer and inner models. The outer model reveals how the manifest variables relate to the latent variables (Hair et al. 2014). The outer model is evaluated by checking internal consistency, convergent and discriminant validity (Davcik 2014; Hair et al. 2014). Cronbach's alpha values for each of the scales were 0.81, 0.95, 0.88 and 0.87 for all the LO, LOP, LP and FP scales, respectively, revealing high internal consistency (Hair et al. 2014; Pallant 2010). The composite reliability values (FP: 0.90, LO: 0.81, LOP: 0.95 and LP: 0.91) also revealed high internal consistency for the model. The average variance extracted (AVE) values (LO: 0.56, FP: 0.65, LOP: 0.61 and LP: 0.67) were all above 0.5 revealing that the model explained over 50% of the variance (Davcik 2014; Hair et al. 2014).

Discriminant validity problems were ruled out from the model as per Fornell–Larcker criterion and absence of the cross-loading problem among the manifest variables (Hair et al. 2014). Table 3 illustrates a summary of the outer model's goodness of fit evaluation.

The inner model's goodness of fit was evaluated by examining collinearity, coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2) and significance of the path coefficients (Hair et al. 2014). The variance inflation factor (VIF) values for the model were between 1.0 and 4.78, which was below the critical value of 5.0 revealing no collinearity problem (Hair et al. 2014). The R^2 values for the study model revealed moderate predictive accuracy for FP (0.285) and LP (0.207), while it was weak for LOP (0.144) (Chin 1998).

TABLE 2: Indicator outer loadings extracted from final structural equation modelling model.

Construct	Indicator description	Indicator loading
LO	Clearing and forwarding.	0.705
	Product tracking and tracing.	0.876
	Packaging.	0.653
LOP	There is mutual respect between our enterprise and outsourced LSPs.	0.730
	LSPs can be depended on to deliver services.	0.739
	LSPs take the objectives of our enterprise into consideration when making decisions that will affect our business.	0.711
	LSPs are dedicated to improving quality.	0.836
	LSPs are dedicated to eliminating waste or non-value-adding processes.	0.754
	Our organisation can count on the LSPs to be honest during contracting (e.g. not withhold relevant information).	0.798
	There is mutual exchange of information between our company and LSPs.	0.820
	Information is shared between parties in a timely manner (e.g. no delays).	0.843
	The information received by either side is complete (e.g. no loose ends).	0.857
	The information shared between our enterprise and LSPs is accurate (e.g. straightforward).	0.800
	The information shared between our enterprise and LSPs is clear.	0.843
	LSPs always provide practical solutions to problems within their area of engagement.	0.766
	LSPs usually modify the performance of logistics activities and processes to adapt to a changing environment.	0.731
	LSPs advise management on the improvement of activities in areas outside their direct responsibility.	0.684
	LSPs sustain vibrant networks to deliver a valued service to our enterprise.	0.740
LP	Maintaining accurate records is …	0.809
	Consistently delivering quality goods and/or services is …	0.780
	Handling special orders is …	0.838
	Modifying order size, volume or composition during a logistics operation is …	0.825
	Maintaining a seamless upstream and downstream flow of goods is …	0.842
FP	Growth in profitability has been …	0.811
	Growth in return on total assets (ROA) has been …	0.832
	Growth in return on capital employed (ROCE) has been …	0.845
	Growth in earnings before interest and taxes (EBIT percent) has been …	0.781
	Growth in market share has been …	0.759

LO, logistics outsourcing; LOP, logistics outsourcing performance; LP, logistics performance; LSPs, logistics service providers; FP, firm performance; SEM, structural equation modelling.

TABLE 3: Measurement model evaluation.

Latent construct	AVE	Composite reliability	Discriminant validity problem?
Firm performance	0.65	0.90	No
Logistics outsourcing	0.56	0.81	No
Logistics outsourcing performance	0.61	0.95	No
Logistics performance	0.67	0.91	No

AVE, average variance extracted.

The f^2 values for the model's R^2 were interpreted based on Cohen's (1988) critical values and revealed that LO had a small effect on FP (0.002) and LP (0.013). Similarly, LOP had a small effect on FP (0.047), but a medium effect on LP (0.176). Finally, LP had a medium effect on FP (0.166). The model revealed that Q^2 >0 (i.e. FP = 0.174; LOP = 0.081; LP = 0.132), thus indicating the model had predictive relevance, as per Chin (1998). Statistical significance of the path coefficients was also examined to identify statistically significant relationships and to test the research hypotheses. The results revealed that the direct effect of LO on FP was not statistically significant (*t*-statistics <1.96) at a 95% confidence interval. However, path coefficients representing hypotheses H_3, H_4, H_5 and H_6 were statistically significant (*t*-statistics >1.96). The mediating effect of LOP on the effect of LO on FP was statistically significant. However, the mediating effect of LP on the effect of LO on FP was not statistically significant. The hypothesis testing result is illustrated in Table 4, revealing that hypotheses H_1 and H_2 were rejected, while H_3, H_4, H_5 and H_6 were accepted.

Discussion

The motivation for logistics outsourcing among manufacturing SMEs included cost reduction, risk sharing, access to expert LSPs' capabilities that lack in-house as well as focus on the core business of manufacturing. These reasons have been echoed across the globe, as highlighted in the studies by Langley and Capgemin (2016), Solakivi et al. (2011) and Waugh and Luke (2011).

The process followed in logistics outsourcing is critical in selecting the *right* LSP that can help the SMEs achieve the objectives of outsourcing. As highlighted in the previous section, SMEs could be using *ad hoc* methods when implementing logistics outsourcing strategy. To achieve improved SME performance through logistics outsourcing, a logistics outsourcing model is proposed at the end of this section.

TABLE 4: Significance of path coefficients.

Hypotheses	Path coefficients	*t*-statistics (|O/STDEV|)	Accept or reject
H_1: Logistics outsourcing has a positive effect on firm performance.	0.037	0.440	Reject
H_2: Logistics outsourcing has a positive effect on logistics performance.	0.109	1.605	Reject
H_3: Logistics outsourcing has a positive effect on logistics outsourcing performance.	0.378**	6.500	Accept
H_4: Logistics outsourcing performance has a positive effect on logistics performance.	0.403**	5.217	Accept
H_5: Logistics outsourcing performance has a positive effect on firm performance.	0.215**	2.749	Accept
H_6: Logistics performance has a positive effect on firm performance.	0.387**	5.219	Accept
H_7: Logistics outsourcing performance mediates the relationship between logistics outsourcing and firm performance.	-	2.889*	Accept
H_8: Logistics performance mediates the relationship between logistics outsourcing and firm performance.	-	0.789	Reject

*, Statistically significant (*t*-statistics > 1.96) at 95% confidence interval; **, statistically significant at 95% confidence level.

Effect of logistics outsourcing on firm performance

The direct relationship between logistics outsourcing and firm performance was positive, as predicted, but not statistically significant. This finding provided an empirical validation of the results reported in the studies by Chatzoglou and Sarigiannidis (2009) and Hsiao et al. (2011) studies, which found no statistically significant relationship between logistics outsourcing and performance. Similarly, it partly supported the Cho et al.'s (2008) study, which found no statistically significant effect of logistics outsourcing on firm performance. This result suggests that logistics outsourcing benefits relating to performance of manufacturing SMEs are not straightforward as earlier expected, but might be dependent on factors other than just outsourcing, as also argued by Solakivi et al. (2011). The finding might also imply that the manufacturing SMEs in Nairobi outsourced their logistics for reasons other than just to improve their performance. Some of the reasons were identified as a lack of in-house capabilities, to reduce logistics costs, an aversion to risk and a desire to free management time to focus on core activities. Finally, logistics outsourcing could be used as a long-term restructuring strategy by the SMEs and not just to achieve financial and customer satisfaction goals, because the majority of the SMEs had <5 years' experience with logistics outsourcing. Thus, it is likely that this strategy would yield performance-related benefits into the future (Zailani et al. 2017).

Mediating effect of logistics outsourcing performance

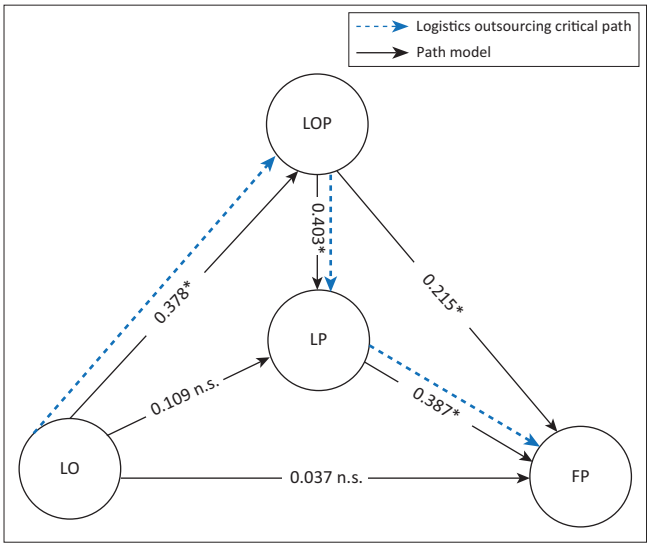
Logistics outsourcing performance as a mediating variable provides a deep understanding and a clear explanation of how logistics outsourcing influences firm performance (Baron & Kenny 1986; MacKinnon & Fairchild 2009). This study revealed that LO has a statistically significant positive indirect effect on FP through LOP as a mediating variable. As highlighted earlier, communication, trust, cooperation and innovation were identified as measures of logistics outsourcing performance. Thus, manufacturing SMEs practicing logistics outsourcing should focus on the quality of communication, building high trust levels, nurturing close cooperation with 3PLs and aiding 3PLs to enhance their innovative capabilities to improve performance. The positive indirect effect of logistics outsourcing on firm performance validates the results in the Hsiao et al.'s (2011) study. The indirect effect also validates partly the finding in the Solakivi, Töyli and Ojala (2013) study, which argued that upon logistics outsourcing, cooperation between SMEs and 3PLs results in customer satisfaction. Similarly, the result also supported the findings of the Lin, Pekkarinen and Ma (2015) study which highlighted close cooperation between manufacturer and 3PL as an important factor through which logistics outsourcing can positively influence enterprise performance. This is because cooperation promotes good communication, the building of trust and innovation, thus making it easier for the enterprise to understand how the services offered by a 3PL can influence its performance and make suggestions on any modifications required to achieve the expected results (Lin et al. 2015).

This finding could imply further that the maintenance of good communication, high trust levels, close cooperation and 3PL innovation reduce contract management costs and other relationship costs, making it possible for the SMEs to reap the benefits of logistics outsourcing, such as reduced logistics operations and fixed costs.

Proposed logistics outsourcing model

Some of the manufacturing SMEs in this study had a formalised process of logistics outsourcing, although not designed to result in improved performance. In addition, it is established in this study that LO has an indirect influence on FP via LOP. To achieve tangible benefits to SMEs based on these findings, there is need to develop a logistics outsourcing model to guide the LO process among SMEs to achieve improved performance. Hitherto, SMEs do acquire expert LSPs' capabilities to reduce costs and risks and to focus on core business in line with the RBV and TCE theories. Therefore, applying the findings of this study, a logistics outsourcing model is deduced along the critical path LO–LOP–LP–FP (Figure 3). The selected path has the highest statistically significant path coefficients, depicting a strong relationship (see Figure 3).

SMEs expecting to apply the proposed logistics outsourcing model are expected to do it through a rigorous process. Steps antecedent to the application of the proposed logistics model include the following: (1) a thorough information search to identify the reasons for outsourcing; (2) select the *right* activity to outsource to achieve objective in (1); (3) the *right* LSP that will better perform the activity selected in (2). Upon selecting an LSP, the proposed model is applied by (4), negotiating a favourable contract with the selected LSP. The contract should promote LOP attributes (i.e. quality communication, building high trust levels, nurturing a close cooperative relationship with the LSPs and enhancing innovative capabilities of the selected LSPs). High LOP would ensure that (5) LP goals such as cost reduction, risk reduction, meeting of delivery times, the provision of quality goods and the seamless flow of goods are achieved. The achievement of LP goals could lead to better (6) FP in terms of improved profitability, customer satisfaction, return on capital employed, ROA, and increased sales and market share. Thus, manufacturing SMEs could focus on the path LO–LOP–LP–FP when practicing LO to improve performance, as illustrated in Figure 2. This path was selected because it had the highest path coefficients, signifying the strongest significant relationship paths in the model. It requires that upon logistics outsourcing, SMEs should focus on logistics outsourcing performance to improve logistics performance. Improved logistics performance might result in improved firm performance (Zailani et al. 2017). The deduced process upon applying the logistics outsourcing model is summarised, as illustrated in Table 5.



Note: The arrows indicate direction of construct relationship; the figures on the arrows indicate the path coefficients.

LO, logistics outsourcing; LOP, logistics outsourcing performance; LP, logistics performance; FP, firm performance; n.s., not statistically significant ($p > 0.05$).

*, statistically significant ($p < 0.05$).

FIGURE 3: Logistics outsourcing critical path model for small and medium-sized enterprises.

Conclusion

Manufacturing SMEs in Nairobi might be practising logistics outsourcing to achieve benefits beyond firm performance, for instance, to acquire logistics capabilities that they lack in-house, to share logistics-related risk and a desire to free management time to focus on core activities. However, manufacturing SMEs that endeavour to practise logistics outsourcing to improve their performance should promote high logistics outsourcing performance by fostering quality communication with the selected 3PL, build high trust levels, maintain a close cooperative relationship with selected 3PL and enhance the innovative capabilities of the selected 3PL. Thus, logistics outsourcing has an indirect positive effect on the performance of manufacturing SMEs through logistics outsourcing performance. These findings make important theoretical implications by applying the RBV and TCE theories in studying the relationship between logistics outsourcing and firm performance among SMEs. The findings also extend SME literature by providing a logistics outsourcing model to guide SMEs' outsourcing to improve performance. The study recommends that SME managers follow the one-path model deduced to achieve improved performance. This can be achieved by conducting a thorough information search to

TABLE 5: Deduced process of logistics outsourcing.

Steps	Activity	Explanation
1	Motivation	Information search to identify reasons for outsourcing
2	Select activity	Select the *right* logistics activity or activities to outsource to better achieve the motivation
3	Select LSP	Select the *right* LSP that will better perform the activity selected in (2)
4	Contracting	Negotiate a favourable ('win–win') contract with the selected LSP. Contract to promote LOP attributes (i.e. quality communication, trust, cooperation and innovation)
5	Evaluate logistics performance	Logistics performance evaluation based on cost reduction, risk reduction, delivery times, quality goods and the seamless flow of goods
6	Evaluate firm performance	Evaluate impact of LO on FP (profitability, customer satisfaction, return on capital employed, return on assets and market share)

LO, logistics outsourcing; LOP, logistics outsourcing performance; FP, firm performance; LSP, logistics service provider.

identify the need and then select the right activity and the right 3PL service provider. Once a 3PL is selected, a contract should be entered that promotes logistics outsourcing performance attributes. High logistics outsourcing performance ensures high logistics performance goals are achieved. The achievement of logistics performance goals will lead to better firm performance.

The findings presented in this research are limited to manufacturing SMEs in Nairobi. Future research should expand the study to other contexts, such as the whole country or region, and test the model. This study tested the relationship between logistics outsourcing and firm performance through logistics outsourcing performance and logistics performance as mediating variables. Future studies can test this relationship via different mediator or moderator variables. The findings presented relied on cross-sectional data. Longitudinal studies in future will provide better understanding of the tested model.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Authors' contributions

G.P., R.L. and J.M. collaborated in the conception and design of the research. J.M. collected, analysed and interpreted the data and drafted the manuscript. R.L. and G.P. critically revised the manuscript and approved the final version to be published.

References

Armstrong, S.J. & Overton, S.T., 1977, 'Estimating nonresponse bias in mail surveys', *Journal of Marketing Research* 14, 396–402. https://doi.org/10.2307/3150783

Baron, R.M. & Kenny, D.A., 1986, 'The moderator-mediator variable distinction in social psychological research', *Journal of Personality and Social Psychology* 51(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Bolumole, Y.A., Frankel, R. & Naslund, D., 2007, 'Developing a theoretical framework for logistics outsourcing', *Transportation Journal* 46(2), 35–54.

Bowen, M., Morara, M. & Mureithi, S., 2009, 'Management of business challenges among small and micro enterprises in Nairobi-Kenya', *KCA Journal of Business Management* 2(1), 16–23. https://doi.org/10.4314/kjbm.v2i1.44408

Buculescu, M.M., 2013, 'Harmonization process in defining small and medium-sized enterprises. Arguments for a quantitative definition versus a qualitative one', *Theoretical and Applied Economics* 20(9), 103–114.

Chatzoglou, P.D. & Sarigiannidis, L., 2009, 'Business outsourcing and organisational performance: The case of the Greek hotel industry', *International Journal of Services Technology and Management* 11(2), 105–127. https://doi.org/10.1504/IJSTM.2009.022520

Chege, J., Ngui, D. & Kimuyu, P., 2016, *Scoping paper on Kenyan manufacturing. Learning to compete,* working paper No.25. Brookings Institution, viewed 19 September 2016, from https://www.brookings.edu/wp-content/uploads/2016/07/L2C_WP25-1.pdf

Chen, J., 2006, 'Development of Chinese small and medium-sized enterprises', *Journal of Small Business and Enterprise Development* 13(2), 140–147. https://doi.org/10.1108/14626000610665854

Chew, R. & Chew, S.B., 2008, 'A study of SMEs in Singapore', *Journal of Enterprising Communities: People and Places in the Global Economy* 2(4), 332–347. https://doi.org/10.1108/17506200810913908

Chin, W., 1998, 'The partial least squares approach to structural equation modelling', in G.A. Marcoulides (ed.), *Modern methods for business research*, pp. 295–358, Lawrence Erlbaum Associates, Mahwah NJ.

Cho Joong-Kun, J., Ozment, J. & Sink, H., 2008, 'Logistics capability, logistics outsourcing and firm performance of small electronic appliances manufacturers', *Computers and Industrial Engineering* 38(5), 336–359.

Cohen, J., 1988, *Statistical power analysis for the behavioral sciences*, 2nd edn., Lawrence Erlbaum Ass., Hillsdale, NJ.

Creswell, J.W., 2014, *Research design: Qualitative, quantitative and mixed methods approaches*, 4th edn., Sage, Thousand Oaks, CA.

Creswell, J.W. & Clark, V.L.P., 2007, *Designing and conducting mixed methods research*, Sage, Thousand Oaks, CA.

Creswell, J. & Clark, V.L.P., 2011, *Designing and conducting mixed methods research*, Sage, Thousand Oaks, CA.

Das, K., 2008, 'SMEs in India: Issues and possibilities in times of globalisation', in H. Lim (ed.), *SME in Asia and globalization, ERIA Research Project Report 2007–5*, pp. 69–97, viewed 27 April 2018, from http://www.eria.org/SMEs%20in%20India_Issues%20and%20Possibilities%20in%20Times%20of%20Globalisation.pdf

Davcik, S.N., 2014, 'The use and misuse of structural equation modeling in management research: A review and critique', *Journal of Advances in Management Research* 11(1), 47–81. https://doi.org/10.1108/JAMR-07-2013-0043

Deepen, J.M., Goldsby, T.J., Knemeyer, A.M. & Wallenburg, C.M., 2008, 'Beyond expectations: An examination of logistics outsourcing goal achievement and goal exceedance', *Journal of Business Logistics* 29(2), 75–105. https://doi.org/10.1002/j.2158-1592.2008.tb00088.x

Fawcett, S.E., Magnan, G.M. & McCarter, M.W., 2008, 'Benefits, barriers, and bridges to effective supply chain management', *Supply Chain Management: An International Journal* 13(1), 35–48. https://doi.org/10.1108/13598540810850300

Gill, A. & Biger, N., 2012, 'Barriers to small business growth in Canada', *Journal of Small Business and Enterprise Development* 19(4), 656–668. https://doi.org/10.1108/14626001211277451

Government of Kenya, 2007, *Kenya Vision 2030*, Government Printer, Nairobi.

Government of Kenya, 2012, *Small and Micro-Enterprises Act*, Government Printer, Nairobi.

Green, K.W., Whitten, D. & Inman, R.A., 2008, 'The impact of logistics performance on organizational performance in a supply chain context', *Supply Chain Management: An International Journal* 13(4), 317–327. https://doi.org/10.1108/13598540810882206

Hair, J.F., Hult, G.T.M., Ringle, C. & Sarstedt, M., 2014, *A primer on partial least squares structural equation modeling (PLS-SEM)*, Sage, Thousand Oaks, CA.

Halldorsson, A., Kotzab, H., Mikkola, J. & Skjøtt- Larsen, T., 2007, 'Complementary theories to supply chain management', *Supply Chain Management: An International Journal* 12(4), 284–296. https://doi.org/10.1108/13598540710759808

Hsiao, H.I., Kemp, R.G., Van der Vorst, J.G. & Omta, S.W.F., 2011, 'Logistics outsourcing by Taiwanese and Dutch food processing industries', *British Food Journal* 113(4), 550–576. https://doi.org/10.1108/00070701111124014

Hsiao, H.I., Van der Vorst, J.G.A.J., Kemp, R.G.M. & Omta, S.W.F., 2010, 'Developing a decision-making framework for levels of logistics outsourcing in food supply chain networks', *International Journal of Physical Distribution & Logistics Management* 40(5), 395–414. https://doi.org/10.1108/09600031011052840

Huo, B., Ye, Y. & Zhao, X., 2015, 'The impacts of trust and contracts on opportunism in the 3PL industry: The moderating role of demand uncertainty', *International Journal of Production Economics* 170, 160–170. https://doi.org/10.1016/j.ijpe.2015.09.018

Jogulu, U.D. & Pansiri, J., 2011, 'Mixed methods. A research design for management doctoral dissertations', *Management Research Review* 34(6), 687–701. https://doi.org/10.1108/01409171111136211

Karikomi, S., 1998, *The development strategy for SMEs in Malaysia*, viewed 27 April 2018, from http://www.ide.go.jp/library/English/Publish/Download/Apec/pdf/1997_11.pdf

Kasie, F.M. & Belay, A.M., 2013, 'The impact of multi-criteria performance measurement on business performance improvement', *Journal of Industrial Engineering and Management* 6(2), 595. https://doi.org/10.3926/jiem.489

Kenya National Bureau of Statistics, 2016, *Micro, small and medium establishment (MSME) survey*, viewed 27 April 2018, from https://www.knbs.or.ke/download/2016-msme-basic-report/

Kimuyu, P., 2010, 'Do small firms in developing countries ever transform?', *Regional Development Studies* 14, 11–28.

König, A. & Spinler, S., 2016, 'The effect of logistics outsourcing on the supply chain vulnerability of shippers: Development of a conceptual risk management framework', *The International Journal of Logistics Management* 27(1), 122–141. https://doi.org/10.1108/IJLM-03-2014-0043

Kotabe, M. & Mol, M.J., 2009, 'Outsourcing and financial performance: A negative curvilinear effect', *Journal of Purchasing and Supply Management* 15(4), 205–213. https://doi.org/10.1016/j.pursup.2009.04.001

Križman, A. & Ogorelc, A., 2010, 'Impact of disturbing factors on cooperation in logistics outsourcing performance: The empirical model', *PROMET-Traffic &Transportation* 22(3), 209–218. https://doi.org/10.7307/ptt.v22i3.277

Krosnick, J.A. & Presser, S., 2010, 'Question and questionnaire design', in *Handbook of survey research*, pp. 263–313, 2nd edn., Emerald, viewed 27 April 2018, from https://studysites.sagepub.com/kumar4e/study/Chapter%209/Questionnaires.pdf

Lahiri, S., 2015, 'Does outsourcing really improve firm performance? Empirical evidence and research agenda', *International Journal of Management Reviews* 00, 1–35.

Langley, J. & Capgemini, 2016, *2017 third-party logistics study – The state of logistics outsourcing results and findings of the 21st annual study*, viewed 05 October 2016, from http://www.3plstudy.com/media/downloads/2016/09/2017-report.pdf

Langley, J. & Capgemini, 2017, *2018 third-party logistics study - the state of logistics outsourcing, results and findings of the 22nd annual study*, viewed 27 April 2018, from http://www.3plstudy.com/3pl2018download.php

Lee, C.C., Lin, T.T. & Cheng, P.C., 2013, 'The determinants of the transportation outsourcing strategy for the express delivery company', *Service Business* 7(2), 207–225. https://doi.org/10.1007/s11628-012-0151-0

Leuschner, R., Carter, R.C., Goldsby, J.T. & Rogers, S.Z., 2014, 'Third-party logistics: A meta-analytic review and investigation of its impact on performance', *Journal of Supply Chain Management* 50(1), 21–43. https://doi.org/10.1111/jscm.12046

Lieb, R.C. & Randall, H.L., 1996, 'A comparison of the use of third-party logistics services by large American manufacturers 1991, 1994 and 1995', *Journal of Business Logistics* 17(1), 305–320.

Lin, Y., Pekkarinen, S. & Ma, S., 2015, 'Service-dominant logic for managing the logistics-manufacturing interface: A case study', *The International Journal of Logistics Management* 26(1), 195–214. https://doi.org/10.1108/IJLM-08-2013-0095

Liu, C., Huo, B., Liu, S. & Zhao, X., 2015, 'Effect of information sharing and process coordination on logistics outsourcing', *Industrial Management & Data Systems* 115(1), 41–63. https://doi.org/10.1108/IMDS-08-2014-0233

MacKinnon, D.P. & Fairchild, A.J., 2009, 'Current directions in mediation analysis', *Current Directions in Psychological Science* 18(1), 16–20. https://doi.org/10.1111/j.1467-8721.2009.01598.x

Marchand, M. & Raymond, L., 2008, 'Researching performance measurement systems: An information systems perspective', *International Journal of Operations & Production Management* 28(7), 663–686. https://doi.org/10.1108/01443570810881802

Murphy, P.J., Wu, Z., Welsch, H., Heiser, D.R., Young, S.T. & Jiang, B., 2012, 'Small firm entrepreneurial outsourcing: Traditional problems, nontraditional solutions', *Strategic Outsourcing: An International Journal* 5(3), 248–275. https://doi.org/10.1108/17538291211291774

Nasr, S. & Rostom, A., 2013, *SME contributions to employment, job creation, and growth in the Arab world*, Policy Research working paper; no. WPS 6682, viewed 25 September 2016, from http://documents.worldbank.org/curated/en/301631468278944687/SME-contributions-to-employment-job-creation-and-growth-in-the-Arab-world

Oshri, I., Kotlarsky, J. & Gerbasi, A., 2015, 'Strategic innovation through outsourcing: The role of relational and contractual governance', *The Journal of Strategic Information Systems* 24(3), 203–216. https://doi.org/10.1016/j.jsis.2015.08.001

Pallant, J., 2010, *SPSS survival manual: A step by step guide to data analysis using SPSS*, 4th edn., McGraw-Hill Education, New York.

Papadavid, P., 2016, *The role of finance in Kenyan manufacturing. A scoping paper*, viewed 25 April 2018, from https://set.odi.org/wp-content/uploads/2016/09/The-Role-of-Finance-in-Kenyan-Manufacturing-Phyllis-Papadavid.pdf

Parashkevova, L., 2007, 'Logistics outsourcing – A means of assuring the competitive advantage for an organization', *Vadyba/Management* 2(15), 29–38.

Pratap, S., 2014, 'Towards a framework for performing outsourcing capability', *Strategic Outsourcing: An International Journal* 7(3), 226–252. https://doi.org/10.1108/SO-04-2014-0004

Quang, H.T., Sampaio, P., Carvalho, M.S., Fernandes, A.C., Binh An, D.T. & Vilhenac, E., 2016, 'An extensive structural model of supply chain quality management and firm performance', *International Journal of Quality & Reliability Management* 33(4), 444–464. https://doi.org/10.1108/IJQRM-11-2014-0188

Rahman, S. & Wu, J., 2011, 'Logistics outsourcing in China: The manufacturer-cum-supplier perspective', *Supply Chain Management: An International Journal* 16(6), 462–473. https://doi.org/10.1108/13598541111171156

Raymond, L., Marchand, M., St-Pierre, J., Cadieux, L. & Labelle, F., 2013, 'Dimensions of small business performance from the owner-manager's perspective: A re-conceptualization and empirical validation', *Entrepreneurship & Regional Development* 25(5–6), 468–499. https://doi.org/10.1080/08985626.2013.782344

Richter, N.F., Sinkovics, R.R., Ringle, C.M. & Schlägel, C., 2016, 'A critical look at the use of SEM in international business research', *International Marketing Review* 33(3), 376–404. https://doi.org/10.1108/IMR-04-2014-0148

Ringle, C.M., Wende, S. & Becker, J.-M., 2015, *SmartPLS 3*, SmartPLS GmbH, Bönningstedt.

Saunders, N.K.M., Lewis, P. & Thornhill, A., 2016, *Research Methods for Business Students*, 7th edn., Pearson Educational Publishers, Harlow, England.

Soinio, J., Tanskanen, K. & Finne, M., 2012, 'How logistics-service providers can develop value-added services for SMEs: A dyadic perspective', *International Journal of Logistics Management* 23(1), 31–49. https://doi.org/10.1108/09574091211226911

Solakivi, T., Töyli, J., Engblom, J. & Ojala, L., 2011, 'Logistics outsourcing and company performance of SMEs: Evidence from 223 firms operating in Finland', *Strategic Outsourcing: An International Journal* 4(2), 131–151. https://doi.org/10.1108/17538291111147982

Solakivi, T., Töyli, J. & Ojala, L., 2013, 'Logistics outsourcing, its motives and the level of logistics costs in manufacturing and trading companies operating in Finland', *Production Planning & Control* 24(4–5), 388–398. https://doi.org/10.1080/09537287.2011.648490

Sonobe, T., Akoten, J.E. & Otsuka, K., 2011, 'The growth process of informal enterprises in Sub-Saharan Africa: A case study of a metalworking cluster in Nairobi', *Small Business Economics* 36(3), 323–335. https://doi.org/10.1007/s11187-009-9222-6

Sople, V.V., 2012, *Logistics management: The supply chain imperative*, 3rd edn., Dorling Kindersley, Pearson, India.

Takkashori, A. & Teddlie, C. (eds.), 2010, *Mixed methods in social & behavioral research*, Sage, Thousand Oaks, CA.

Töyli, J., Häkkinen, L., Ojala, L. & Naula, T., 2008, 'Logistics and financial performance: An analysis of 424 Finnish small and medium-sized enterprises', *International Journal of Physical Distribution & Logistics Management* 38(1), 57–80. https://doi.org/10.1108/09600030810857210

Tseng, P. & Liao, C., 2015, 'Supply chain integration, information technology, market orientation and firm performance in container shipping firms', *The International Journal of Logistics Management* 26(1), 82–106. https://doi.org/10.1108/IJLM-09-2012-0088

Van Laarhoven, P., Berglund, M. & Peters, M., 2000, 'Third-party logistics in Europe – Five years later', *International Journal of Physical Distribution & Logistics Management* 30(5), 425–442. https://doi.org/10.1108/09600030010336216

Wagner, S. & Franklin, J., 2008, 'Why LSPs don't leverage innovations', *Supply Chain Quarterly* 2(4), 66–71.

Waugh, B. & Luke R., 2011, 'Logistics outsourcing by manufacturers in South Africa', *Journal of Transport and Supply Chain Management* 5(1), 337–360. https://doi.org/10.4102/jtscm.v5i1.81

Were, A., 2016, *Manufacturing in Kenya: Features, challenges and opportunities. A scoping exercise*, viewed 25 April 2018, from https://set.odi.org/wp-content/uploads/2016/09/Manufacturing-in-Kenya-Anzetse-Were.pdf

Wong, C.Y. & Karia, N., 2010, 'Explaining the competitive advantage of logistics service providers: A resource-based view approach', *International Journal of Production Economics* 128(1), 51–67. https://doi.org/10.1016/j.ijpe.2009.08.026

Yang, C.C., Marlow, P.B. & Lu, C.S., 2009, 'Assessing resource, logistics service capabilities, innovation capabilities and the performance of container shipping services in Taiwan', *International Journal of Production Economics* 122(1), 4–20. https://doi.org/10.1016/j.ijpe.2009.03.016

Zailani, S., Shaharudin, M.R., Razmi, K. & Iranmanesh, M., 2017, 'Influential factors and performance of logistics outsourcing practices: An evidence of Malaysian companies', *Review of Managerial Science* 11(1), 53–93. https://doi.org/10.1007/s11846-015-0180-x

Internships enhancing entrepreneurial intent and self-efficacy: Investigating tertiary-level entrepreneurship education programmes

Authors:
Melodi Botha[1]
Alex Bignotti[1]

Affiliations:
[1]Department of Business Management, University of Pretoria, South Africa

Corresponding author:
Alex Bignotti,
alex.bignotti@up.ac.za

Background: Entrepreneurship education interventions are deemed effective when they enhance interns' entrepreneurial intent (EI) and entrepreneurial self-efficacy (ESE). Notwithstanding the emergence of internship as an experiential learning approach in entrepreneurship education, evidence about their potential to foster EI and ESE lacks systemisation.

Aim: The aim of this study was to determine whether internships enhance EI and ESE. Furthermore, to what extent South African tertiary institutions include internships in their entrepreneurship and management curricula and the obstacles to such inclusion.

Setting: South Africa has made a concerted effort to insert an entrepreneurship component across tertiary curricula. The evolution of this entrepreneurship component to experiential learning approaches is, however, unclear.

Methods: A qualitative research approach was followed. Firstly, it reviewed empirical evidence for the positive relationship between internships and EI and ESE. Secondly, it conducted a survey of entrepreneurship and business management programmes at all 23 South African tertiary institutions and content analysed the retrieved information to determine whether such programmes include internships. Finally, 10 experts were interviewed to unveil the constraints inhibiting the inclusion of internships in tertiary curricula.

Results: The results revealed empirical support for the positive influence of internships on both EI and ESE. Significant lack of inclusion of internships in tertiary curricula in South Africa emerged, owing mainly to administrative issues, curriculum re-design challenges, and lack of mentoring capacity.

Conclusion: Tertiary-level entrepreneurship education programmes should include an internship component. The paper suggested that tertiary institutions pilot-test the inclusion of internships with a small number of students and a selected cohort of small business owners.

Introduction

The impact of entrepreneurs, entrepreneurship and small business on economic growth and development is well researched and documented (Kibassa 2012:158; Mlatsheni & Leibbrandt 2011:120; Thurik *et al.* 2008:673). For the economic potential of entrepreneurship to materialise, however, entrepreneurship has to be encouraged, by motivating individuals to become entrepreneurs and equipping them with the right skills to turn ideas into opportunities, and opportunities into successful ventures (Peltier & Scovotti 2010:515; Volery *et al.* 2013:429). Fostering of entrepreneurship has therefore become an accepted wisdom in both economic management and government resolutions (Peltier & Scovotti 2010:514; Vanevenhoven & Liguori 2013:316).

Research has shown that universities play an important role in fostering entrepreneurship (Viviers, Solomon & Venter 2013:2). Education is essential, not only to shape the mindsets of the youth but also to provide the skills and knowledge that are central to developing an entrepreneurial culture. A central premise of these statements is that entrepreneurship is not an innate characteristic but a phenomenon. Experience and the influence of teachers, parents, mentors and role models all play a role in shaping the development of entrepreneurs (Peltier & Scovotti 2010:515; Volery *et al.* 2013:429).

Vanevenhoven and Liguori (2013:316) emphasise that individuals should be exposed to entrepreneurship education. These scholars found evidence across 70 countries that

entrepreneurship graduates have significantly higher degrees of entrepreneurial motivation than non-entrepreneurship graduates (Vanevenhoven & Liguori 2013:322).

The turbulent environment in which small businesses and entrepreneurs operate, however, requires universities to find hands-on, or experiential, learning approaches to prepare the entrepreneurs of the future (Nabi, Walmsley & Holden 2013:1–2). Experiential learning is the process whereby knowledge is created through the acquisition and adaptation of experience: thus knowledge that results from the combination of acquiring and transforming experience (Radu Lefebvre & Redien-Collot 2013:370). There has been increasing consideration of new approaches to curriculum pedagogy in universities, particularly in the form of work-integrated learning opportunities that aim to incorporate the workplace setting as a component of higher education (Alpert, Heaney & Kuhn 2009:36; Anderson *et al.* 2012; Wan *et al.* 2013).

Alpert *et al.* (2009:37) highlight the fact that internships provide an experience of 'learning by doing' in a real business situation, but with guidance and support. Students with internship experience gain career advantages in the form of more job offers, less time spent looking for the right job after graduation and increased monetary compensation (Gault, Leach & Duey 2010:85). Universities and colleges have been using internships as a means of providing business students with practical experience and preparing them for their future careers (Moghaddam 2011:287; Viviers *et al.* 2013:2). However, there seems to be a lack of South African tertiary institutions providing internships to their entrepreneurship students.

Despite the growing interest in internships by businesses, government and universities, limited scholarly research has been dedicated to the subject of internships in the entrepreneurship field (Alpert *et al*. 2009:37; Peltier & Scovotti 2010:515). Conversely, a considerable number of studies have been conducted on what predicts entrepreneurial behaviour. In this research stream, there is widespread consensus that the construct of entrepreneurial intent (EI) is one of the best predictors of entrepreneurial behaviour (Ajzen 1991:181; Davidsson 1995:2; Krueger & Carsrud 1993:196). A branch of this research stream has also investigated the antecedents, or triggering factors, of EI. Entrepreneurial self-efficacy (ESE), understood as the belief individuals have in their capabilities to perform entrepreneurial tasks and activities (Hmieleski & Corbett 2008:486), has consistently been found to be an antecedent of EI (Kickul *et al.* 2008:329; Wilson, Kickul & Marlino 2007:397). ESE may also mediate the relationship between other antecedent variables and EI (Zhao, Seibert & Hills 2005:1270), and at the same time act as a moderator of these relationships (BarNir, Watson & Hutchins 2011:287; Prabhu *et al.* 2012:573).

The research problem

There is consensus that entrepreneurially inclined individuals are more likely to start a business and that ESE further contributes to the formation of EI (Fayolle & Liñán 2014:665; Kautonen, Van Gelderen & Fink 2013:668; Sequeira, Mueller & Mcgee 2007:288). Devising more effective entrepreneurship educational programmes requires a better understanding of the dynamics behind business start-up decisions (Liñán, Rodríguez-Cohard & Rueda-Cantuche 2011:196). Given that the focus in entrepreneurship education is shifting towards experiential learning methods such as internships (Fayolle 2013:696), the question arises of whether or not internships enhance EI and ESE. To date, studies examining internships as antecedents of EI and ESE have been scarce in number and conducted in isolation. Taking the EI and ESE literature as point of departure, it is postulated that if internships do not increase the level of EI and ESE in individuals, then internship-based entrepreneurship education programmes have not been effective. In this paper, entrepreneurship education is broadly defined to include both education and training, which deal with knowledge transfer and skills transfer, respectively.

The aim of this paper is to conduct qualitative research by examining the empirical literature on whether or not internships enhance interns' levels of EI and ESE. In order to ground the present study in a South African context, it also conducts a survey approach whereby the information on university-level programmes in South Africa is content analysed. This is done to identify which tertiary institutions offer internships as part of their entrepreneurship and business management programmes. (In this paper, 'tertiary institutions' in South Africa are narrowly defined as South African universities and universities of technology or Technikons). The consideration of both entrepreneurship and business management programmes was dictated by the awareness that entrepreneurship education can also be offered as part of a business management programme (Martínez *et al.* 2010:23). Since very few entrepreneurship and business management education programmes at tertiary-level in South Africa include an internship component, this paper contributes to entrepreneurship education practice by highlighting the role of internships in fostering EI and ESE, based on the empirical findings of previous studies. Reasons for the exclusion of internships are highlighted and possible solutions are presented.

This paper sets off by providing a brief overview of the supporting literature and then formulates research propositions. Thereafter, the research methodology is described and the empirical findings presented. The findings and their implications are discussed. Lastly, the limitations of the study are presented and recommendations for future research are highlighted.

Literature review

Experiential learning in entrepreneurship education

Notwithstanding the novelty that entrepreneurship represents in the sphere of higher education, it is one of the fastest growing tertiary-education fields, with the number of entrepreneurship degrees and courses multiplying every

year (Peltier & Scovotti 2010:515). Recently, providing entrepreneurship education and enhancing interest in and understanding of small businesses have been of increasing interest in higher education (Varghese *et al.* 2012:358). Previous studies have examined factors influencing EI, which include intrinsic personality traits, perceived barriers and support, and the socio-political-economic context of entrepreneurship (Fayolle, Gailly & Lassas-Clerc 2006:702).

In the entrepreneurship education field, the belief that traditional classroom-based teaching methods are inadequate to equip students with the necessary tools and skills to start and run their own business ventures is gaining increasing consensus (Varghese *et al.* 2012:361). As a consequence, traditional teaching methods must be complemented by innovative ways of thinking, diverse skills and new modes of behaviour to develop fully entrepreneurial approaches to education (Alpert *et al.* 2009:36; Peltier & Scovotti 2010:515; Zhao 2013:444). Conversely, some studies have observed that experiential internship programmes can have an effect on students' understanding, attitudes, perceptions, and intentions with regard to entrepreneurship and small businesses (Varghese *et al*. 2012:358; Volery *et al.* 2013:431).

From the above discussion, it is evident that traditional teaching methods are not adequate in fostering students' entrepreneurial behaviour. Entrepreneurship education specifically necessitates collaboration between traditional and new innovative approaches to education, one of which is the experiential element offered by internships.

Internships as a form of experiential learning

Much has been written about the value of experiential learning (Martínez *et al.* 2010:11; Mason & Arshed 2013:457). Experiential learning theory posits that effective learning occurs when students are actively involved with an experience and then reflect on that experience. The activities involved in experiential learning help students integrate theory and real-world practice (Peltier & Scovotti 2010:515; Pittaway *et al.* 2011:48).

An internship, as mentioned before, is a form of experiential learning. An internship may be defined broadly as a temporary work position with an emphasis on education rather than employment (Weible 2009:59). There are varying definitions of internships (Moghaddam 2011:287; Zhao 2013:445), but they all concur on some core characteristics. For the purposes of this study, an internship is defined as structured and career-relevant work in an external organisation, occurring in a controlled experiential environment, where a student receives academic credit and/or applicable knowledge.

'Learning by doing', 'action learning' and 'gaining experience' are seen to be some of the main benefits that students gain and are often judged by students to be superior forms of learning when compared with traditional forms experienced in the curriculum (Chen & Shen 2012:35; Pittaway *et al.* 2011:53).

According to Alpert *et al*. (2009:37), the many benefits of internships have been well documented in several studies. For students, an internship provides an experience of 'learning by doing' in a real business situation, but with guidance and support. Internships bridge the gap between theory and practice and between classroom education and real-industry life. They provide a more valuable learning experience, enhance the meaning of the academic programme and create feelings of personal and social efficacy (Alpert *et al*. 2009:37; Daugherty 2011:470).

According to Kim and Park (2013:72), an internship can provide participants with the opportunity of learning what the industry offers, which may be different from what they learn in the classroom and can certainly influence a student's career choice in either a positive or negative manner (Chen & Shen 2012:30; Daugherty 2011:470). More specifically, internships in an entrepreneurial venture or small business may foster the intern's decision to pursue an entrepreneurial career. The experience in this type of internship is likely to have a significant impact on whether students decide to join the organisation and if they eventually aim for a career in that direction (Nabi *et al*. 2013:3; Zhao 2013:445).

Entrepreneurial intent and entrepreneurial self-efficacy

The attempt to explain the decision to start a business venture has given rise to a body of research that has investigated the factors triggering this decision. One of the most widely reported factors is the construct of EI.

EI may be defined as a conscious awareness and conviction by individuals that they intend to set up a new business venture and plan to do so in the future (Buelens & Izquierdo 2008:219; James & Bell 2013:96). A great part of the research on EI has been derived from early works in the psychological field that focused on understanding human behaviour, such as Ajzen's (1991) Theory of Planned Behaviour, which advances intention as a robust predictor of behaviour. Early works in the field of entrepreneurship were also grounded in the construct of EI, such as Shapero and Sokol's (1982) Entrepreneurial Event Model, Bird's (1988) EI Model and Boyd and Vozikis' (1994) Model of Entrepreneurial Intentionality, to name a few.

Intention-based models have attracted much attention from researchers, as they offer an opportunity to increase our understanding of and predictive ability for entrepreneurship (James & Bell 2013:96). Studies in the area of student propensity (intentionality) have ranged considerably between narrow personality-trait perspectives to broader perspectives taking into consideration social and environmental influences (De Clercq, Honig & Martin 2012:653–654).

According to Buelens and Izquierdo (2008:219), developing of attitudes and intentions towards entrepreneurship is paramount in business start-up behaviour. Business start-up has been viewed as intentional and as best predicted by EI (Gird & Bagraim 2008:719). Business start-up activities are

not necessarily restricted to one or the other motivational categories but, in their intentionality dimension, constitute a combination of both the push and pull factors. The journey to entrepreneurship is not a function of a single motivating factor but a combination of them (Nabi *et al*. 2013:9). However, there is evidence that entrepreneurial behaviour is preceded by EI, which is influenced by an individual's entrepreneurship education (Sánchez 2013:448).

Within the field of research on university students' business start-up decisions, there is an over-abundance of studies that indicate a relatively high level of EI in the student population. There is still little consensus, however, on how this intention is formed, and research has revealed that different contextual factors may be related to university students' motivation to start their own businesses, such as formal aspects (higher education courses) or informal ones (family and significant others). The aforementioned formal and informal elements are pivotal regarding business start-up, pulling graduates by affording education and support, as well as pushing graduates by forcing them to consider venture creation in the absence of traditional organisational jobs or high graduate unemployment (Nabi *et al*. 2013:8).

James and Bell (2013:99), for instance, found that between 30% and 40% of participants in an entrepreneurship education programme had no desire to start a business immediately after completing the programme, whereas 70% of them wished to start a business within 5 to 10 years after the programme. Similarly, Viviers *et al.* (2013:10) indicate that there is a shift in favour of entrepreneurship as a career choice 5 years after graduation. These findings indicate that individuals undertaking entrepreneurship education develop EI, but they wish to start a business only in the medium term. It can be postulated that between completing the entrepreneurship education course and starting a business they want to gain some experience, knowledge and confidence. As discussed earlier, internships may successfully provide students with this learning experience before they embark on their own business.

In sum, students' EI is linked to their behavioural attitudes (one of which is wanting to gain experience before starting up), and the internship experience could enhance individuals' self-confidence and maturity (Kim & Park 2013:77), fostering students' EI. By doing this, students become more independent, ambitious and focused on becoming entrepreneurs (Daugherty 2011:470; Volery *et al.* 2013:431). These considerations lead to the first proposition.

> **Proposition 1:** Internships as a form of experiential learning enhance students' EI.

A considerable number of studies within the EI literature have investigated the antecedents of EI, or the factors that foster the development of the intention to start a business. The approaches followed by different authors are varied. Some authors have focused on the impact on EI of personal characteristics and contextual factors, such as personal traits (De Pillis & DeWitt 2008), learning orientation and passion for work (De Clercq *et al.* 2012), family business background (Drennan, Kennedy & Redfrow 2005; Zellweger, Sieger & Halter 2011), role models (Van Auken, Fry & Stephens 2006), peer influence (Falck, Heblich & Luedemann 2012) and different types of entrepreneurial or other experiences (Drennan *et al.* 2005; Quan 2012). Other authors (Liñán *et al.* 2011) have based their work on the Theory of Planned Behaviour, also in an educational context (Do Paço *et al.* 2011), and have confirmed the validity of this theory in examining how EI is developed.

One of the most commonly cited antecedents of EI is ESE. Self-efficacy is a construct first devised by Bandura (1977) in the psychological field, and is understood as the strength of people's convictions of their own effectiveness in executing the behaviour required to achieve certain outcomes (Bandura 1977:79). People with a high level of self-efficacy tend to set challenging goals, persist even in the face of failure and approach difficult tasks as challenges to be mastered rather than issues to be avoided (Kibassa 2012:161). In an entrepreneurship context, ESE is defined as the belief individuals have in their capability to perform entrepreneurial tasks and activities (Hmieleski & Corbett 2008:486). Many authors have devoted their research efforts to the investigation of the relationship between EI and ESE (see for example: BarNir *et al.* 2011; Boyd & Vozikis 1994; Kickul *et al.* 2008; Prabhu *et al.* 2012; Wilson *et al.* 2007; Zhao *et al.* 2005), and have found ESE to relate to the development of EI, as well as to function as both mediator and moderator of the effect of other variables on EI. Individuals with higher ESE are thus expected to have higher EI.

As to the understanding of how ESE is developed, it is worth mentioning that Bandura (1977:80–83) advocates that self-efficacy can be developed through performance accomplishments and vicarious experience, among other factors. The former refers to a person experiencing success in performing certain behaviour, whereas the latter is concerned with a person's observation of other people succeeding at a difficult task. Both factors strengthen self-efficacy by helping individuals to have a stronger belief in their ability to perform certain tasks successfully.

It can be postulated that both performance accomplishments and vicarious experience are enabled by internships, thus allowing for the development of interns' ESE. In fact, internship opportunities, especially in the small or start-up business sector, can benefit students by providing a rich learning experience that models future work environments and allows them to develop valuable skills that will prove beneficial in a variety of professional endeavours (Narayanan, Olk & Fukami 2010:62; Varghese *et al.* 2012:357). Moreover, entrepreneurship internships provide a good opportunity to follow an entrepreneur and learn essential skills in starting and running a new business (Nabi *et al*. 2013:3; Zhao 2013:445). Research has shown that the opportunity to acquire skills and

experience achievement through applied internships reinforces ESE, which in turn influences EI (Narayanan *et al.* 2010:62; Varghese *et al.* 2012:358).

Based on the above discussion, this paper investigates whether internships enhance interns' levels of ESE. This leads to the formulation of the second proposition.

> **Proposition 2:** Internships as a form of experiential learning enhance students' ESE.

The variables included in the present investigation, and the propositions linking internships to EI and ESE, are graphically represented in Figure 1.

The South African government currently spends large sums earmarked for the development of youth entrepreneurship (Herrington & Kew 2014:47). However, the government initiatives put in place since 1994 have not achieved the desired results, partly because of a widespread lack of awareness among the target population of these initiatives (Herrington, Kew & Kew 2015:40). Contextualising the present study in South Africa, and based on the above literature review, it can be postulated that internships should be included in entrepreneurship and business management programmes at South African tertiary institutions, as an experiential learning component of entrepreneurship education at tertiary-level education.

> **Proposition 3:** Internships as a form of experiential learning are included in entrepreneurship and business management programmes of South African tertiary institutions.

The following section describes the research methodology adopted by the present study, whereby information from the South African tertiary institutions was investigated to verify proposition 3.

Methodology

This paper follows a pragmatist philosophical paradigm, as it is concerned with the practicality of internships with a view to enhancing EI and self-efficacy (Saunders & Tosey 2012:58). Although the pragmatic approach is more used in mixed-method research, the researchers have adopted 'the scientific notion that social inquiry was able to access the "truth" about the real-world solely by virtue of a single scientific method' (Mertens 2005:26). The relevance of including internships as a component of entrepreneurship and business management curricula at tertiary institutions is only justified by the verification from experience in research of the value of internships in fostering EI and ESE.

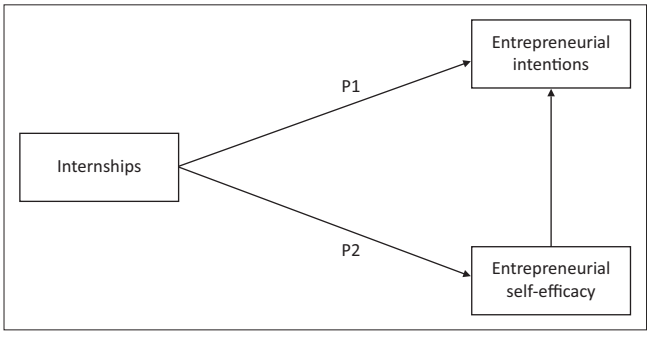


FIGURE 1: Conceptual framework of the relationships between internships, EI and ESE.

In order to verify the above propositions, this paper followed a qualitative research approach, laid out in three consecutive steps. Firstly, it reviewed empirical research to find support for the positive relationship between internships and the constructs EI and ESE, using the major online databases for the discipline of entrepreneurship. Secondly, it carried out a survey of entrepreneurship and business management programmes at South African tertiary institutions, using publicly available information and telephone communication. The retrieved information was then content analysed to determine whether such programmes include internships in their curricula. Finally, 10 experts in the field of entrepreneurship education at tertiary institutions were interviewed in order to understand, (1) the extent to which they were aware of the positive relationship between internships and the development of EI and ESE; (2) why internships were included in tertiary-level entrepreneurship education programmes, or if not, why not and (3) what constraints they perceived to exist that might prevent their including internships in tertiary-level entrepreneurship education programmes.

The review of empirical literature pertaining to the relationships between internships and EI and ESE was conducted through the major online databases for the discipline of entrepreneurship: EBSCOhost, ProQuest, Emerald and Google Scholar. The search was set to find sources dating from 2008 to 2014. The choice of conducting the literature review over the past six-and-a-half years of research was dictated by the decision to situate the present study within the most recent discussions about internships as a form of experiential learning in entrepreneurship education. The keyword combinations used in the search were the following: 'internship' and 'entrepreneurial intent'; 'internship' and 'entrepreneurial self-efficacy'; 'work experience' and 'entrepreneurial intentions'; and 'work experience' and 'entrepreneurial self-efficacy'. In order to limit the search to works pertaining to internships, EI and ESE specifically, while not restricting the search excessively, the search used the above-mentioned keywords in the 'abstract' field. Thereafter, 25 sources were deemed to pertain to the subject matter of investigation and were retrieved for further analysis. Of these, 18 were journal articles, one was a doctoral thesis, two were conference papers and four were working papers. These data were content analysed to identify whether or not they empirically supported the propositions of this paper.

The survey approach entailed a content analysis whereby the entrepreneurship and business management programmes offered at all 23 South African tertiary institutions were investigated. This investigation was performed in order to

identify which tertiary institutions include internships as a component of their entrepreneurship and business management curricula. The data was content analysed to substantiate the relevance of internships for entrepreneurship education practice in South Africa. University-level entrepreneurship and business management programmes up to Master's level were analysed by referring to online web-based programme brochures. When these were insufficient, telephone interviews were conducted. MBA programmes were excluded from the investigation, since they provide education to individuals already in management positions, thus rendering the inclusion of internships redundant.

For the interview part of this study, all 23 South African tertiary institutions were contacted. The researchers requested an interview with the person in charge of entrepreneurship and business management curriculum development, or another expert involved in curriculum design, in order to obtain possible reasons for internships not being included in their curricula at their institutions.

The trustworthiness of the present qualitative research was guaranteed by (1) the use of precise search criteria in the review of empirical literature; and (2) the adoption of a survey approach whereby the data on university degrees was content analysed; namely, the assessment of whether entrepreneurship and business management degrees include internships in their curricula. These procedures minimised the level of researcher bias present in this paper, thus implementing one of the validation strategies used in qualitative research (Creswell 2013:251).

Findings

Review of empirical literature

The review of empirical studies that provide support for the relationship between internships and interns' levels of EI and ESE is summarised in Table 1. Eleven sources of the 25 originally identified were discarded, as further analysis revealed that they did not pertain to the present investigation or had not conducted empirical analyses. This led to 14 studies being included in this investigation, all empirically supporting Proposition 1 and Proposition 2.

As shown in Table 1, out of the 14 studies in support of either or both Proposition 1 and Proposition 2, 13 studies report a positive influence of internships on the development of EI and six studies support the influence of internships on ESE.

Survey and content analysis of entrepreneurship and business management programmes

The survey of the content of entrepreneurship and business management programmes, which used publicly available information and telephone communication, successfully retrieved the content of such programmes for all 23 South African tertiary institutions. A comprehensive reading list of the sources of this survey is available in Appendix 2.

The survey performed a content analysis of the data relating to the internship component of South African tertiary institutions' entrepreneurship and business management programmes. The results of this content analysis are outlined in Appendix 1. The results reveal that Durban University of Technology is the only tertiary institution that has a programme including internships as part of its curriculum.

Interviews with experts in the field of entrepreneurship education

The next step involved interviews (personal, telephonic or via email) with the relevant academics in the field of entrepreneurship at the various tertiary institutions in South Africa. Ten experts in the field of entrepreneurship education at tertiary-level were interviewed; they were affiliated with the following tertiary institutions: Central University of Technology, Stellenbosch University, University of Johannesburg, University of Pretoria, University of the Free State, Vaal University of Technology, and Walter Sisulu University. The experts were identified according to the following process:

- Step 1: All 23 South African universities and universities of technology were considered.
- Step 2: A telephonic and Internet-based search of the lecturers specialising in entrepreneurship at these tertiary institutions was performed, and 109 entrepreneurship educators were listed.
- Step 3: At least three entrepreneurship educators from each tertiary institution were contacted and asked to participate in an interview on the potential of internships in tertiary-level entrepreneurship and business management programmes to foster EI and self-efficacy.
- Step 4: Ten experts agreed to be interviewed.

The interviews covered the following aspects, as previously mentioned: (1) the extent to which they are aware of the positive relationship between internships and the development of EI and ESE; (2) why internships were included in university-level entrepreneurship education programmes, and if not, why not and (3) what constraints they perceived to exist that might prevent their including internships in university-level entrepreneurship education programmes. Academics at the Durban University of Technology were not, however, available for interviews to provide reasons why they are including internships and the advantages of internships for their students.

Eight experts acknowledged that they were aware of the positive role played by internships in fostering interns' EI and ESE.

As for the reasons why internships are not included in entrepreneurship and business management programmes, interviewee D and interviewee F referred to the lack of a sufficiently vast network of businesses in their geographical area to enable the inclusion of internships in their programmes. (Some institutions, despite facing the same

TABLE 1: Literature-based empirical support for propositions.

Author(s)	Purpose of study	Proposition supported	Findings in support
Backes-Gellner & Moog 2008	To study people's EI depending on their composition of human and social capital, based on an extension of the Jack-Of-All-Trades Theory (Lazear 2005).	P1	Internships have a positive impact on EI for individuals who have a balanced set of human and social capital.
Basu & Virick 2008	To explore entrepreneurial intentions and their antecedents among university students, based on the Theory of Planned Behaviour (Ajzen 1991).	P1, P2	Prior experience of starting a business is significantly related to positive attitudes toward an entrepreneurial career [i.e. EI] and greater ESE. This implies that internships in new ventures may contribute to higher degrees of ESE and EI.
Kickul *et al.* 2008	To examine the role of leadership experience, work experience, parental role models and ESE in fostering EI, with the focus on gender differences.	P1, P2	Previous work experience, which may be gained through internships, has a positive direct impact on ESE. It also has a positive influence on EI, mediated by its effect on ESE.
Cruz *et al.* 2009	To assess the effectiveness of educational programmes on innovation and business success aimed at entrepreneurs.	P1	Entrepreneurs with more accumulated work experience show themselves to be more innovative (innovation constituting the essence of entrepreneurship). It is recommended that individuals work in internship positions while studying for a degree.
Lucas *et al.* 2009	To explore the relative influence of a range of experiences in the workplace on university students' entrepreneurial and technology self-efficacy.	P2	Work experience through internships raises students' entrepreneurial and technology self-efficacy, when the internship is in line with students' field of study. Performance feedback is given and students have a high consideration of their performance at work.
Walter & Dohse 2009	To investigate how the effect of entrepreneurship education on EI is (1) contingent on the mode of education (active vs. reflective), (2) contingent on the regional context, and (3) complemented by role models and work experience.	P1	Active modes of education, encompassing business simulations, directly raise students' EI. Work experience, which may be in the form of internships, influences EI through its impact on the Theory of Planned Behaviour variable 'perceived behavioural control'.
Dohse & Walter 2010	To assess the extent to which entrepreneurship education at tertiary-level influences students' EI in three study fields: computer science, electrical engineering, and business.	P1	Entrepreneurship education contributes to motivating students to become entrepreneurs, while internships at start-up firms contribute to students' perceived entrepreneurial competences. Both positively influence students' EI.
Dutta, Li & Merenda 2010	To explore how prospective entrepreneurs benefit from both specialised entrepreneurship education and a diversified educational experience.	P1	Specialised entrepreneurship education, encompassing internships in one or more entrepreneurial ventures, has a positive impact on the likelihood of future venture creation and, thus, on EI.
Keat, Selvarajah & Meyer 2011	To examine the relationship between university students' EI and entrepreneurship education, entrepreneurial internship programmes, role models, family business background and demographic variables.	P1	Students with working experience gained through internships display higher EI.
Maina 2011	To explore the role that colleges can play in enhancing EI among the youth.	P1, P2	College students' previous entrepreneurial experience, through either family business or employment in small-scale businesses (which can be seen as a proxy for internships), positively influences their ESE, which in turn impacts on their EI.
Wang & Verzat 2011	To compare the development of EI between students of two prestigious engineering schools.	P1	Students studying at the tertiary institution whose curriculum included longer internships and international internships had higher levels of EI.
De Grez & Van Lindt 2012	To investigate the impact on ESE and EI of entrepreneurship education that encompasses learning-by-doing.	P1, P2	Learning-by-doing programmes, which include internships as part of experiential learning, successfully raise students' ESE. They also increase EI, but not significantly.
Varghese *et al.* 2012	To study the process of student learning in a small business internship programme.	P1, P2	The internship programme contributed to students' higher ESE and EI. It was also beneficial to students in terms of knowledge acquisition, ability to situate their learning in the business, acquisition of important professional skills and the ability to see how they contributed directly to the company.
Bignotti 2013	To investigate the factors relating to high school students' entrepreneurial-career-choice intention (EI).	P1	The study found that EI is related to a number of factors, including work experience in the family business or in the form of part-time or holiday jobs. It is recommended that students be offered the opportunity to be exposed to work experience, such as that acquired during internships.

EI, entrepreneurial intent; ESE, entrepreneurial self-efficacy.

challenge, have redesigned their programmes to include compulsory 'work-integrated learning', as stated by interviewee C.) Interviewee D also mentioned the administrative challenge of finding internships for a large number of students, while interviewee J admitted the lack of enough knowledge to warrant the inclusion of internships and the management thereof. Additionally, interviewee G and interviewee I mentioned small business owners' lack of time and financial resources as major obstacles. Lack of administrative and other resources is also a constraint, as stated by interviewee H. It appears from the interviews that some universities – such as Stellenbosch University and the University of the Free State – support internships, but on an ad-hoc basis. They encourage students to find internships and they support them in securing these positions. The initiative, however, is taken by the students, usually at post-graduate level. Finally, interviewees A, B and G highlighted other experiential learning components in their programmes, which are meant to produce the same results – in terms of skills and knowledge development – as internships. These other forms of experiential learning range from having lecturers who have a vast experience in entrepreneurship and business, to creative problem-solving and effectuation learning techniques. From the perspective of students, interviewees E and G attested to an unsatisfactory experience on the part of students who managed to secure an internship.

With regard to possible constraints hindering universities from including internships in tertiary-education programmes, most experts mentioned the university's lack of resources to manage and control internships, issues of curriculum redesign and academic credits, labour legislation constraints, and the lack of willingness and capacity of small business owners to mentor interns. Interviewees H, I and J also mentioned that whereas internships in large companies are more readily available, internships in small businesses are

not easily found and are essentially different. According to them, the challenge lies in identifying the right internships, which ultimately means knowing which entrepreneur profile is most suited to accommodate an intern successfully.

Discussion of findings

The review of empirical literature conducted in this paper reveals that there is support for the proposition that internships as a form of experiential learning enhance students' EI (P1). It appears, therefore, that when entrepreneurship education programmes include internships in their curriculum, participants are more likely to develop the intention to start a business. Some of the studies analysed in this paper reported empirically about the positive relationship between internships and EI, even outside an entrepreneurship education context. In other words, people who have an internship experience appear to have higher EI, even though they are not part of a formal entrepreneurship education intervention. This is in line with previous research about the impact of previous work experience on start-up intentions and activities (Gabrielsson & Politis 2012; Kemelgor, D'Souza & Henley 2011).

The review of empirical literature also provides evidence for the support of the proposition that internships as a form of experiential learning enhance students' ESE (P2). This means that the hands-on experience gained during internships helps students to have a higher level of confidence in their capabilities to start and run their own business. This finding confirms the argument that internships are an effective learning method whereby participants acquire a greater knowledge of and confidence in the professional field underlying the internship experience (Kuijpers, Meijers & Gundy 2011:26).

Moreover, as can be noted in Table 1, most of the studies that empirically support the positive role of internships for the formation of ESE also give empirical evidence for the positive influence that internships have on EI. This finding can be attributed to the fact that ESE does not lead to entrepreneurial behaviour – such as business start-up activities – directly, but it influences entrepreneurial behaviour through its impact on EI (Kickul *et al.* 2008; Wilson *et al.* 2007; Zhao *et al.* 2005).

The implication for theory of these findings is that internships should be included in EI- and ESE-based models of entrepreneurial behaviour as one of the factors influencing these two constructs. As this paper's review of empirical literature reveals, few studies have analysed the influence of internship on the development of EI and ESE (Alpert *et al.* 2009:37; Peltier & Scovotti 2010:515).

The relevance of internships for enhancing EI and ESE in a South African context was corroborated by the university-level entrepreneurship- and business management education survey whereby the data was content analysed in this paper. The results reveal that only one tertiary institution, the Durban University of Technology, includes internships as part of its curriculum. Proposition 3 is thus only supported in the case of the Durban University of Technology, one out of 23 South African tertiary institutions. There is a significant lack of inclusion of internships as a form of experiential learning in South African tertiary-level entrepreneurship and business management education programmes. For practice, these findings imply that entrepreneurship- and business management education programme administrators at South African tertiary institutions should devise an experiential learning module based on an internship experience. From a student's perspective, the findings of this study suggest that a more effective acquisition of EI and ESE can be gained in university programmes that include an internship as part of the curriculum.

The interviews conducted with experts in the field of entrepreneurship education at tertiary-level revealed that there is widespread awareness of the positive role played by internship in enhancing interns' EI and ESE. In light of this, the prevalent lack of inclusion of internships in university entrepreneurship and business management programmes seems contradictory. However, a number of reasons for this lack emerged from the interviews, pertaining mainly to administrative and conceptual difficulties. Administrative issues include: tertiary institutions' lack of sufficient internal resources – human and financial – to scout, manage and control internships; difficulty in finding internships for all enrolled students due to lack of enough small businesses; and challenges related to curriculum redesign. Conceptual reasons for not including internships pertain mainly to some experts' belief that there are other experiential learning curriculum components that are at least as effective as internships and easier to administer.

The constraints that were mentioned by the experts attest to the difficulty – mainly administrative – in successfully integrating internships into university programmes. Another considerable constraint is small business owners' lack of capacity to mentor interns successfully. One possible solution to administrative challenges would be to pilot-test the inclusion of internships in a university programme with a manageable number of students. In this way, finding a number of suitable internships corresponding to the number of students would be more achievable. Moreover, such an initiative would not require significant investment in terms of academic staff and time. Finally, this solution would allow for establishing a stable relationship with a few, carefully selected, small business owners. This pilot-test inclusion of internships could be scaled up once it was established and had produced the intended results.

Conclusion

The understanding of how EI can be fostered lies at the heart of research in the entrepreneurship field. Following the first steps in the psychological study of human behaviour by Ajzen (1985) and Bandura (1977), many entrepreneurship scholars have studied entrepreneurial behaviour and, more specifically, business start-up decisions from the perspective

of intention. Within this branch of entrepreneurship research, EI is widely viewed as a robust predictor of the decision to start a business venture, with ESE being one of the most cited antecedents of EI.

Entrepreneurship education offers another angle from which the promotion of business venture start-up can be examined. The number of entrepreneurship education programmes has multiplied in recent years (Peltier & Scovotti 2010:515) based on the realisation that entrepreneurship can be taught (Kuratko 2005:580). The focus in this field, as in other educational fields, has shifted to experiential learning methods, including internships, which, because of the first-hand experience and exposure to entrepreneurship they provide, are believed to be effective in enabling and encouraging people to start their own businesses (Zhao 2013:445).

Bringing together the intention-based and entrepreneurship education perspectives, this paper addressed one specific aspect of the formation of business start-up decisions, namely, whether or not internships enhance interns' EI and ESE levels. It conducted a review of empirical literature and investigated the results of empirical studies on the relationship between internships, on the one hand, and EI and ESE on the other. Thereafter, it followed a survey approach which content analysed the information on which South African universities offer entrepreneurship and business management programmes up to Master's level, and whether they include internships in their curricula. Finally, it conducted interviews with experts in the field to assess the level of awareness about the potential of internships to raise interns' EI and ESE, understand the reasons why internships are or are not included in university programmes, and to explore the possible constraints faced when considering including internships in university curricula.

The findings of this qualitative research are that there is empirical support for the positive influence of internships on the development of interns' EI and ESE. It was also found that there is a significant lack of inclusion of internships in South African tertiary institutions' entrepreneurship and business management programmes. The reasons for this lack of inclusion of internships pertain mainly to tertiary institutions' administrative capacity issues; difficulties in scouting, managing and controlling internship programmes for students; issues with curriculum redesign; and small business owners' lack of capacity to mentor interns. In the light of the results of this paper, it is recommended that university-level entrepreneurship education programmes in South Africa include internships as part of their curricula. It is suggested that tertiary institutions pilot-test the inclusion of internships with a small number of students and a selected cohort of carefully selected small business owners.

Limitations and future research

As for all qualitative research studies, the findings of this paper should be interpreted taking into account certain limitations. Firstly, the literature review methodology employed could have excluded some empirical studies, owing to the search criteria that were utilised. Some studies may also have been overlooked on account of some degree of subjectivity on the part of the researchers in retrieving studies that were deemed relevant to the present analysis.

The relatively small number of empirical studies on the topic of internships and their impact on interns' EI and ESE that were found in this study gives an indication of the research gap that exists in this field. There is a need to conduct more empirical investigations into the positive role that internships play in fostering EI and ESE. This recommendation stems from the results of the literature review (Table 1) conducted in this paper, which encompassed the global domain of entrepreneurship and thus affects the entire body of research on the topic of this paper. A meta-analysis could be conducted on all the studies on this topic to test the relationship between internships, EI and self-efficacy even further.

More specifically, research on this topic needs to move forward to the investigation of what internship components make internships more effective in promoting the formation of EI and ESE. This would encourage research that could contribute to the understanding of how to devise internship experiences that effectively increase interns' levels of EI and ESE. More evidence on the positive influence of internship experiences on the formation of EI and ESE would corroborate the earlier conclusion that internships should be part of entrepreneurship education programmes.

Bearing in mind that EI and ESE do not always translate into entrepreneurial behaviour in the form of starting a business venture (Ajzen 1985:11; Boyd & Vozikis 1994:70), future research should investigate the possible mechanisms according to which internships may contribute to people's start-up activities. For this type of analysis to take place, it is necessary that longitudinal studies be conducted, measuring both the development of EI and ESE in the short term and business start-up activities in the long term.

In order to situate the analysis of the role of internships in enhancing levels of EI and ESE in the context of entrepreneurship education at university-level, future research could compare the levels of EI and ESE of students enrolled in internship-inclusive entrepreneurship programmes with those of students enrolled in traditional entrepreneurship programmes.

Finally, with the objective of identifying and sharing best practices in the inclusion of internships in university programmes, future research could conduct case study investigations of the tertiary institutions – in South Africa and outside of South Africa – that have successfully integrated internships in their curricula.

Acknowledgements

The authors acknowledge Nokumuka Dube for providing part of the background study to this paper.

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

The authors collaborated during the literature-study, analysis and article-writing phases of this paper. M.B. was the project leader, formulating the concept and devising the structure of the paper. A.B. was responsible for the review of empirical literature and survey approach. Both authors conducted interviews with experts in the field of entrepreneurship education.

References

Ajzen, I., 1985, 'From intentions to actions: A theory of planned behavior', in J. Kuhl & J. Beckmann (eds.), *Action control: From cognition to behavior*, Springer, Heidelberg, Germany.

Ajzen, I., 1991, 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes* 50(2), 179–211. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Alpert, F., Heaney, J. & Kuhn, K.L., 2009, 'Internships in marketing: Goals, structures and assessment – Student, company and academic perspectives', *Australasian Marketing Journal* 17(1), 36–45. http://dx.doi.org/10.1016/j.ausmj.2009.01.003

Anderson, E., Johnston, N., Iles, L., Mcrae, N., Reed, N. & Walchli, J., 2012, 'Co-operative education and student recruitment, engagement and success: Early findings from a multi-institutional study in British Columbia', *Journal of Co-operative Education and Internships* 46, 58–76.

Backes-Gellner, U. & Moog, P., 2008, *Who chooses to become an entrepreneur? The Jacks-of-All-Trades in social and human capital*. Working paper no. 76, Institute for Strategy and Business Economics, University of Zurich, viewed 25 November 2013, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1091089

Bandura, A., 1977, *Social learning theory*, Prentice-Hall, Englewood Cliffs, NJ.

BarNir, A., Watson, W.E. & Hutchins, H.M., 2011, 'Mediation and moderated mediation in the relationship among role models, self-efficacy, entrepreneurial career intention, and gender', *Journal of Applied Social Psychology* 41(2), 270–297. http://dx.doi.org/10.1111/j.1559-1816.2010.00713.x

Basu, A. & Virick, M., 2008, 'Assessing entrepreneurial intentions amongst students: A comparative study', paper presented at the 12th Annual Meeting of the National Collegiate Inventors and Innovators Alliance, Dallas, 20–22th March, 79–8, viewed 21 November 2013, from http://www.nciia.net/conf08/assets/pub/basu2.pdf

Bignotti, A., 2013, 'Factors relating to entrepreneurial career choice of secondary school students', Doctoral thesis, Department of Business Management, University of Pretoria, viewed 23 May 2014, from http://hdl.handle.net/2263/33489

Bird, B., 1988, 'Implementing entrepreneurial ideas: The case for intention', *Academy of Management Review* 13(3), 442–453.

Boyd, N.G. & Vozikis, G.S., 1994, 'The influence of self-efficacy on the development of entrepreneurial intentions and actions', *Entrepreneurship Theory and Practice* 18(4), 63–77.

Buelens, M. & Izquierdo, E., 2008, 'Competing models of entrepreneurial intentions: The influence of entrepreneurial self-efficacy and attitudes', *International Journal of Entrepreneurship and Small Business* 13(1), 75–91.

Chen, T. & Shen, C., 2012, 'Today's intern, tomorrow's practitioner? – The influence of internship programmes on students' career development in the hospitality industry', *Journal of Hospitality, Leisure, Sport & Tourism Education* 11(1), 29–40. http://dx.doi.org/10.1016/j.jhlste.2012.02.008

Creswell, J.W., 2013, *Qualitative inquiry and research design: Choosing among five approaches*, 3rd edn., Sage Publications, Thousand Oaks, CA.

Cruz, N.M., Escudero, A.I.R., Barahona, J.H. & Leitao, F.S., 2009, 'The effect of entrepreneurship education programmes on satisfaction with innovation behaviour and performance', *Journal of European Industrial Training* 33(3), 198–214. http://dx.doi.org/10.1108/03090590910950578

Daugherty, E.L., 2011, 'The public relations internship experience: A comparison of student and site supervisor perspective', *Public Relations Review* 37(5), 470–477. http://dx.doi.org/10.1016/j.pubrev.2011.09.010

Davidsson, P., 1995, 'Determinants of entrepreneurial intentions', paper presented at the RENT IX Workshop, Piacenza, 23–24th November, pp. 1–31, viewed 18 April 2013, from http://eprints.qut.edu.au/2076/

De Clercq, D., Honig, B. & Martin, B., 2012, 'The roles of learning orientation and passion for work in the formation of entrepreneurial intention', *International Small Business Journal* 31(6), 652–676. http://dx.doi.org/10.1177/0266242611432360

De Grez, L. & Van Lindt, D., 2012, 'The influence of a "learning-by-doing" program on entrepreneurial perceptions of economics students', paper presented at the European Conference on Innovation and Entrepreneurship, Santarem, 21th September, pp. 156–162, viewed 27 November 2013, from http://0-search.proquest.com.innopac.up.ac.za/docview/1325746851/141FF1CE905621AD190/2?accountid=14717

De Pillis, E. & DeWitt, T., 2008, 'Not worth it, not for me? Predictors of entrepreneurial intention in men and women', *Journal of Asia Entrepreneurship and Sustainability* 4(3), 1–13.

Dohse, D. & Walter, S.G., 2010, *The role of entrepreneurship education and regional context in forming entrepreneurial intentions.* Working paper no. 2010/18, Institut d'Economia de Barcelona, viewed 25 November 2013, from http://www.econstor.eu/handle/10419/59753

Do Paço, A.M.F., Ferreira, J.M., Raposo, M., Rodrigues, R.G. & Dinis, A., 2011, 'Behaviours and entrepreneurial intention: Empirical findings about secondary students', *Journal of International Entrepreneurship* 9(1), 20–38. http://dx.doi.org/10.1007/s10843-010-0071-9

Drennan, J., Kennedy, J. & Redfrow, P., 2005, 'Impact of childhood experiences on the development of entrepreneurial intentions', *International Journal of Entrepreneurship and Innovation* 6(4), 231–238. http://dx.doi.org/10.5367/000000005775179801

Dutta, D.K., Li, J. & Merenda, M., 2010, 'Fostering entrepreneurship: Impact of specialization and diversity in education', *International Entrepreneurship and Management Journal* 7(2), 163–179. http://dx.doi.org/10.1007/s11365-010-0151-2

Falck, O., Heblich, S. & Luedemann, E., 2012, 'Identity and entrepreneurship: Do school peers shape entrepreneurial intentions?', *Small Business Economics* 39(1), 39–59. http://dx.doi.org/10.1007/s11187-010-9292-5

Fayolle, A., 2013, 'Personal views on the future of entrepreneurship education', *Entrepreneurship & Regional Development* 25(7–8), 692–701. http://dx.doi.org/10.1080/08985626.2013.821318

Fayolle, A., Gailly, B. & Lassas-Clerc, N., 2006, 'Assessing the impact of entrepreneurship education programmes: A new methodology', *Journal of European Industrial Training* 30(9), 701–720. http://dx.doi.org/10.1108/03090590610715022

Fayolle, A. & Liñán, F., 2014, 'The future of research on entrepreneurial intentions', *Journal of Business Research* 67(5), 663–666. http://dx.doi.org/10.1016/j.jbusres.2013.11.024

Gabrielsson, J. & Politis, D., 2012, 'Work experience and the generation of new business ideas among entrepreneurs: An integrated learning framework', *International Journal of Entrepreneurial Behaviour and Research* 18(1), 48–74. http://dx.doi.org/10.1108/13552551211201376

Gault, J., Leach, E. & Duey, M., 2010, 'Effects of business internships on job marketability: The employers' perspective', *Education + Training* 52(1), 76–88. http://dx.doi.org/10.1108/00400911011017690

Gird, A. & Bagraim, J.J., 2008, 'The theory of planned behaviour as predictor of entrepreneurial intent amongst final-year university students', *South African Journal of Psychology* 38(4), 711–724. http://dx.doi.org/10.1177/008124630803800410

Herrington, M. & Kew, J., 2014, *GEM South Africa 2013 Report,* Global Entrepreneurship Monitor, Cape Town, viewed 16 May 2014, from http://www.gemconsortium.org/docs/3336/gem-south-africa-2013-report

Herrington, M., Kew, J. & Kew, P., 2015, *GEM South Africa 2014 Report,* Global Entrepreneurship Monitor, Cape Town, viewed 11 May 2015, from http://www.gemconsortium.org/docs/3778/gem-south-africa-2014-report

Hmieleski, K.M. & Corbett, A.C., 2008, 'The contrasting interaction effects of improvisational behavior with entrepreneurial self-efficacy on new venture performance and entrepreneur work satisfaction', *Journal of Business Venturing* 23(4), 482–496. http://dx.doi.org/10.1016/j.jbusvent.2007.04.002

James, B. & Bell, J., 2013, 'Evaluating the effects of business pre-planning coursework on student entrepreneurial intentions', *Small Business Institute National Conference Proceedings* 37(1), 96–103.

Kautonen, T., Van Gelderen, M. & Fink, M., 2013, 'Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions', *Entrepreneurship Theory and Practice* 39(3), 655–674. http://dx.doi.org/10.1111/etap.12056

Keat, O.Y., Selvarajah, C. & Meyer, D., 2011, 'Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students', *International Journal of Business and Social Science* 2(4), 206–220.

Kemelgor, B.H., D'Souza, R. & Henley, G., 2011, 'The dynamics of entrepreneurial entry and firm performance of first career and second career entrepreneurs as mediated by prior knowledge', *Southern Journal of Entrepreneurship* 4(2), 18–45.

Kibassa, F.M., 2012, 'Small business research: Upon finding definitions of entrepreneurship, entrepreneur and small firms', *European Journal of Business and Management* 4(15), 158–167.

Kickul, J., Wilson, F., Marlino, D. & Barbosa, S.D., 2008, 'Are misalignments of perceptions and self-efficacy causing gender gaps in entrepreneurial intentions among our nation's teens?', *Journal of Small Business and Enterprise Development* 15(2), 321–335. http://dx.doi.org/10.1108/14626000810871709

Kim, H. & Park, E.J., 2013, 'The role of social experience in undergraduates' career perceptions through internships', *Journal of Hospitality, Leisure, Sport & Tourism Education* 12(1), 70–78. http://dx.doi.org/10.1016/j.jhlste.2012.11.003

Krueger, N.F.J. & Carsrud, A.L., 1993, 'Entrepreneurial intentions: Applying the theory of planned behaviour', *Entrepreneurship and Regional Development* 5(4), 315–330. http://dx.doi.org/10.1080/08985629300000020

Kuijpers, M., Meijers, F. & Gundy, C., 2011, 'The relationship between learning environment and career competencies of students in vocational education', *Journal of Vocational Behavior* 78(1), 21–30. http://dx.doi.org/10.1016/j.jvb.2010.05.005

Kuratko, D.F., 2005, 'The emergence of entrepreneurship education: Development, trends, and challenges', *Entrepreneurship Theory and Practice* 29(5), 577–597. http://dx.doi.org/10.1111/j.1540-6520.2005.00099.x

Lazear, E.P., 2005, 'Entrepreneurship', *Journal of Labor Economics* 23(4), 649–680. http://dx.doi.org/10.1086/491605

Liñán, F., Rodríguez-Cohard, J.C. & Rueda-Cantuche, J.M., 2011, 'Factors affecting entrepreneurial intention levels: A role for education', *International Entrepreneurship and Management Journal* 7(2), 195–218. http://dx.doi.org/10.1007/s11365-010-0154-z

Lucas, W.A., Cooper, S.Y., Ward, T. & Cave, F., 2009, 'Industry placement, authentic experience and the development of venturing and technology self-efficacy', *Technovation* 29(11), 738–752. http://dx.doi.org/10.1016/j.technovation.2009.06.002

Maina, R.W., 2011, 'Determinants of entrepreneurial intentions among Kenyan college graduates', *KCA Journal of Business Management* 3(2), 1–18, viewed 22 November 2013, from http://www.ajol.info/index.php/kjbm/article/view/65968

Martínez, A.C., Levie, J., Kelley, D.J., Saemundsson, R.J. & Schøtt, T., 2010, *Global entrepreneurship monitor special report: A global perspective on entrepreneurship education and training,* Global Entrepreneurship Monitor, London, viewed 17 May 2014, from http://www.gemconsortium.org/docs/276/gem-special-report-on-education-and-training

Mason, C. & Arshed, N., 2013, 'Teaching entrepreneurship to university students through experiential learning: A case study', *Industry and Higher Education* 27(6), 449–463. http://dx.doi.org/10.5367/ihe.2013.0180

Mertens, D.M., 2005, *Research methods in education and psychology: Integrating diversity with quantitative and qualitative approaches,* 2nd edn., Sage Publications, Thousand Oaks, CA.

Mlatsheni, C. & Leibbrandt, M., 2011, 'Youth unemployment in South Africa: Challenges, concepts and opportunities', *Journal of International Relations and Development* 14(1), 118–126.

Moghaddam, J.M., 2011, 'Perceived effectiveness of business internships: Student expectations, experiences, and personality traits', *International Journal of Management* 28(4), 287–303.

Nabi, G., Walmsley, A. & Holden, R., 2013, 'Pushed or pulled? Exploring the factors underpinning graduate start-ups and non-start-ups', *Journal of Education and Work* 28(5), 481–506. http://dx.doi.org/10.1080/13639080.2013.805189

Narayanan, V.K., Olk, P.M. & Fukami, C.V., 2010, 'Determinants of internship effectiveness: An exploratory model', *Academy of Management Learning & Education* 9(1), 61–80. http://dx.doi.org/10.5465/AMLE.2010.48661191

Peltier, W. & Scovotti, C., 2010, 'Enhancing entrepreneurial marketing education: The student perspective', *Journal of Small Business and Enterprise Development* 17(4), 514–536. http://dx.doi.org/10.1108/14626001011088705

Pittaway, L., Rodriguez-Falcon, E., Aiyegbayo, O. & King, A., 2011, 'The role of entrepreneurship clubs and societies in entrepreneurial learning', *International SmallBusinessJournal*29(1),37–57.http://dx.doi.org/10.1177/0266242610369876

Prabhu, V.P., McGuire, S.J., Drost, E.A. & Kwong, K.K., 2012, 'Proactive personality and entrepreneurial intent: Is entrepreneurial self-efficacy a mediator or moderator?', *International Journal of Entrepreneurial Behaviour & Research* 18(5), 559–586. http://dx.doi.org/10.1108/13552551211253937

Quan, X., 2012, 'Prior experience, social network, and levels of entrepreneurial intentions', *Management Research Review* 35(10), 945–957. http://dx.doi.org/10.1108/01409171211272679

Radu Lefebvre, M. & Redien-Collot, R., 2013, '"How to do things with words": The discursive dimension of experiential learning in entrepreneurial mentoring dyads', *Journal of Small Business Management* 51(3), 370–393. http://dx.doi.org/10.1111/jsbm.12022

Sánchez, J.G., 2013, 'The impact of an entrepreneurship education program on entrepreneurial competencies and intention', *Journal of Small Business Management* 51(3), 447–465. http://dx.doi.org/10.1111/jsbm.12025

Saunders, M. & Tosey, P., 2012. 'The Layers of research design', *Rapport* Winter (2012/2013), 58–59.

Sequeira, J., Mueller, S. & McGee, J., 2007, 'The influence of social ties and self-efficacy in forming entrepreneurial intentions and motivating nascent behavior', *Journal of Developmental Entrepreneurship* 12(3), 275–293. http://dx.doi.org/10.1142/S108494670700068X

Shapero, A. & Sokol, L., 1982, 'The social dimensions of entrepreneurship', in: C.A. Kent, D.L. Sexton & K.H. Vesper (eds.), *Encyclopedia of entrepreneurship,* Prentice-Hall, Englewood Cliff, NJ.

Thurik, A.R., Carree, M.A., Van Stel, A. & Audretsch, D.B., 2008, 'Does self-employment reduce unemployment?', *Journal of Business Venturing* 23(6), 673–686. http://dx.doi.org/10.1016/j.jbusvent.2008.01.007

Van Auken, H., Fry, F.L. & Stephens, P., 2006, 'The influence of role models on entrepreneurial intentions', *Journal of Developmental Entrepreneurship* 11(2), 157–167. http://dx.doi.org/10.1142/S1084946706000349

Vanevenhoven, J. & Liguori, E., 2013, 'The impact of entrepreneurship education: Introducing the entrepreneurship education project', *Journal of Small Business Management* 51(3), 315–328. http://dx.doi.org/10.1111/jsbm.12026

Varghese, M.E., Parker, L.C., Adedokun, O., Shively, M., Burgess, W., Childress, A., et al., 2012, 'Experiential internships: Understanding the process of student learning in small business internships', *Industry and Higher Education* 26(5), 357–367. http://dx.doi.org/10.5367/ihe.2012.0114

Viviers, S., Solomon, G. & Venter, C., 2013, 'Entrepreneurial intentions and behaviours of South African University students', *The Southern African Journal of Entrepreneurship and Small Business Management* 6, 1–20. http://dx.doi.org/10.4102/sajesbm.v6i1.30

Volery, T., Müller, S., Oser, F., Naepflin, C. & Del Rey, N., 2013, 'The impact of entrepreneurship education on human capital at upper-secondary level', *Journal of Small Business Management* 51(3), 429–446. http://dx.doi.org/10.1111/jsbm.12020

Walter, S.G. & Dohse, D., 2009, *The interplay between entrepreneurship education and regional knowledge potential in forming entrepreneurial intentions.* Working paper no. 1549, Kiel Institute for the World Economy, Kiel, Germany, viewed 22 July 2014, from http://www.econstor.eu/handle/10419/28376

Wan, C.S., Yang, J.T., Cheng, S.Y. & Su, C., 2013, 'A longitudinal study on internship effectiveness in vocational higher education', *Educational Review* 65(1), 36–55. http://dx.doi.org/10.1080/00131911.2011.634969

Wang, Y. & Verzat, C., 2011, 'Generalist or specific studies for engineering entrepreneurs? Comparison of French engineering students' trajectories in two different curricula', *Journal of Small Business and Enterprise Development* 18(2), 366–383. http://dx.doi.org/10.1108/14626001111127124

Weible, R., 2009, 'Are universities reaping the available benefits internship programs offer?', *Journal of Education for Business* 85(2), 59–63. http://dx.doi.org/10.1080/08832320903252397

Wilson, F., Kickul, J. & Marlino, D., 2007, 'Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education', *Entrepreneurship Theory and Practice* 31(3), 387–406. http://dx.doi.org/10.1111/j.1540-6520.2007.00179.x

Zellweger, T., Sieger, P. & Halter, F., 2011, 'Should I stay or should I go? Career choice intentions of students with family business background', *Journal of Business Venturing* 26(5), 521–536. http://dx.doi.org/10.1016/j.jbusvent.2010.04.001

Zhao, H., 2013, 'Turning small business interns into applicants: The mediating role of perceived justice', *Journal of Business Venturing* 28(3), 443–457. http://dx.doi.org/10.1016/j.jbusvent.2011.08.003

Zhao, H., Seibert, S.E. & Hills, G.E., 2005, 'The mediating role of self-efficacy in the development of entrepreneurial intentions', *Journal of Applied Psychology* 90(6), 1265–1272. http://dx.doi.org/10.1037/0021-9010.90.6.1265

The role of entrepreneurship in transforming efficiency economies into innovation-based economies

Authors:
Jurie van Vuuren[1]
Binyam Z. Alemayehu[1]

Affiliations:
[1]Faculty of Economic and Management Sciences, University of Pretoria, South Africa

Corresponding author:
Binyam Alemayehu,
binyam.alemayehu@adelaide.edu.au

Background: Entrepreneurship is believed to be a major driver of economic development. While it is right to consider entrepreneurship as a development tool, it is also crucial to identify the kind of entrepreneurship that contributes meaningfully towards economic development. Extant research revealed a U-shaped relationship between entrepreneurship and economic development and claimed that entrepreneurship in efficiency economies is dwarfed in terms of its contribution to economic development.

Aim: To identify and explain factors that would assist efficiency-based countries to transform their economies using entrepreneurship as a major policy tool.

Setting: We compared two structurally separate groups of countries. Each group consists of three countries and 9 years of data were extracted from Global Entrepreneurship Monitoring (GEM) and United Nation (UN) datasets.

Methods: We examined the relationship between entrepreneurship and economic development using comparative research design. Bivariate correlation analysis was used to detect associations and various descriptive statistical tools were applied to examine and compare the entrepreneurial tendencies of countries included in our study.

Results: The results indicated that entrepreneurship in efficiency economies is unfairly undervalued by academic commentators and that our findings pose a serious question as to the U-shaped relationship argument. The analysis revealed that the relationship between entrepreneurship and economic development is positive in both contexts, albeit the strength of the correlation is much more pronounced for innovation-driven economies compared to efficiency-driven countries. Furthermore, the analysis revealed that the rate of total early-stage entrepreneurial activity (TEA) is strongly correlated with perceived opportunity and entrepreneurial intention scores in both contexts.

Conclusion: It is concluded that countries seeking to transform their economy need to promote the emergence and sustenance of TEA through well-designed policy frameworks and initiatives.

Introduction

Entrepreneurship has attracted substantial interest from different parties and is regarded as an engine of economic growth (Albulescu & Tămăşilă 2016; Chowdhury, Terjesen & Audretsch 2015). It sets out a robust platform for economic development through triggering innovation, job creation, productivity, and economic and social growth (Driga, Lafuente & Vaillant 2009; Johnson, Freeman & Staudenmaier 2015; Thornton, Ribeiro-Soriano & Urbano 2011; Wennekers et al. 2010).

Entrepreneurship serves both as an engine driving economic growth and a strategy that promotes the discovery, dissemination and application of innovative ideas. By so doing, it aims at ensuring efficient utilisation of resources and expanding the boundaries of economic activities (OECD 1998) while serving as a conduit for a spillover of knowledge that leads to the shifting of resources towards more productive activities (Bruton, Ahlstrom & Si 2015).

Moreover, various studies have also shown an inherent relationship existing between entrepreneurship and forces that shape economic prosperity. Galindo and Méndez (2014), for instance, identified a virtuous cycle type of relationship between innovation, entrepreneurship and economic growth in which all the variables exert positive effects on one another. Improving one of the factors could induce a positive change in another. On a different but related note, Pech (2016) asserted that innovation triggers a competitive edge in technology, design engineering and entrepreneurship. He also alluded to the reverse relationship that exists between entrepreneurship and innovation.

Given the above-mentioned robust relationship between entrepreneurship and economic development and the positive connotation associated with entrepreneurship, economies across the world have given considerable attention to the development and proliferation of entrepreneurial activities. However, despite strong support from various stakeholders, countries still fail to maintain comparable levels of entrepreneurial activity (Hechavarría 2016; Pinillos & Reyes 2011). The disparity between developed and developing countries, in particular, is rather large and persistent. Conventionally, it is innovation-based countries that record stronger and better quality entrepreneurial activities than any other economies, including efficiency-driven economies (Baptista & Thurik 2007).

Researchers who attempted to explain this disparity identified an array of causes including quality of entrepreneurship (Baumol & Strom 2007), economic conditions, legal and tax frameworks (Yolaç 2015), culture (Linan & Fernandez-Serrano 2014; Pinillos & Reyes 2011) and the quality of education (Guerrero, Urbano & Fayolle 2016) On the other hand, efficiency economies are known for their less friendly entrepreneurial environment and rampant structural barriers stifling the growth of the sector.

Despite entrepreneurship in efficiency economies not being well-developed, we cannot repudiate its contribution to the economic development of those nations (Stam & Stel 2009). However, we contend that if such economies were cognisant enough about the challenges that entrepreneurs are facing and more able to provide a hospitable entrepreneurial environment, the contribution would have been much better than what we see today.

Therefore, in this article we argue that efficiency economies could make much more of their entrepreneurship by encouraging more people to identify entrepreneurial opportunities and pursue their entrepreneurial intention. We identified a moderate correlation between total early-stage entrepreneurial activity (TEA) and gross domestic product (GDP) in efficiency economies and, from what we have seen in innovation-driven countries, this association could improve if greater numbers of opportunity entrepreneurs with high-growth potential were to be supported. In the conclusion and discussion sections, we have provided practical guidelines and inputs for policymakers regarding how that might be achieved.

By furnishing these, the current study fills the gaps in the existing literature. Despite the strong urge to explicate how an efficiency economy could build an innovation-centred economy, extant research has focused excessively on studying the relationship between entrepreneurship and economic development and the peculiarities of entrepreneurship in each setting. To the best of our knowledge, no prior research has investigated the association between entrepreneurship and economic development using two structurally different economies and described how the less developed economy can improve to a higher economic level using entrepreneurship as a major enabling tool. This makes our study unique amongst existing studies.

We utilised the World Economic Forum (WEF) countries' economic categorisation in order to create the two sets of economies (innovation-driven and efficiency-driven economies). The USA, UK and Germany were the three sample states chosen to represent the innovation-driven economies, whereas the efficiency-driven economies group was represented by China, Brazil and South Africa. Economic development was measured by GDP, while the entrepreneurial dynamics were measured and represented by TEA rates. In addition, the perception of opportunity and entrepreneurial intention scores of each country were correlated with TEA rates of the sample countries to identify factors that influence entrepreneurial activities using 9 years of GEM data.

The article is structured as follows. The next section provides findings from extant literature and subsequently presents the resulting hypotheses. In the 'Methodology' section, the methodology of the research is discussed, while the final part elucidates the results of the analysis, discussion and limitations and offers recommendations for future research.

Literature review and hypotheses

Entrepreneurship and economic development

Entrepreneurship plays a critical role in national and regional economic development (Linan & Fernandez-Serrano 2014; Matejovsky, Mohapatra & Steiner 2014). Entrepreneurship, as a driver of an economy, determines the prospects of the economy and sets the pace of economic growth through creating employment opportunities, spurring innovation, facilitating effective and creative ways of utilising resources, expanding and extending economic boundaries and, ultimately, improving social welfare and growth (Driga et al. 2009; Johnson et al. 2015; Thornton et al. 2011; Wennekers et al. 2010).

Notwithstanding the advantages that entrepreneurship provides to economic growth, there is a concern about the kind of entrepreneurship that countries need to promote. Research has attested that the contributions of different kinds of entrepreneurship vary from one economy to another (Vallierea & Peterson 2009).

Apparently, meaningful early entrepreneurial activities are stronger in well-developed economies than in economies in transition or efficiency-driven economies. Researchers found that the significant investments in research and development, strong technological environments and robust economic standards of innovation-driven economies enabled them to create entrepreneurs with high impact (Colovic & Lamotte 2015). As a result, they enjoy an abundance of high-impact technological entrepreneurs to a greater extent than economies dominated by necessity entrepreneurs. This creates a formidable basis for new entrepreneurs to meaningfully contribute to their country's economic development (Koster & Rai 2008; Pfeifer & Sarlija 2010).

According to many researchers, innovation-driven economies are benefiting greatly from the proliferation of high-growth-expecting firms (Vallierea & Peterson 2009). As per these researchers, high-growth entrepreneurs basically represent opportunity-motivated ones (Lecuna, Cohen & Chavez 2017) because opportunity entrepreneurs are always keen for growth and recognise opportunities arising from innovative ideas, whereas necessity entrepreneurs intentionally avoid growth because their ultimate goal is survival (Capelleras et al. 2010; Valdeza et al. 2011).

Having recognised the strong contribution opportunity entrepreneurship makes to economic growth, many researchers question why innovation-driven economies are a fertile ground for high-impact entrepreneurs while others are not. The results have never been conclusive. Some attribute this to the well-entrenched entrepreneurial culture of these countries. The culture in developed economies encourages a significant portion of their population to become self-employed (Krasniqi 2009) and to focus mainly on technological breakthroughs that create added value in high-tech and knowledge-intensive sectors (Herrmann & Kritikos 2013).

Apart from the culture, their success signifies the availability of quality institutions that promote impactful entrepreneurship. Various studies have confirmed that fostering innovation and a robust entrepreneurial environment, which will make a meaningful contribution to the economy, is impossible without the prevalence of strong institutional frameworks and infrastructures (Feki & Mnif 2016; Martinez-Fierro, Biedma-Ferrer & Ruiz-Navarro 2016; Mendonça & Grimpe 2016). Thus, we can take the strong economic system that promotes new technology, increased pace of innovation and a short product life cycle (Baptista & Thurik 2007) as a solid manifestation of the robust and supportive institutional frameworks that these countries have built over some years.

Moreover, the advantages of such institutions, culture and infrastructure are not limited just to the support that they provide to existing entrepreneurs; they also encourage the rise of many new wealth creators. As Autio and Fu (2015) argue, improved economic and political institutions boost formal entrepreneurship and reduce informal entrepreneurship tendencies. This implies that in well-structured economies, such as those in innovation-driven countries, the chance of obtaining subsistence entrepreneurship that relies on the informal sector is greatly limited. Thus, in developed economies, the U-shaped relationship between nascent opportunity entrepreneurship and economic development holds true, indicating the creation of many new ventures that focus mainly on innovation (Wennekers et al. 2010).

Research suggests that economies (innovation-driven economies) which foster the creation of firms that are inspired by innovation and high-growth potential see their actions lifting their GDP significantly (Aubry, Bonnet & Renou-Maissant 2015; Wong, Ho & Autio 2005). This condition is further reinforced through favourable institutional frameworks, helping innovators to have a remarkable impact on economic growth attempts (Amaghouss & Ibourk 2013).

Based on the above-mentioned information, we contend that innovative economies have higher propensities and capacities for producing TEAs that could meaningfully contribute to their GDP. Hence, we hypothesise a positive and strong relationship between the TEA rate and economic development as measured by GDP.

> **H1a:** In innovation-driven economies, TEA and GDP are positively and strongly correlated.

Treating the entrepreneurial conditions of efficiency economies from the standpoint and vantage point of developed countries could lead to some terrible mistakes and may be considered as being in complete ignorance of the peculiarities of the two economic contexts. Indeed, the relationship between entrepreneurship and economic growth is stable across different categorisations of economies, but the level and magnitude of the impact differs significantly. For this reason, Vallierea and Peterson (2009) remarked that entrepreneurship matters, but it matters differently for emerging and developed countries.

Contrary to innovation-based economies, entrepreneurship in efficiency-driven economies is characterised by decreasing rates of self-employment (Acs, Desai & Hessels 2008), high levels of volatility (Pfeifer & Sarlija 2010), economic unpredictability (Ahlstrom & Bruton 2010), low entrepreneurial culture (Lee & Peterson 2000) and rampant numbers of necessity entrepreneurs who are mainly motivated by the lack of job opportunities or some other push factors (Yalcin & Kapu 2008) as well as low growth prospects and low aspirations (Capelleras et al. 2010).

However, these economies are known for the abundance of untapped opportunities, although exploitation is a major problem (Yalcin & Kapu 2008) because of the lack of strong and quality institutions that support the contributions of entrepreneurial initiatives (Ahlstrom & Bruton 2010; Smallbone & Welter 2001). In addition to this, entrepreneurship initiatives in these economies are constrained by the scarcity of resources (Ahlstrom & Bruton 2010) and the finance required to carry out innovative projects (Smallbone & Welter 2001). In these economies, although the venture creation speed is relatively fast, the growth is slow (Capelleras et al. 2010).

Consequently, it is concluded that starting and maintaining the survival of new ventures in less affluent, developing and transitional economies is burdensome (Yalcin & Kapu 2008). As a result, the contribution of entrepreneurial start-ups to economic growth is not as strong as it should be (Aubry et al. 2015; Baptista & Thurik 2007), while, sadly, the relationship between entrepreneurial activity and economic development is negative (Acs et al. 2008).

Contrary to these results, there are, however, authors who argue the other way around (see, for instance, Hashi &

Krasniqi 2011; Govindarajan & Ramamurti 2011). These researchers contend that entrepreneurial activities in efficiency-based countries are contributing a great deal to economic growth and development, to the extent of influencing large multinationals in the developed world.

We believe that entertaining the two contrasting views is important in doing research of this nature. Therefore, it is hypothesised that a positive but weak correlation between new entrepreneurial start-up rates and GDP of efficiency economies exists.

H1b: In efficiency-driven economies, TEA and GDP exhibit a positive but weak correlation.

The relationship between total early-stage entrepreneurial activity with perceived opportunity and entrepreneurial intention

As stipulated in the GEM framework, TEA represents the share of adults in the total population of 18 to 64 years old, who are actively involved either in starting a new business (nascent entrepreneurship) or in managing a business that is less than 42 months old (Reynolds et al. 2005).

The prevalence of TEAs is found to be high in developing economies; however, their contribution is not as strong as their counterparts in well-developed economies (Kelley, Singer & Herrington 2016; Wennekers et al. 2010).

As described in our previous discussion, the rates of early entrepreneurial activities differ from economies to economies, raising the question of what this difference means. According to many research findings, it reveals variations in countries' domestic productivity and economic growth (Aubry et al. 2015; Hashi & Krasniqi 2011; Stel et al. 2005).

These findings imply that every single new entrant adds value in some form and helps countries to expand and boost their production. New firms, particularly those in transition economies, displace obsolete incumbents, fill existing market gaps and create new value (Stam & Stel 2009). Moreover, such entrepreneurial activities are found to be essential to commercialise innovative technologies and for healthy development of the business population (Stel et al. 2005). Hence, any new addition always connotes a possible improvement in GDP and enhanced growth prospects.

However, there are several scholars who assert that the number does not matter, but the quality does. Shane (2009), who is a strong proponent of this claim, says countries need to focus on quality entrepreneurship that will make significant contributions to economic growth and, therefore, stresses the importance of focusing entirely on firms with high-growth potential. Mason and Brown (2013), concurring with his reasoning, have clarified policy measures that need to be taken to effectively support these firms. Yet, Shane's view was not insulated from criticisms. For instance, Daunfeldt, Elert and Johansson (2014) argued that policymakers should focus on conditions for new firm formation and early growth of new firms rather than targeting particular high-growth firms. They claimed that it is impossible for policymakers to know which firm will become a high-growth firm, ex ante.

Despite the inconsistencies with regard to where the focus must be, both research perspectives are in agreement on the importance of the rise and formation of new firms. Even Mason and Brown (2013) said policymakers cannot ignore support for start-ups, despite the strong support needed for high-growth firms. Therefore, countries aiming to expand and strengthen their economy are strongly advised to maintain an entrepreneurial environment that encourages citizens to pursue and allow their entrepreneurial ideas and intentions to materialise.

Identifying the factors that trigger individuals to pursue the entrepreneurial path is substantive to this discussion. We expect two factors to play a critical role with respect to this: an individual's ability to perceive opportunities and his or her entrepreneurial intention. It is solely when an entrepreneur possesses competencies such as the ability to perceive opportunities (Barazandeh et al. 2015) and the intention to act entrepreneurially (Río-Rama et al. 2016) that business ideas become a reality.

Johnson et al. (2015) argue that decisions to start and engage in entrepreneurial activities are not just driven by manic tendencies. Such activities are initiated by recognising an opportunity, which is apparently influenced by many factors (Wasdani & Mathew 2014), and by having the commitment to materialise the said perceived opportunity (PO). Thus, we can say that hoping for a strong TEA rate without a significant percentage of people with the required capacity to see opportunities and the intention to pursue their entrepreneurial aspirations, is an illusion.

What then do we mean by opportunity perception and entrepreneurial intention? Let us first consider and explain opportunity perception and then the latter. Following the debate on the nature and source of entrepreneurial opportunity, opportunity perception becomes a very problematic concept. In this article, our intention is not to delve deep into the inconsistencies; thus, we have adopted the simplest definition. Opportunity perception is a perception of what can be done to earn a profit (Lewin 2012). It is also viewed as a process of identifying business opportunities, which normally represent market imperfections that give agents, entrepreneurs, the chance to obtain economic benefit by introducing new and/or improved products, the better to serve customer needs (Alvarez, Barney & Anderson 2013).

Perceived opportunity triggers entrepreneurial actions through identifying what can be done in light of market gaps. With regard to the impact of PO, Herrington, Kew and Kew (2014) describe it as one of the two critical factors that force a person to consider starting their own business.

Perceived opportunity, in the GEM conceptual framework, denotes 'the percentage of individuals aged 18–64 involved in any stage of entrepreneurial activity excluded who see good opportunities to start a business in area where they live' (Singer, Amorós & Arreola 2015:23).

Global Entrepreneurship Monitor (GEM) reports consistently indicate that perceptions favouring the existence of good business opportunities are higher in factor-driven economies, while the strength of these perceptions declines as we move towards innovation-driven economies (Herrington et al. 2011). The findings suggest the existence of a large pool of people who could possibly take action to exploit the identified opportunity in efficiency countries compared to innovation-based countries. Therefore, we expect higher TEA rates in efficiency-driven countries than in innovation-driven countries because of the strong association between recognising opportunities and engaging in early entrepreneurial activities. Based on this assumption, we developed the following two hypotheses:

H2a: TEA is positively and strongly correlated with PO in efficiency-driven economies.

H2b: TEA is positively and weakly correlated with PO in innovation-driven economies.

The other major force that paves the way for a high TEA is strong entrepreneurial intention. The latter intention is defined as a conscious and planned resolve that drives the actions necessary to start a business (Thompson 2009).

Entrepreneurial intention (EI) does not refer to a whimsical desire to have a business; rather, it signifies a self-acknowledged conviction to set up a business and intentionally plan to do so at some point in the future (Thompson 2009). Thus, it can be said that a genuine intent is action oriented and this action is expected to result in nascent entrepreneurship. This is why entrepreneurial intention is depicted as a force that has a significant impact on new venture organising activities (Hopp & Sonderegger 2015).

As presented by GEM, entrepreneurial intention refers to people who intend to start a business in the next 3 years; the intent is considered critical in the entrepreneurial process given its strong association with actual entrepreneurial behaviour (Herrington et al. 2014). And likewise, with the association discussed between PO and TEA, researchers found that entrepreneurial intention is higher among factor-driven economies and lower among innovation-driven countries (Singer et al. 2015). Based on this elucidation, we propose the following two hypotheses to examine the relation between TEA and EI, both in efficiency- and innovation-driven economies:

H3a: TEA is positively and strongly correlated with EI in efficiency-driven economies.

H3b: TEA is positively and weakly correlated with EI in innovation-driven economies.

Transforming an efficiency economy into an innovation economy: Entrepreneurship as enabler

Countries always aspire to attain the next higher economic level. To achieve this substantial vision, they employ various macro- and micro-level economic and business strategies. In situations where there is a need to bring the majority of actors on board and to generate capital that would allow people at the bottom of the hierarchy to benefit, entrepreneurship remains as the most satisfactory solution (Bruton et al. 2015).

In addition to the job opportunity, increasing money flow and the sense of accomplishment that entrepreneurship provides at the individual level, it also plays a crucial role at national level through improving competitiveness among countries, promoting economic growth and increasing employment opportunities (Feki & Mnif 2016). These virtues make entrepreneurship the best strategy and/or enabler compared to any other macro interventions aimed at transforming economic structures.

Entrepreneurship in efficiency-driven economies remains the major driver of economic growth (Stam & Stel 2009). If we consider the BRICS countries (Brazil, Russia, India, China, and South Africa), which, with the exception of India, are good representatives of efficiency-driven economies, entrepreneurial activities at small and medium business level are contributing a great deal to employment creation and the GDP. In BRICS countries, small- and medium-scale enterprises (SMEs) are the major employers, absorbing 60% of job seekers and making 42% of their GDP (Hoeppli 2013).

Yet the quality of entrepreneurship in efficiency-driven economies is a matter of concern for many. For years, the relationship between GDP and TEA reported to be U-shaped, wherein entrepreneurial activity tended to be higher for affluent and developing economies and less in transition economies (Pfeifer & Sarlija 2010). This relationship implies an increasing and growing trend of entrepreneurial activities in developing countries because of an increase in necessity-based entrepreneurship, when innovation-driven economies take advantage of their strong institutions and infrastructure to promote opportunity-driven entrepreneurs (Wennekers et al. 2010). According to this relationship, efficiency economies apparently experience a decrease in self-employment and exhibit a negative relationship between entrepreneurial activities and economic development (Acs et al. 2008).

The question which then arises focuses on why the relationship is inverse in efficiency economies. The causes are too numerous to mention all. Institutional barriers (Hashi & Krasniqi 2011), a preference for waged employment because of the higher opportunity cost of starting one's own business (Koellinger & Thurik 2012), an unfavourable institutional framework (Ahlstrom & Ding 2014), the lack of a welfare system that supports entrepreneurs (Chowdhury et al. 2015) and institutional instability (Ahlstrom & Bruton 2010) are some of the factors that appear frequently.

It is understood that transformation is impossible given all these deficiencies. Thus, many researchers call for an improvement in the overall entrepreneurial climate of transition economies (Koster & Rai 2008) and in the transformation process, they stress the role of governments (Martinez-Fierro et al. 2016). Accordingly, they argue that governments need to take the central role in creating an entrepreneurial environment that promotes and fosters innovation (Maradana et al. 2017), high-growth potential entrepreneurs (Koster & Rai 2008; Shane 2009) and export-oriented firms (Lecuna et al. 2017).

Moreover, it is the government's responsibility to develop supportive institutions that encourage a competitive business environment by reducing the burden imposed by formal institutions (Krasniqi & Desai 2016), improving the social image of entrepreneurs (Barazandeh et al. 2015), ensuring corruption-resistant structures, strong property rights and reducing tax and administrative burdens (Chowdhury et al. 2015).

In this attempt, improving the quality of institutions stands out as a priority area. As argued by Autio and Fu (2015), economic and political institutional quality has a strong and meaningful relationship with the emergence and type of entrepreneurship. They claim that one standard deviation improvement in the quality of economic and political institutions could double formal entrepreneurship and reduce informal entrepreneurship by half.

The other frequently aired suggestion revolves around promoting innovation. According to this line of research, promoting innovation creates a comfortable platform for the generation of opportunity entrepreneurs who will make a meaningful contribution to economic growth (Aubry et al. 2015). In support of this claim, some suggest rechanneling entrepreneurship support programmes from necessity entrepreneurs to high-growth potential firms (Shane 2009) and encouraging policymakers to give due care to activities that help improve the quality of entrepreneurship and the emergence of ventures with strong growth prospects (Bruton et al. 2015; Koster & Rai 2008).

In addition to the roles that governments could play, extant research also stresses the part played by existing entrepreneurial firms. The latter must be an integral part of the transformation endeavour and they must assume a leadership role (Aubry et al. 2015). It is suggested that private firms must be prepared to develop the capabilities that would allow them to differentiate their offerings and focus on strategic leadership that could help them build the competencies and resources necessary to compete and respond to the changes that the transformation brings (González-Corzo 2015).

Generally, researchers call for well thought out and controlled government interventions in order to create a conducive entrepreneurial ecosystem (Fuerlinger, Fandl & Funke 2015) accompanied by a reallocation of capital and promotion of innovation (Bradley et al. 2012), careful management of money supply and interest rates (Galindo & Méndez 2014) and revisiting of regulatory requirements (Gupta et al. 2014) as well as readjusting economic structure from one that places emphasis on efficiency and scope to one that appreciates effectiveness (Baptista & Thurik 2007).

Measurements and operationalising key terms

Entrepreneurial activities

We have adopted the GEM definition. Global Entrepreneurship Monitor defines entrepreneurial activities as:

> ... an output of the interactions of an individual's perception of an opportunity and capacity (motivation and skills) to act upon this and the distinct condition of the respective environment in which the individual is located. (Singer et al. 2015:20)

From the above definition, we can identify three major building blocks. The first one is the perception of opportunity, the second one is (having) the capacity and the last one is the environment in which the entrepreneur operates. Seamless integration of the three aspects of entrepreneurial activities could help develop an entrepreneurial atmosphere that is able to contribute effectively to the advancement of economies. As Morrison, Breen and Ali (2003) have argued, creating a growing small business requires a balanced alignment of the entrepreneur's intention, the abilities of the business and an opportunity environment.

Economic growth

In the same manner, GEM describes economic growth:

> ... as the result of individuals' (wherever they are located and regardless of whether they are self-employed or the size of the businesses) personal ability to identify and seize opportunities and that this process is taking place in the interaction with the environment. (Singer et al. 2015:18)

This basic assumption implies that any entrepreneurial activity occurring in the environment could exert a significant effect on the growth prospect of economies. Consistent with this claim, various research findings have confirmed the relationship between entrepreneurial activities and economic growth and development. Aubry, Bonnet and Renou-Maissant (2015) have noted that changes in GDP are the indicators of new start-ups.

Total early-stage entrepreneurial activity

This includes individuals in the process of starting a venture and those running a new business less than 3.5 years old. In other words, it represents a 'percentage of individuals aged 18–64 who are either nascent entrepreneurs or owner-managers of a new business' (Singer et al. 2015:24).

Perceived opportunities

'Percentage of individuals aged 18–64 involved in any stage of entrepreneurial activity excluded who see good opportunities to start a business in the area where they live' (Singer et al. 2015:24).

Entrepreneurial intentions

'Percentage of individuals aged 18–64 involved in any stage of entrepreneurial activity excluded who are latent entrepreneurs and who intend to start a business within three years' (Singer et al. 2015:24).

Gross domestic product

It is an estimate of market throughput, adding together the value of all final goods and services that are produced and traded for money within a given period of time (Costanza et al. 2009).

Methodology

A challenging and crucial part of a study is deciding on the kind of research design that the research follows. Creswell (2014) claims that research designs provide specific direction for procedures. This claim entails that subsequent procedures and actions need to be in agreement with the chosen design to maintain the coherence and logical flow of ideas.

Throughout this article, we have followed a comparative research method, one that affords an opportunity to detect similarities and variances of two different groups (Mills, Bunt & Bruijn 2006). As Mills et al. (2006) have argued, comparative analysis can include both qualitative and quantitative comparison of entities; its underlying goal is to search for similarities and variances. They assert that if researchers are able to deal with the limitations, such as construct equivalence, the method provides sensible and valid results.

We paid considerable attention to minimising the methodological limitations of this design. Pursuant to this we took maximum care while developing the two sets (efficiency-driven vs. innovation-driven economies). The selection was made on the basis of three major criteria. The first criterion was availability of relatively complete data within the selected time period; the second criterion was the level of economic development and, lastly, the comparability of GDP of the countries that make up the two sets. Based on these inclusion criteria, and as previously mentioned, we selected the United States of America, Great Britain and Germany to comprise the innovation-driven economies and China, Brazil and South Africa to form the efficiency-driven set.

The data for this study, as indicated previously, came from a GEM adult population survey data set and the UN database. As mentioned, we utilised the WEF countries' economic categorisation in order to form the two sets.

We measured the economic development by GDP, which is the most widely accepted measure of economic progress (Costanza et al. 2009), while the entrepreneurial dynamics were measured and are represented by PO, EI and TEA rates. Nine years (2006–2014) of data regarding entrepreneurial dynamics of countries were extracted from GEM adult population data sets, whereas the GDPs of countries were taken from the United Nations database.

A bivariate correlation analysis was employed to detect the relationship between TEA and GDP and TEA with PO, and the EI rating of countries as well as the hypotheses. Two separate correlation analyses have been performed for the two economic contexts; inferences are made based on the strength of the correlation in each scenario.

Analysis, discussion and limitations

The results of the analysis are discussed in two parts. The first part reports the results of the correlation of TEA and GDP and TEA with PO, and EI in innovation-driven economies and discusses the implication of the results. Similarly, the second part addresses the correlation results of the same variables in efficiency-driven economies and explains the implications. Correlations between the GDP and TEA, as well as measures of entrepreneurial tendencies (PO and EI) with TEA for innovation-driven economies, are listed in Table 1.

Entrepreneurial context in innovation-driven economies

As depicted in Table 1, the correlation between GDP and the measure of entrepreneurial activities is positive and strong. As we proposed, the correlation between GDP and TEA is significant at the 99% confidence interval and the relationship is very strong ($r = 0.795$, $p < 0.01$). The result supports our first hypothesis (H1a) which states that TEA and GDP are positively and strongly correlated in innovation-driven economies. The result implies that any new entrepreneurial activity in an innovation economy will make a positive and strong contribution to economic development.

Our result agrees with the many research works that explored the relationship between the two factors (Aubry et al. 2015; Feki & Mnif 2016; Stel et al. 2005; Yolaç 2015). As argued by Aubry et al. (2015), fluctuations in GDP in developed countries could be an indicator of early entrepreneurial activities.

The strong relationship between GDP and TEA also reflects the eutaxy of entrepreneurial activities developed in

TABLE 1: Correlations between gross domestic product and total early-stage entrepreneurial activity (TEA), and TEA with perceived opportunity and entrepreneurial intentions in innovation-based economies.

Correlations	Variable	GDP	PO	EI	TEA
GDP	Pearson's correlation	1	-	-	-
	Sig. (2-tailed)	-	-	-	-
PO	Pearson's correlation	0.373	1	-	-
	Sig. (2-tailed)	0.061	-	-	-
	N	26	26	-	-
EI	Pearson's correlation	0.700*	0.658*	1	-
	Sig. (2-tailed)	0.000	0.000	-	-
TEA	Pearson's correlation	0.795*	0.633*	0.863*	1
	Sig. (2-tailed)	0.000	0.001	0.000	-

GDP, gross domestic product; PO, perceived opportunity; EI, entrepreneurial intentions; TEA, total early-stage entrepreneurial activity.

*, Correlation is significant at the 0.01 level (2-tailed).

innovation-based economies. Furthermore, we believe that the strong presence of firms expecting high-growth (Vallierea & Peterson 2009), a prevalence of innovative and knowledge firms (Zsuzsannaa & Hermana 2012), the presence of favourable institutions (Amaghouss & Ibourk 2013), a strong and quality institutional infrastructure (OECD 2008) and a well-developed entrepreneurial culture (Pinillos & Reyes 2011) are contributing greatly to this.

Moreover, having noted the emphasis given to opportunity entrepreneurship (Valdeza et al. 2011) and the high prevalence of a voluntary mindset that encourages the development of innovative TEAs (Urbano & Alvarez 2014), we expect this trend to continue.

The other result that deserves attention is the correlation among the three measures of entrepreneurial characteristics. As may be perceived from Table 1, the three factors exhibit positive and strong significant correlations among each other. Total early-stage entrepreneurial activity has a positive significant and strong correlation with EI and PO at a 99% confidence interval ($r = 0.863$, $p < 0.01$; $r = 0.633$, $p < 0.01$, respectively). These results partially support our hypotheses (hypotheses H2b and H3b), implying the existence of an inherent relationship between early entrepreneurial activities and entrepreneurial intention and PO, despite the lesser prevalence of EI and PO in innovation-driven countries as argued by Herrmann and Kritikos (2013).

However, our result supports prior findings such as the claim by Baumol and Strom (2007), who argue that only when individuals are able to notice and have the intention to exploit opportunities, entrepreneurial activities that reduce waste, improve macro-economic performance, increase productivity and enhance total welfare start to emerge.

The result also reinforces the notion that it is impossible to think in terms of a strong TEA rate when countries are characterised by an entrepreneurial atmosphere which is fragile and a populace which is incapable of acting entrepreneurially. More importantly, this relationship can be taken as the manifestation of the strong entrepreneurial culture enshrined in innovation-driven countries.

Entrepreneurial context in efficiency-driven economies

Table 2 presents the correlation between GDP and TEA rate of efficiency-driven economies. It also exhibits the correlation between factors identified as drivers of TEA (PO and EI) and TEA rate of efficiency-driven countries.

The correlation between GDP and TEA in efficiency-based countries reveals results similar to that of innovation-based economies, albeit the correlation is not as strong as it is in the latter. As shown in Table 2, TEA and GDP are significantly correlated at a 99% confidence interval and the correlation is moderate in terms of strength ($r = 0.570$, $p < 0.01$). This result

TABLE 2: Correlation between gross domestic product and total early-stage entrepreneurial activity (TEA), and TEA with perceived opportunity and entrepreneurial intentions in efficiency-based economies.

Correlations	Variable	GDP	PO	EI	TEA
GDP	Pearson's correlation	1	-	-	-
	Sig. (2-tailed)	-	-	-	-
PO	Pearson's correlation	-0.195	1	-	-
	Sig. (2-tailed)	0.351	-	-	-
EI	Pearson's correlation	0.358	0.559**	1	-
	Sig. (2-tailed)	0.079	0.004	-	-
TEA	Pearson's correlation	0.570**	0.405*	0.855**	1
	Sig. (2-tailed)	0.003	0.044	0.000	-

GDP, gross domestic product; PO, perceived opportunity; EI, entrepreneurial intentions; TEA, total early-stage entrepreneurial activity.

*, Correlation is significant at the 0.05 level (2-tailed); **, Correlation is significant at the 0.01 level (2-tailed).

partially supports our hypothesis (H1b) which states that the correlation between TEA and GDP in efficiency-driven economies is positive but weak.

The result opposes findings that posit entrepreneurial activities in an efficiency economy as being less of a contributor to economic development (Acs et al. 2008; Aubry et al. 2015), but supports many other prior research findings (Hashi & Krasniqi 2011; Stam & Stel 2009; Zhang & Duysters 2010) that stress the role of early entrepreneurial initiatives in economic development in transition economies.

Our result implies that despite the less accommodative entrepreneurial environment of efficiency-driven economies, every entrepreneurial initiative plays a positive and satisfactory role in the economic development endeavours of these countries. Nonetheless, the need for opportunity and/or high-growth entrepreneurs is still pressing and the contribution of the existing entrepreneurial activities cannot be undermined. They assist the economies to prosper by providing millions of jobs (Ayyagari, Demirguc-Kunt & Maksimovic 2014), fostering reverse innovation (Govindarajan & Ramamurti 2011), creating efficient utilisation of resources and developing positive externalities (González-Corzo 2015).

Yet comparing the result with innovation economies suggests the existence of considerable differences. We presume that the difference is rooted in factors inherent to the economic structure, institutional arrangements that are hostile for the growth of entrepreneurial attempts (Ahlstrom & Bruton 2010), an immature entrepreneurship culture (Lee & Peterson 2000), the proliferation of marginal entrepreneurs (Stel et al. 2005) and an underdeveloped welfare system for supporting entrepreneurs (Chowdhury et al. 2015). Generally speaking, the overall economic, entrepreneurial and societal environment is crippling entrepreneurs in efficiency economies, thereby preventing them from contributing much to the economic development there.

The other interesting result evident from Table 2 is that of the correlation among the three entrepreneurial factors. As can be inferred, each of these variables has positive and significant relationships among themselves. We found a strong positive

correlation between EI and TEA at the 99% confidence interval ($r = 0.855$, $p < 0.01$). Similarly, the correlations between TEA and PO are significant and positive at the 95% confidence interval ($r = 0.405$, $p < 0.05$). Both results provide partial support for hypothesis H2a and fully support hypothesis H3a. The results imply that governments aiming to improve their TEA rate need to work on boosting the skills of citizens to perceive opportunity and foster an entrepreneurial intention that could encourage people to pursue entrepreneurial paths.

Discussion, limitations and directions for future research

In the existing literature, we came across many findings that explicate the relationship between entrepreneurship and economic development. Our study will attempt to build on this knowledge base and expand the knowledge frontier by examining the relationship taking two structurally different contexts and to identify areas where efficiency economies must improve to advance into the next economic stage.

Our analysis demonstrates that entrepreneurship and economic development are positively related both in efficiency- and innovation-driven contexts, although the magnitude of the relationship is much stronger in innovation-driven countries. In addition, we have established a strong correlation between TEA rates and factors leading to business formation. The result indicates that total early entrepreneurial activities are strongly associated with PO and entrepreneurial intention.

The correlations support the relevance of expanding institutions, platforms and systems that encourage identifying opportunities and instil the intention of pursuing an entrepreneurial route so that there are as many people as possible preferring to start their own business and create wealth for their country. Efficiency-driven economies need to enhance their TEA rate by training and exposing citizens to entrepreneurship and addressing structural constraints that cripple entrepreneurial intention.

Furthermore, if entrepreneurship is to contribute in its full capacity to economic growth, efficiency-driven economies need to pay due attention to the total entrepreneurial atmosphere. Improving the quality of entrepreneurship and fostering innovation have to be the central agenda. Creating a favourable institutional framework is the prerequisite for doing this (Amaghouss & Ibourk 2013).

It is crucial to shift from scale, scope and experience into structures that intensify dependence on resources such as adjustment and effectiveness (Baptista & Thurik 2007). However, promoting such kinds of entrepreneurial activities demands concrete actions from governments in developing and ensuring favourable institutional frameworks that encourage innovation.

Moreover, it is important to heed the necessity of revisiting regulatory requirements, normative dimensions and cultural-cognitive dimensions to encourage entrepreneurs and boost entrepreneurial activities (Gupta et al. 2014; Urbano & Alvarez 2014). Careful attention needs to be paid to ensuring conducive regulatory systems; small business development and the enhancement of entrepreneurial skills, improving media coverage and the advancement of entrepreneurial confidence and developing entrepreneurial networks should be an area of special attention. Yet, the focus must not be placed simply on numbers because job creation and economic growth are not only driven by the number of entrepreneurs. The development programmes must focus on the formation of high-quality and high-growth companies (Shane 2009).

While we stress special attention must be given to high-growth potential, it is also relevant to be aware of the possible side effects of such activities. As argued by Daunfeldt et al. (2014) and mentioned above, we do not know which firm will become a high-growth firm ex ante; hence, policymakers are advised to focus on formation of firms and early growth activities.

The impact of macro-level decisions on the proliferation of entrepreneurship, particularly entrepreneurship that emphasises innovation, must be considered. Central banks will have an essential role in promoting innovation and entrepreneurship through regulating the money supply and interest rates. Reducing the supply of money is expected to result in higher interest rates and promote savings, which will in turn aid financial institutions to maintain ample resources for entrepreneurs. Such monetary measures are expected to promote entrepreneurial behaviour and innovation. However, higher interest rates could result in a downside to entrepreneurship and investing in innovation (Galindo & Méndez 2014). Hence, countries wanting to promote innovation and entrepreneurship should find a balance and use their monitory policy as a single effective tool.

If the aspiring entrepreneurs are to benefit from the growing economy, the growth should be inclusive and broad-based. This can be achieved only when the economic systems allow for reallocation of capital and promotion of innovation at various stages of the economy (Bradley et al. 2012). Thus, efficiency-based economies need to design various support mechanisms that encourage the distribution of capital through improved education, access to various social ties, accessible and affordable finance, and programmes that encourage and spur innovation.

While the role of government and its level of involvement are quite debatable, we too, concurring with the view of Fuerlinger et al. (2015), hold the view that the active involvement of governments in creating institutions and a conducive entrepreneurship ecosystem are relevant. Policy measures that promote research, autonomous higher education institutions emphasising innovation, business environment reforms which aim at nurturing entry and growth of innovative firms, financial systems that encourage

innovation and a special focus on intellectual property rights protection must be put in place if these economies are to be transformed into the innovation-driven category (Fuerlinger et al. 2015; Herrmann & Kritikos 2013). However, if government's involvement is not controlled and well managed, it will result in unintended consequences. Hence, we endorse the claim that stress:

> ... should be placed on diminishing government involvement as strong educational institutions flourish, the physical infrastructure improves, a supportive financial service sector develops and a favourable attitude towards entrepreneurship becomes convincingly positive. (Phan, Zhou & Abrahamson 2010:186)

Despite its strengths, our study is limited in some respects. The first limitation emanates from the limited sample considered. We have included just six countries, three in each category, to study such a vast and complex relationship. Although we took maximum care to reasonably represent each economic context, we do not consider this classification as a perfect representation of the two contexts. Hence, we advise future researchers to consider a substantial number of economies to minimise the errors that may arise because of under-representation.

The complications involved in the relationship between entrepreneurship and economic development and in using entrepreneurship as a major development tool create a fertile ground for research. Our research examined merely the tip of this complex relationship by systematically focusing solely on innovation- and efficiency-driven economies. We believe that detecting the interaction of these variables in factor-driven economies could provide some useful additional insights; hence, future researchers should consider adding factor-driven economies to the analysis and explicate areas of congruence and departures.

Another limitation of our research was the use of just one measure to represent economic development. Future researchers might detect the relationship either by using other competing economic development measures such as per capita income or a combination of other economic development measurements. In addition, we encourage using different variables, in addition to TEA, that are able to explain the entrepreneurship dynamics of economies.

The third limitation of our research emanates from the methods applied and data used. We used GEM data, which comprise survey data, and applied a bivariate correlation analysis to them. However, we are of the view that utilising multiple sources of data would give the investigator the chance to triangulate and obtain a complete and much clearer picture of the issues under consideration. Thus, future researchers are advised to tap into different data sources to substantiate the data they obtain from GEM. In addition, using multiple statistical tools could help examine the context from distinct perspectives and acquire rich insights from the data. Therefore, we recommend that future researchers should apply different econometric models to analyse the role of entrepreneurship in transforming economies and forces that drive entrepreneurial activities.

Acknowledgements

Competing interests

The authors declare that there were no conflicts of interest during the writing of this article.

Authors' contributions

Both authors contributed equally to the writing of this article.

References

Acs, Z.J., Desai, S. & Hessels, J., 2008, 'Entrepreneurship, economic development and institutions', *Small Business Economics* 31, 219–234. https://doi.org/10.1007/s11187-008-9135-9

Ahlstrom, D. & Bruton, G.D., 2010, 'Rapid institutional shifts and the co-evolution of entrepreneurial firms in transition economies', *Entrepreneurship Theory and Practice* 34(3), 531–554. https://doi.org/10.1111/j.1540-6520.2010.00373.x

Ahlstrom, D. & Ding, Z., 2014, 'Entrepreneurship in China: An overview', *International Small Business Journal* 32(6), 610–618. https://doi.org/10.1177/0266242613517913

Albulescu, C.T. & Tămăşilă, M., 2016, 'Exploring the role of FDI in enhancing the entrepreneurial activity in Europe: A panel data analysis', *International Entrepreneurship Management Journal* 12(3), 629–657. https://doi.org/10.1007/s11365-015-0360-9

Alvarez, S.A., Barney, J.B. & Anderson, P., 2013, 'Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research', *Organization Science* 24, 301–317. https://doi.org/10.1287/orsc.1110.0727

Amaghouss, J. & Ibourk, A., 2013, 'Entrepreneurial activities, innovation and economic growth: The role of cyclical factors', *International Business Research* 6(1), 153–162.

Aubry, M., Bonnet, J. & Renou-Maissant, P., 2015, 'Entrepreneurship and the business cycle: The "Schumpeter" effect versus the "refugee" effect – A French appraisal based on regional data', *The Annals of Regional Science* 54(1), 23–55. https://doi.org/10.1007/s00168-014-0645-x

Auriol, E., Biancini, S. & Paillacar, R., 2012, *Intellectual property rights protection in developing countries*, s.l., viewed from http://www.etsg.org/ETSG2012/Programme/Papers.

Autio, E. & Fu, K., 2015, 'Economic and political institutions and entry into formal and informal entrepreneurship', *Asia Pacific Journal of Management* 32(1), 67–94. https://doi.org/10.1007/s10490-014-9381-0

Ayyagari, M., Demirguc-Kunt, A. & Maksimovic, V., 2014, 'Who creates jobs in developing countries?', *Small Business Economics* 43, 75–99. https://doi.org/10.1007/s11187-014-9549-5

Baptista, R. & Thurik, A.R., 2007, 'The relationship between entrepreneurship and unemployment: Is Portugal an outlier ?', *Technological Forecasting & Social Change* 74, 75–89. https://doi.org/10.1016/j.techfore.2006.04.003

Barazandeh, M., Parvizian, K., Alizadeh, M. & Khosravi, S., 2015, 'Investigating the effect of entrepreneurial competencies on business performance among early stage entrepreneurs Global Entrepreneurship Monitor (GEM 2010 survey data)', *Journal of Global Entrepreneurship Research* 5(18), 1–12. https://doi.org/10.1186/s40497-015-0037-4

Baumol, W.J. & Strom, R.J., 2007, 'Entrepreneurship and economic growth: Moderator comments', *Strategic Entrepreneurship Journal* 1, 233–237. https://doi.org/10.1002/sej.26

Bradley, S.W., McMullen, J.S., Artz, K. & Simiyu, E.M., 2012, 'Capital is not enough: Innovation in developing economies', *Journal of Management Studies* 49(4), 684–717. https://doi.org/10.1111/j.1467-6486.2012.01043.x

Bruton, G.D., Ahlstrom, D. & Si, S., 2015, 'Entrepreneurship, poverty, and Asia: Moving beyond subsistence entrepreneurship', *Asia Pacific Journal of Management* 32(1), 1–22. https://doi.org/10.1007/s10490-014-9404-x

Capelleras, J.-L., Greene, F.J., Kantis, H. & Rabetino, R., 2010, 'Venture creation speed and subsequent growth: Evidence from South America', *Journal of Small Business Management* 48(3), 302–324. https://doi.org/10.1111/j.1540-627X.2010.00296.x

Chowdhury, F., Terjesen, S. & Audretsch, D., 2015, 'Varieties of entrepreneurship: Institutional drivers across entrepreneurial activity and country', *European Journal of Law and Economics* 40(1), 121–148. https://doi.org/10.1007/s10657-014-9464-x

Colovic, A. & Lamotte, O., 2015, 'Technological environment and technology entrepreneurship: A cross-country analysis', *Creativity and Innovation Management* 24(4), 617–628. https://doi.org/10.1111/caim.12133

Costanza, R., Hart, M., Posner, S. & Talberth, J., 2009, *Beyond GDP: The need for new measures of progress*, vol. 4, The Pardee Papers, Boston University The Frederick S. Pardee Center, Boston, MA.

Creswell, J.W., 2014, *Research design: Aualitatitive, quantitative and mixed research approaches*, Sage, Riverside County, CA.

Daunfeldt, S.-O., Elert, N. & Johansson, D., 2014, 'The economic contribution of high-growth firms: Do policy implications depend on the choice of growth indicator?', *Journal of Industry, Competition and Trade* 14(3), 337–365. https://doi.org/10.1007/s10842-013-0168-7

Driga, O., Lafuente, E. & Vaillant, Y., 2009, 'Reasons for the relatively lower entrepreneurial activity levels of rural women in Spain', *European Society for Rural Sociology* 49(1), 70–96. https://doi.org/10.1111/j.1467-9523.2008.00475.x

Feki, C. & Mnif, S., 2016, 'Entrepreneurship, technological innovation, and economic growth: Empirical analysis of panel data', *Journal of the Knowledge Economics* 7(4), 984–999. https://doi.org/10.1007/s13132-016-0413-5

Fuerlinger, G., Fandl, U. & Funke, T., 2015, 'The role of the state in the entrepreneurship ecosystem: Insights from Germany', *Triple Helix* 2(3), 1–26.

Galindo, M.-Á. & Méndez, M.T., 2014, 'Entrepreneurship, economic growth, and innovation: Are feedback effects at work?', *Journal of Business Research* 67, 825–829. https://doi.org/10.1016/j.jbusres.2013.11.052

González-Corzo, M.A., 2015, 'Entrepreneurship in transition economies: Selected characteristics and relevant lessons for Cuba', *Journal of Enterprising Culture* 23(1), 91–115. https://doi.org/10.1142/S0218495815500041

Govindarajan, V. & Ramamurti, R., 2011, 'Reverse innovation, emerging markets, and global strategy', *Global Strategy Journal* 1, 191–205. https://doi.org/10.1002/gsj.23

Guerrero, M., Urbano, D. & Fayolle, A., 2016, 'Entrepreneurial activity and regional competitiveness: Evidence from European entrepreneurial universities', *Journal of Technology Transfer* 41, 105–131. https://doi.org/10.1007/s10961-014-9377-4

Gupta, V.K. et al., 2014, 'Institutional environment for entrepreneurship in rapidly emerging major economies: The case of Brazil, China, India, and Korea', *International Entrepreneurship and Management Journal* 10(2), 367–384. https://doi.org/10.1007/s11365-012-0221-8

Hashi, I. & Krasniqi, B.A., 2011, 'Entrepreneurship and SME growth: Evidence from advanced and laggard transition economies', *International Journal of Entrepreneurial Behaviour & Research* 17(5), 456–487. https://doi.org/10.1108/13552551111158817

Hechavarría, D.M., 2016, 'The impact of culture on national prevalence rates of social and commercial entrepreneurship', *International Entrepreneurship and Management* 12, 1025–1052. https://doi.org/10.1007/s11365-015-0376-1

Herrington, M., Kew, J. & Kew, P., 2014, *2014 GEM South Africa report: The crossroads – A goldmine or a time bomb?* University of Cape Town, Cape Town.

Herrington, M., Kew, J., Simrie, M. & Turton, N., 2011, *Global entrepreneurship monitor 2011 South Africa report*, Graduate School of Business, University of Cape Town, Cape Town.

Herrmann, B. & Kritikos, A.S., 2013, 'Growing out of the crisis: Hidden assets to Greece's transition to an innovation economy', *IZA Journal of European Labor Studies* 2(14), 1–32.

Hoeppli, T., 2013, 'Economic conditions and business environment in BRICS', *Professional Accountant* 12–14.

Hopp, C. & Sonderegger, R., 2015, 'Understanding the dynamics of nascent entrepreneurship – Prestart-up experience, intentions and entrepreneurial success', *Journal of Small Business Management* 53(4), 1076–1096. https://doi.org/10.1111/jsbm.12107

Johnson, S.L., Freeman, M.A. & Staudenmaier, P.J., 2015, 'Manic tendencies are not related to being an entrepreneur, intending to become an entrepreneur,or succeeding as an entrepreneur', *Journal of Affective Disorders* 173, 154–158. https://doi.org/10.1016/j.jad.2014.10.049

Kelley, D., Singer, S. & Herrington, M., 2016, *GEM 2015/16 global report*, Global Entrepreneurship Monitor, s.l.

Koellinger, P.D. & Thurik, A.R., 2012, 'Entrepreneurship and the business cycle', *The Review of Economics and Statistics* 94(4), 1143–1156. https://doi.org/10.1162/REST_a_00224

Koster, S. & Rai, S.K., 2008, 'Entrepreneurship and economic development in a developing country: A case study of India', *The Journal of Entrepreneurship* 17(2), 117–137. https://doi.org/10.1177/097135570801700202

Krasniqi, B.A., 2009, 'Personal, household and business environmental determinants of entrepreneurship', *Journal of Small Business and Enterprise Development* 16, 146–166. https://doi.org/10.1108/14626000910932935

Krasniqi, B.A. & Desai, S., 2016, 'Institutional drivers of high-growth firms: Country-level evidence from 26 transition economies', *Small Business Economics* 47, 1075–1094. https://doi.org/10.1007/s11187-016-9736-7

Lecuna, A., Cohen, B. & Chavez, R., 2017, 'Characteristics of high-growth entrepreneurs in Latin America', *International Entrepreneurship and Management Journal* 13, 141–159. https://doi.org/10.1007/s11365-016-0402-y

Lee, S.M. & Peterson, S.J., 2000, 'Culture, entrepreneurial orientation, and global competitiveness', *Journal of World Business* 35(4), 401–416. https://doi.org/10.1016/S1090-9516(00)00045-6

Lewin, P., 2012, viewed 31 March 2017, from https://organizationsandmarkets.com

Linan, F. & Fernandez-Serrano, J., 2014, 'National culture, entrepreneurship and economic development: Different patterns across the European Union', *Small Business Economics* 42(4), 685–701. https://doi.org/10.1007/s11187-013-9520-x

Maradana, R.P. et al., 2017, 'Does innovation promote economic growth? Evidence from European countries', *Journal of Innovation and Entrepreneurship* 6(1), 1–23. https://doi.org/10.1186/s13731-016-0061-9

Martinez-Fierro, S., Biedma-Ferrer, J.M. & Ruiz-Navarro, J., 2016, 'Entrepreneurship and strategies for economic development', *Small Business Economics* 47(4), 835–851. https://doi.org/10.1007/s11187-016-9738-5

Mason, C. & Brown, R., 2013, 'Creating good public policy to support high-growth firms', *Small Business Economics* 40, 211–225. https://doi.org/10.1007/s11187-011-9369-9

Matejovsky, L., Mohapatra, S. & Steiner, B., 2014, 'The dynamic effects of entrepreneurship on regional economic growth: Evidence from Canada', *Growth and Change* 45(4), 611–639. https://doi.org/10.1111/grow.12055

Mendonça, J. & Grimpe, C., 2016, 'Skills and regional entrepreneurship capital formation: A comparison between Germany and Portugal', *Journal of Technology Transfer* 41(6), 1440–1456. https://doi.org/10.1007/s10961-015-9444-5

Mills, M., Bunt, G.G. & Bruijn, J.D., 2006, 'Comparative research: Persistent problems and promising solutions', *International Sociology* 21(5), 619–631. https://doi.org/10.1177/0268580906067833

Morrison, A., Breen, J. & Ali, S., 2003, 'Small business growth: Intention, ability and opportunity', *Journal of Small Business Management* 41(4), 417–425. https://doi.org/10.1111/1540-627X.00092

Organisation for Economic Co-operation and Development (OECD), 1998, *Fostering entrepreneurship*, OECD Publications, Paris.

Organisation for Economic Co-operation and Development (OECD), 2008, *OECD entrepreneurship review of Denmark*, OECD Publishing, Paris.

Pech, R.M., 2016, 'Achieving the innovative edge in technology, engineering design, and entrepreneurship', *Journal of Innovation and Entrepreneurship* 5(6), 1–18.

Pfeifer, S. & Sarlija, N., 2010, 'The relationship between entrepreneurial activities, national and regional development and firm efficiency – Global entrepreneurship monitor (GEM)-based evidence from Croatia', *The Journal of Entrepreneurship* 19(1), 23–41. https://doi.org/10.1177/097135570901900102

Phan, P., Zhou, J. & Abrahamson, E., 2010, 'Creativity, innovation, and entrepreneurship in China', *Management and Organization Review* 6(2), 175–194. https://doi.org/10.1111/j.1740-8784.2010.00181.x

Pinillos, M.-J. & Reyes, L., 2011, 'Relationship between individualist–collectivist culture and entrepreneurial activity: Evidence from Global Entrepreneurship Monitor data', *Small Business Economics* 37(1), 23–37. https://doi.org/10.1007/s11187-009-9230-6

Reynolds, P. et al., 2005, 'Global entrepreneurship monitor: Data collection design and implementation 1998–2003', *Small Business Economics* 24, 205–231. https://doi.org/10.1007/s11187-005-1980-1

Río-Rama, M.d.l.C.d., Peris-Ortiz, M., Álvarez-García, J. & Rueda-Armengot, C., 2016, 'Entrepreneurial intentions and entrepreneurship education to University students in Portugal', *Technology, Innovation and Education* 2(7), 1–11.

Shane, S., 2009, 'Why encouraging more people to become entrepreneurs is bad public policy', *Small Business Economics* 33(2), 141–149. https://doi.org/10.1007/s11187-009-9215-5

Singer, S., Amorós, J.E. & Arreola, D.M., 2015, *Global entrepreneurship monitor 2014 global report*, Global Entrepreneurship Monitor, London.

Smallbone, D. & Welter, F., 2001, 'The distinctiveness of entrepreneurship in transition economies', *Small Business Economics* 16(4), 249–262. https://doi.org/10.1023/A:1011159216578

Stam, E. & Stel, A.V., 2009, *Types of entrepreneurship and economic growth*, UNU-WIDER, Maastricht.

Stel, A.V., Carree, M. & Thurik, R., 2005, 'The effect of entrepreneurial activity on national economic growth', *Small Business Economics* 24, 311–321. https://doi.org/10.1007/s11187-005-1996-6

Thompson, E.R., 2009, 'Individual entrepreneurial intent: Construct clarification and development of an internationally reliable metric', *Entrepreneurship Theory and Practice* 33(3), 669–694. https://doi.org/10.1111/j.1540-6520.2009.00321.x

Thornton, P.H., Ribeiro-Soriano, D. & Urbano, D., 2011, 'Socio-cultural factors and entrepreneurial activity: An overview', *International Small Business Journal* 29(2), 105–118. https://doi.org/10.1177/0266242610391930

Tsai, K.-H., Chang, H.-C. & Peng, C.-Y., 2016, 'Refining the linkage between perceived capability and entrepreneurial intention: Roles of perceived opportunity, fear of failure, and gender', *International Entrepreneurship and Management Journal* 12(4), 1127–1145. https://doi.org/10.1007/s11365-016-0383-x

Urbano, D. & Alvarez, C., 2014, 'Institutional dimensions and entrepreneurial activity: An international study', *Small Business Economics* 42, 703–716. https://doi.org/10.1007/s11187-013-9523-7

Valdeza, M.E., Doktorb, R.H., Singerc, A.E. & Danad, L.-P., 2011, 'Impact of tolerance for uncertainty upon opportunity and necessity entrepreneurship', *Human Systems Management* 30, 145–153.

Vallierea, D. & Peterson, R., 2009, 'Entrepreneurship and economic growth: Evidence from emerging and developed countries', *Entrepreneurship & Regional Development* 21(5–6), 459–480. https://doi.org/10.1080/08985620802332723

Wasdani, K.P. & Mathew, M., 2014, 'Potential for opportunity recognition along the stages of entrepreneurship', *Journal of Global Entrepreneurship Research* 2(7), 1–24. https://doi.org/10.1186/2251-7316-2-7

Wennekers, S., Stel, A.V., Carree, M. & Thurik, R., 2010, 'The relationship between entrepreneurship and economic development: Is it U-shaped?', *Foundations and Trends in Entrepreneurship* 6(3), 167–237. https://doi.org/10.1561/0300000023

Wong, P.K., Ho, Y.P. & Autio, E., 2005, 'Entrepreneurship, innovation and economic growth: Evidence from GEM data', *Small Business Economics* 24, 335–350. https://doi.org/10.1007/s11187-005-2000-1

Yalcin, S. & Kapu, H., 2008, 'Entrepreneurial dimensions in transitional economies: A review of relevant literature and the case of Kyrgystan', *Journal of Developmental Entrepreneurship* 13(2), 185–204. https://doi.org/10.1142/S1084946708000922

Yolaç, S., 2015, 'An empirical study regarding entrepreneurship in Europe and central Asia', *Procedia – Social and Behavioral Sciences* 195, 1097–1103. https://doi.org/10.1016/j.sbspro.2015.06.154

Zhang, Y. & Duysters, G., 2010, *Entrepreneurship development and the role of economic transition in entrepreneurial activities in China*, UNU-MERIT Working Paper-036, United Nations University - Maastricht Economic and Social Research Institute on Innovation and Technology (MERIT), Maastricht.

Zsuzsannaa, S.K. & Hermana, E., 2012, 'Innovative entrepreneurship for economic development in EU', *Procedia Economics and Finance* 3, 268–275. https://doi.org/10.1016/S2212-5671(12)00151-7

Entrepreneurship management skills requirements in an emerging economy: A South African outlook

Authors:
M. Anastacia Mamabolo[1]
Myres Kerrin[1]
Tumo Kele[1]

Affiliations:
[1]Gordon Institute of Business Science, University of Pretoria, South Africa

Corresponding author:
Anastacia Mamabolo,
anastaciamamabolo@gmail.com

Background: Entrepreneurship is seen as a driver of sustainable economic growth as entrepreneurs create new businesses and employment. Because entrepreneurship contributes to economic growth, it is important to have the skills needed to be successful in business venturing.

Aim: This study's aim was to determine skills required by South African entrepreneurs to run their businesses.

Setting: Entrepreneurs who own and run businesses in South Africa.

Method: A sequential exploratory mixed method research design was applied in the study. Phase I, which consisted of qualitative interviews with 15 entrepreneurs and 6 national experts, resulted in skills that were used to develop a survey instrument. A survey was conducted in Phase II on 235 entrepreneurs to confirm the skills to a larger population.

Results: Confirmatory factor analysis results showed that entrepreneurs require financial management, human resource management, start-up, social and interpersonal, leadership, personality, marketing, technical and business management skills.

Conclusion: The identified skills through empirical research will be instrumental in the training of entrepreneurs and as a tool to measure skills in future entrepreneurship skills research.

Introduction

Globally, there has been an increasing fascination in understanding entrepreneurs operating in an emerging market context (Bruton, Ahlstrom & Obloj 2008). Entrepreneurs in emerging markets contend with formal and informal public and private institutions, which can impact the development of entrepreneurship (Ahmad et al. 2010). As a result, the skills that entrepreneurs in this type of context apply to lead their businesses to survival and growth may be distinct from those applied by entrepreneurs in the developed markets (Solesvik 2012). Morales and Marquina (2013) argued that even entrepreneurs from developed countries when compared amongst themselves may have notable differences in skills requirements.

South Africa as one of the developing markets aims to improve the economy and create employment through entrepreneurship (Brière, Tremblay & Dau 2014). Despite efforts to invest in entrepreneurship, South Africa is challenged by a low entrepreneurial activity and high unemployment rate compared to the other sub-Saharan countries (Herrington & Kew 2015). The low entrepreneurial activity includes a low percentage of potential and established entrepreneurs. There are also comparatively fewer entrepreneurs who identify opportunities and believe that they have the necessary skills to create business ventures. Some of the challenges encountered include the low levels of entrepreneurial skills that are seen as important elements in economic and entrepreneurship development (Adendorff, Emuze & Vilakazi 2013).

Research on entrepreneurial skills adopts human capital theory perspective, which states that skills are the outcomes of investment in education and work experience (Becker 1964; Chell 2013; Unger et al. 2011). Additionally, Chell (2013) argued that research on entrepreneurial skills is mainly theoretical, lacking support by empirical evidence. Thus, there is no clarity on the specific skills required by entrepreneurs (Morales & Marquina 2013). Some of the complications in researching entrepreneurial skills are the lack of an agreed definition and the clarity of construct as it is often interchanged with entrepreneurial competencies (Chell 2013). This highlights that it is important to define and identify skills required by entrepreneurs with the support from empirical research. Therefore, this study will clearly define and separate skills from competencies.

With regard to the entrepreneurship research in South Africa, there is a research gap on specific entrepreneurial skills suitable for entrepreneurs in this context (Adendorff et al. 2013). As much as studies on skills in entrepreneurship are increasing elsewhere (Deakins, Bensemann & Battisti 2016; Loué & Baronet 2012; Shabbir, Shariff & Shahzad 2016), there is little about entrepreneurial skills required by entrepreneurs in South Africa. Therefore, the aim of this study was to determine the entrepreneurial skills required by entrepreneurs to run their businesses on a day-to-day basis. Entrepreneurial skills are one of the significant contributors to the success and performance of any business venture (Unger et al. 2011).

Entrepreneurs in South Africa require three types of support, namely human, financial and social capital (Brière et al. 2014). With regard to human capital, entrepreneurs would greatly benefit from entrepreneurial skills and training according to their developmental stages and the sector of activity. The lack of entrepreneurial skills may be because of inadequate training (Brière et al. 2014) and a poor educational system as the South African public education system is classified as the worst in the world, far worse even than peer developing countries (Turton & Herrington 2012). The 'education system has been failing to effectively equip individuals with skills and confidence required to consider entrepreneurship as a valid choice' (Turton & Herrington 2012:28).

Studies conducted in emerging markets have shown that the significance of entrepreneurship education lies in the positive relationship between the level of education and desire to be entrepreneurial (Herrington, Kew & Kew 2014). The educational institutions need to provide learners with practical exposure of entrepreneurship as a career path and put a stronger focus on problem solving skills and self-confidence, which are baseline skills for successful business venturing (Herrington et al. 2014). Individuals with a higher level of education are more likely to have intentions to start new business ventures (Amorós & Bosma 2014). According to Turton and Herrington (2012) one of the requirements to increase a pool of potential entrepreneurs, individuals with entrepreneurial intentions and early-stage entrepreneurs is an effective education system. However, if the skills needed for successful business venturing are identified and training based on the identified skills is conducted, even in a weaker educational system the feasibility and desirability of entrepreneurs can still be increased.

The results of the study showed that entrepreneurs require financial management, human resource management, start-up, social and interpersonal, leadership, personality, marketing, technical and business management skills. The identified skills through empirical research will be instrumental in the training of entrepreneurs and as a tool to measure skills in future entrepreneurship skills research.

The study presents the reviewed literature that supports the arguments relevant to the academic inquiry. The research methodology is presented, followed by the quantitative findings. The discussions of the findings are argued against the existing literature. The study concludes with the implications for entrepreneurs, training institutions and entrepreneurship scholars.

Literature review

Chell (2013) lamented that there has been a loss of sight in the definition and function of skill within the field of entrepreneurship. Further, the construct skill is at times confused or interchanged with that of competencies.

Distinguishing skills from competencies

Competencies are perceived to be equivalent or the same as abilities, skills and knowledge (Chell 2013; Hayton & McEvoy 2006), which mean that in many instances these constructs are applied interchangeably (Mitchelmore & Rowley 2010; Smith & Morse 2005). The lack of a clear distinction in entrepreneurship literature has resulted in many scholars appearing to confuse entrepreneurial skills with entrepreneurial competencies (Chell 2013). Consequently, this has impeded the expansion of the theoretical grounding of skills that can be derived from empirical studies. Not only do these obscure definitions and affect the field of research, but they also retard the possible practical application and implementations of relevant skills training programmes.

Competencies are the fundamental characteristics of an individual, which include motives, traits, skills, ability and knowledge that are essential in starting and running a business venture (Bird 1995; Boyatzis 1982). A different view by Hayton and McEvoy (2006) is that competencies mirror the integration of particular knowledge, skills, abilities and other personality characteristics resulting in productive performance. A recent theoretical article defined entrepreneurial competencies as 'clusters of related knowledge, attitudes and skills which an entrepreneur must acquire to enable him to produce an outstanding performance and maximise profit while managing a business venture' (Lugemwa 2014:76). Therefore, competencies are in the context of this study defined as the ability to perform in a manner that satisfies or surpasses the set performance criteria as a result of the combination or integration of knowledge, skills and other personality characteristics. It follows that entrepreneurial competencies are the entrepreneurial capability to perform entrepreneurial activities above the required standard as a result of the combination entrepreneurial personal attributes, knowledge, skills and personality characteristics.

Defining skills

A simple definition refers to skill as the ability to perform a task (McLarty & Dousios 2006). In the entrepreneurship domain, defining and specifying skills is ambiguous and complex (Chell 2013; Morales & Marquina 2013). The contributions from practitioner's training programmes have 'designed inconsistent entrepreneurial skills lists while

trait psychology reduced skills to inherent traits' (Morales & Marquina 2013:129). In research, scholars do not clearly define or re-invent the definition of skills and entrepreneurial skills in the context of their studies (Pyysiäinen et al. 2006). If skills are properly distinguished from and related to the elements in which they are embedded, this will be useful for empirical evaluation and practical implementation (Pyysiäinen et al. 2006) as well as theory development.

In the neoclassical approach, thus using human capital theory, skills are obtained through human capital investments in education and work experience (Becker 1964). Furthermore, human capital theory maintains that skills can be learnt and old ones perfected while training or performing tasks. For skills to be effective they must be applied to the different entrepreneurial tasks (Unger et al. 2011). Therefore, skills according to human capital theory are results of investments in their acquisition, they can improve through training and development and they need to be proficiently performed.

A review of some of the adopted definitions in literature (as seen in Table 1) through the human capital theoretical base indicates that skills in the entrepreneurial context are broadly described as the ability to perform a task. The typically shallow definition frame has tended to narrow the scope of skills to whether a person can do some set of tasks or not. Further, defining skills in this manner does not acknowledge that, for a person to be able to perform a task, there are some investments or sources needed to produce the skill to perform a task. Lastly, that some of skills can be learnt and refined through training and exposure.

Based on the characteristics of the skills aligned with human capital theory as portrayed in Table 1, skills in this context are defined as:

> the proficiency in performance of a task, as a result of human capital investments (formal and education, entrepreneurial education, work, industry and entrepreneurship experiences) and can be improved by training, practice and development.

The entrepreneurial skills in this context will be:

> the proficiency in performing tasks in the entrepreneurial phases as a result of human capital investments (formal and education, entrepreneurial education, work, industry and entrepreneurship experiences) and can be improved by training, practice and development.

Categories of skills

Defining skills according to the tasks performed has resulted in various categories of skills in entrepreneurship. In an empirical study conducted on Jamaican instructors, a panel of experts grouped some of the competencies and skills into eight clusters which included team leadership, perception of trustworthiness, planning and organisation, basic business skills, communication, problem solving skills, personal traits and creativity (Dixon et al. 2005). The well-researched categories of skills presented in Table 2 are technical, business management, entrepreneurial, personal, social and interpersonal, and behavioural or motivational skills.

An entrepreneur engaged in innovation and production will require skills categorised as production skills. Then the category of production skills will be further divided into sub-categories, which may include new ideas, new products and services skills. If the activity of the entrepreneurial phase has to deal with opportunity recognition, then an entrepreneur is required to possess special skills of identifying and choosing opportunities from a variety of available choices, thus opportunity recognition skills (Fletcher 2006).

Besides definitional issues in entrepreneurship skills research, another complexity is to differentiate entrepreneurial from management skills. Table 2 presents the six categories of skills derived from the literature, with management skills differentiated from entrepreneurial skills. As noted from the two schools of entrepreneurship, the discipline is founded on innovation or novelty (Schumpeter 1934) and opportunity recognition (Kirzner 1973). Shane and Venkataraman (2000) and Timmons (1999) agreed that opportunity recognition and exploitation are the fundamental constructs, which separate entrepreneurship from management. In the same vein Markman (2007) is of the notion that the core of entrepreneurial skills is opportunity recognition and exploitation. Therefore, opportunity recognition differentiates entrepreneurial skills from management skills.

Table 2 indicates that some of skills identified in literature are not actually skills, but they are more aligned with personality traits or qualities and behaviour. The lack of a proper definition

TABLE 1: Definition of skills.

Author	Skills	Investments	Training and development	Performance
Smilor (1997)	Entrepreneurial skills refer to those skills activities, or practical know-how, that is needed to establish and successfully run a business enterprise.	X	-	X
Wickham (1998)	A skill is knowledge which is demonstrated by action. Entrepreneurial skills are skills which enable entrepreneurial performance.	X	-	X
Van Vuuren and Niemen (1999)	Entrepreneurial skills cover the ability to turn a business idea into feasible business opportunities, to start and to grow a business enterprise.	-	-	X
McLarty and Dousios (2006); Pyysiäinen et al. (2006)	Skill refers to knowing how to do something, or how to carry out a task.	-	-	X
Lashgarara, Roshani and Najafabadi (2011)	A skill is the ability to apply gained knowledge correctly and using it in the business administration.	X	-	X
Chell (2013)	Skill refers to proficiency in performance and may be enhanced by practice and training.	-	X	X
Author	Skill is the proficiency in performance of a task, as a result of investment in education and experience, and can be improved by training, practice and development.	X	X	X

Source: Authors' own work

TABLE 2: Skills categories and their sub-sets.

Category of skills	Operation definition	Subset of skills	Authors
Technical skills	Performing key operations of the business	Managing operations, managing supplies and supply chains, production space skills, managing plant and equipment, technology and production processes, management styles,† written and oral communication and knowledge of manufacturing technology†	Chang and Rieple (2013); Chell (2013); Narkhede et al. (2014)
Business management skills	Organising and effectively managing the operations of the business (Lichtenstein & Lyons 2001)	Planning, organising, supervising, marketing skills, financial management skills, legal skills, administrative skills, high order skills related to learning and problem solving, marketing, human resource management, marketing, networking, operational skills, business planning skills and negotiation skills	Botha, Nieman and van Vuuren (2006); Hisrich, Peters and Shepherd (2005); Loué and Baronet (2012)
Entrepreneurial skills	Birth, growth and performance of a business enterprise. These are skills needed to develop innovative products and services and to generate solutions to emerging needs in the marketplace	Ability to develop business concepts and a business plan, environmental scanning, opportunity recognition,† advisory board and networking, innovation, new resource skills, calculated risk† or risk propensity, change orientation, visionary leadership,† inner control,† creativity† and persistence†	Shane (2000); Timmons (1999)
Personal skills	Skills which are needed to attain self-awareness, emotional maturity, ability and willingness to accept responsibility	Self-awareness,† accountability,† emotional coping,† creativity, change orientation,† motivation,† negotiating skills, learning skills, communication skills and self-efficacy†	Chang and Ripple (2013); Narkhede et al. (2014); Timmons and Spinelli (2004)
Behavioural and motivational skills	Skills which are associated with a behaviour and desire to achieve	Self-discipline,† intuition† and vision,† creativity,† perseverance,† rigorousness,† meticulousness,† commitment,† stamina,† energy,† effort, motivation,† achievement motivation† and passion†	Chell (2013); Loué and Baronet (2012)
Social and interpersonal skills	These are learnable behaviour used by individuals in their interactions with others	Persuasiveness,† social skill, self-confidence,† trust overconfidence,† leadership,† networking skills, self-efficacy,† impression management, social adaptability, social perception, self-promotion, expressiveness, perception and social influence	Baron and Markman (2000); Baron and Tang (2009); Chell (2013); Morales and Marquina (2013)

†, This element is more of behaviour or trait rather than skill according to skills definition in this study.

Source: Authors' own work

of skills resulted in many skills definitions, characteristics, variables and attributes in the literature appearing to be unclear. For example, risk propensity which is known as an entrepreneurial trait or personality characteristic can be regarded as a skill (Chell 2013). This categorisation makes risk propensity to be regarded as multidimensional, thus having the properties of both a trait and skill.

Baum, Locke and Smith (2001) highlighted that entrepreneurial personality traits may serve to influence skills sets which are developed. In addition, entrepreneurial personality traits such as self-efficacy, passion, visionary and tenacity may influence the individual's ability to perform entrepreneurial activities and ultimately impact on the business venture growth. Noting this challenge, it is therefore significant to treat personality characteristics or traits and skills as separate entities. However, the entrepreneurship literature does not offer much distinction between the two constructs.

Research design and methodology

The research question that this study intended to answer is: what are the skills needed by entrepreneurs to run their businesses on day-to-day basis?

Main research objective

The main objective was to determine the clusters, categories and sub-skills applied by entrepreneurs when running their businesses.

Research design

The design choice for this study was a mixed method approach. The mixed method originated as triangulation, which is the combination of qualitative and quantitative methodologies in the study of the same phenomenon (Denzin 1978; Jick 1979). The strategy followed in this study is one of sequential exploratory research whereby qualitative interviews were conducted in Phase I followed by a quantitative survey in Phase II (Creswell 2009).

Phase I (qualitative) design and method

The qualitative interviews were conducted in Phase I to identify skills and use the results of the qualitative phase to develop a survey instrument for measuring skills against a larger population of entrepreneurs. The data were collected through face-to-face interviews with a purposive sample of 15 entrepreneurs and 6 national experts in entrepreneurship. After collecting the qualitative data, the analysis was conducted by using ATLAS.ti, which is a computer-assisted qualitative data analysis software.

The analysis of the data occurred in series of steps whereby the first step was to develop a code book of skills, which included categories of skills, their sub-skills and operational terms. After all the interviews were transcribed, the next step was to closely appraise the data. This step involved reading through all the data to obtain a general sense of the information and to reflect on its overall meaning (Creswell 2003). Coding is the process of organising the data into chunks or segments of text before bringing meaning to information (Creswell 2003). ATLAS.ti was used to code, organise, compare different codes and sort the significant data that were best in describing the qualitative findings. The last step involved revising and refining the developed skills categories. The data analysis resulted in the categories of skills and their sub-sets, which were used to develop a questionnaire.

Phase II (quantitative) design and method

In Phase II, the quantitative study was aimed at confirming the skills and the sub-skills that were derived from the qualitative phase. The sample frame for the quantitative

study was a list of South African entrepreneurs in all nine provinces, which are as follows: Gauteng, Northern Cape, Western Cape, Eastern Cape, Free State, Mpumalanga, Limpopo, KwaZulu-Natal and North West. After data collection by using an online survey, there were 235 entrepreneurs who participated in the study.

The skills that were derived in the qualitative phase were confirmed through confirmatory factor analysis (CFA). This analysis is a way of testing how well the measured items represent a smaller number of constructs. This method was appropriate to test the extent to which the proposed sub-skills pattern of the factor loadings on the pre-specified skills constructs represent the actual data (Hair et al. 2010). The models were evaluated for fit in terms of significance and the strength of the parameters, as well as how well the overall model fits the observed data, as indicated by a variety of fit indices. The chi-square and the goodness-of-fit index (GFI), comparative fit index (CFI), Tucker–Lewis index (TLI), normed fit index (NFI) and root-mean square residual (RMSEA) indices were used to determine the model fit (Kline 2011).

Through CFA, the categories of skills developed were start-up skills, core business skills (business management, financial management, human resource management and marketing skills), personal and leadership skills (social and interpersonal, leadership and personal skills) and technical skills. In this study, the focus was on skills at a given point in time, thus adopting a cross-sectional study as the time horizon (Saunders, Lewis & Thornhill 2009).

Research findings

Qualitative phase results

Table 3 shows the final skills clusters, categories, sub-skills and their operational definitions. The identified skills were

TABLE 3: Qualitative findings of skills and their sub-categories.

Cluster	Category	Sub-skill	Operational definition
Start-up skills	Start-up skills	Prototyping	Testing the feasibility of the business idea
		Starting up a venture	Gathering material and financial resources to start a new venture
		Formalising business plan	Developing a business model or plan to run the business
		Growth planning	Planning the growth of the business in short and long term
		Assess own capabilities	Showing compelling drive to achieve the set objectives
		Environmental scanning	Scanning trends outside the environment of business
		Innovation	Developing new ideas, products and envision possibilities
		Calculated risk	Taking calculated risks to run the business
		Opportunity recognition	Identifying business opportunities
Core business skills	Business management skills	Problem solving	Identifying and solving problems encountered in the business
		Strategic competence	Identifying where the business is and where it needs to go
		Legal skills	Complying with the law and regulations set by government
		Planning	Planning the activities in the business
		Negotiation	Negotiating to obtain better business deals
		Organising work	Organising the activities in the business
		Decision-making	Making decisions in running the business
		Delegation	Delegating tasks to employees
		Distribution model	Making the product available in the market
		Managing change	Managing the changes in the business
		Partnerships	Attracting investors and potential partners
		Business development	Developing or growing the business by diversification
Core business skills	Marketing skills	Market research	Conducting market research
		Monitoring competitors	Monitoring and benchmarking the competition
		Positioning	Finding the market position in which the business operates
		Selling	Selling the product, either tangible or intangible
		Advertising the business	Seeking out new clients, e.g. at trade shows or exhibitions
		Branding	Creating a positive brand or image of the business
		Customer experience	Creating good customer experience and loyalty
		Social media marketing	Using social media to advertise the business
		Adapting products	Modifying products to client demands
Core business skills	Financial management skills	Pricing	Setting prices for products or services
		Raising capital	Gathering financial resources to start or to grow the business
		Managing cash	Managing the money transferred in and out of the business
		Calculating costs	Calculating costs, cost prices and the margins
		Interpreting financial results	Reading and analysing balance sheet and income statement
		Filing up tax reports	Filing up tax returns with the revenuer services
		Using financial software	Using financial software to produce financial reports
		Managing billing	Managing invoicing and collecting payments from clients
		Book keeping	Understanding and interpreting the financial records
		Selling or buying shares	Selling a certain portion of the company shares in exchange for money to grow the business

Table 3 continued on the next page →

TABLE 3: (Continued...) Qualitative findings of skills and their sub-categories.

Cluster	Category	Sub-skill	Operational definition
Core business skills	Human resource management skills	Recruitment	Recruiting and employing right people for the job
		Developing employees	Evaluating if the employees have the right skills to perform the tasks
		Evaluating employees' skills	Assessing the overall performance of employees
		Evaluating performance	Evaluating and overseeing employee's potential and career
		Setting roles	Defining jobs in terms of activities and skills and drawing up job descriptions
		Paying salaries	Implementing pay policy by defining salaries and bonuses
		Dismissing employees	Terminating employee contracts while respecting employment law
		Using human resource technologies	Using software to manage human resource matters
Technical skills	Technical skills	Industry-specific	Applying skills that are relevant in the industry
		Product development	Developing the product, either tangible or intangible
		Managing operations	Managing the production of the products or services
		Managing supplies	Distributing the products to the market
		Quality audit	Assessing if the product adheres to industry norms or standards
		Technology and production processes	Making use of the specialised technology in the production processes
		Continuous innovation	Continuously innovating existing products or services
Personal and leadership skills	Personal skills	Accountability	Focusing up on the intended goals or purpose
		Hard work	Going the extra mile and working long hours
		Intuition	Following your gut feeling when making decisions
		Passion	Enthusiastic about starting and running a business
		Self-motivation	Encouraging yourself and relying on the inward strength in executing entrepreneurial activities
		Single mindedness	Sticking with something even when the going gets tough
		Tenacity	Enduring in hard situations
		Time management	Scheduling and executing activities according the allocated time
		Assertiveness	Saying no to business deals without being too desperate
		Emotional coping	Dealing with stressful situations
		Learning ability	Learning in difficult challenges
		Creativity	Initiating new things in the business
Personal and leadership skills	Leadership skills	Visionary	Having a vision about the future of the business
		Inspiring employees	Encouraging and bringing the best out of employees
		Sharing vision	Sharing the vision of the company with the employees
		Culture of performance	Encouraging employees to have excellent performance
		Thought leadership	Establishing oneself as the leader in the industry
		Leading responsibly	Leading with responsibly and ethical manner
Personal and leadership skills	Social and interpersonal skills	People skills	Showing sensitivity to people's feelings and emotions
		Communication skills	Communicating meaningfully with employees, customers and other stakeholders
		Building relationships	Building relationships of trust with clients
		Understanding cultures	Working well with people of different cultures
		Political astuteness	Identifying and overcoming the political challenges
		Networking	Networking to build resources and opportunities
		Listening	Listening to and hearing what other people are saying

Source: Authors' own work

used to develop the survey instrument for data collection in Phase II.

Reliability and validity of qualitative findings

Reliability of the data was ensured by minimising the respondents' bias. The respondents were assured of anonymity in the data collection process, analysis and reporting of the findings (Saunders et al. 2009). The transcripts were examined to remove some notable mistakes that were committed during the process of transcription and assure that the interview data are accurately represented. In cases where recorded data were found to be unclear, participants were contacted again for further clarifications and confirmations. During the coding process, the consistency of definitions and meanings of the codes as guided by the code book was maintained.

In order to validate the qualitative findings, the use of experts in the field of entrepreneurship and research methodology who gave guidance on the research also helped to lend depth of legitimacy to the process. After the analysis of the data, the findings of the study were verified by presenting them to some of the entrepreneurs who participated in the qualitative interviews. Finally, the clusters of the skills were compared with the literature findings.

Quantitative phase results

Skills categories

The categories that were derived from CFA are shown in Table 4. GFI and CFI values of the categories were above the good fit value which is 0.90. RMSEA for most of the categories were within the good fit range of 0.05–0.08; however, for the financial management skills were slightly below while the

TABLE 4: Confirmatory factor analysis.

Skills	Chi-square	GFI > 0.90	CFI > 0.90	RMSEA 0.05–0.08	Cronbach's alpha > 0.70
Start-up (entrepreneurial)	2.8	0.995	0.998	0.042	0.800
Business management	39.6	0.961	0.967	0.075	0.838
Financial management	0.3	0.999	1.000	0.000	0.773
Marketing	1.2	0.997	0.998	0.027	0.764
Human resource management	6.4	0.990	0.994	0.069	0.872
Technical	0.2	1.000	1.000	0.000	0.872
Social and interpersonal	4.9	0.992	0.987	0.052	0.842
Leadership	5.7	0.990	0.992	0.089	0.819
Personal	0.0	1.000	1.000	0.000	0.842
Core business cluster	221.9	0.905	0.945	0.058	0.874
Personal and leadership cluster	56.3	0.958	0.983	0.045	0.860

Source: Authors' own work

leadership skills were slightly above the values of a good fit. The Cronbach's alpha of each category of skills was above 0.70, indicating that the internal consistency was very good (Kline 2011).

Skills clusters

In the second level analysis, some of the categories of skills were clustered together. CFA was run to determine if the clusters were significant. The main clusters of the skills are start-up, personal and leadership, core business and technical skills. The start-up and technical skills were not part of any cluster, therefore remained as standalones.

Start-up skills: The initial computation of the model had a chi-square = 34.1, *df* = 5, GFI = 0.946 and CFI = 0.917 and RMSEA = 0.158. Because the RMSEA results were higher than the expected value, the modification indices were examined to check if the model could be improved. The covariates of planning growth, environmental scanning, calculated risks and opportunity recognition were found to be highly related. After correlating the covariates, the model improved with a chi-square = 2.8, *df* = 2, RMSEA = 0.042, CFI = 0.998 and GFI = 0.995. The reliability test of the factors had a Cronbach's alpha of 0.80, indicating that the items measured what the instrument intended to measure. The results indicated that all the variables including planning growth, environmental scanning, new idea generation, taking calculated risks and opportunity recognition had a high loading on start-up skills construct.

Technical skills: The first model that was computed was a poor fit with chi-square = 124.9, *df* = 9, GFI = 0.858, CFI = 0.798 and RMSEA = 0.234. The modification indices showed that using specialised technology and continuous innovation had low factor loadings, and as a result, they were removed. After correlating the covariates of product development and quality evaluation the global fit indices improved to chi-square = 0.2, *df* = 1, GFI = 1.00, CFI = 1.00 and RMSEA = 0.000. The reliability analysis of the final factors had a Cronbach's alpha of 0.850, which is above the expected. Therefore, the measurement items or factors for the technical skills are industry-specific skills, product development, managing production and product quality evaluation.

Core business cluster: The first computation of the model showed that the data on business management, human resource management, marketing and financial management skills which were grouped together did not fit the model. The initial results had a chi-square = 413.0, *df* = 178, GFI = 0.852, CFI = 0.892 and RMSEA = 0.075. In order to obtain a good fit, factors with the cross-loading variables were removed negotiation, decision-making and positioning the business to ensure discriminant validity. After model trimming there was an improvement of the global model fit indices to chi-square = 221.9, *df* = 124, GFI = 0.905, CFI 0.945, TLI = 0.932 and RMSEA = 0.058. The reliability analysis was run on the measurement items and the results showed a Cronbach's alpha of 0.874 for the 18 items in the core business skills cluster. Therefore, the core business skills cluster consists of financial management, human resource management, marketing and business management skills.

Personal and leadership cluster: The social and interpersonal, personality and leadership skills were brought together to form a cluster of personal and leadership skills. The first model that was computed with the three categories (social and interpersonal, personality and leadership) of skills almost met the good fit criteria with chi-square = 180.7, *df* = 57, CFI = 0.910, RMSEA = 0.096 except for GFI = 0.897. The modification indices showed that L1 (crafting a vision) and LS6 (leading responsibly) had poor loadings, and as a result they were removed from the analysis. The model trimming improved the global fit indicators to chi-square = 56.3, *df* = 38, GFI = 0.958, CFI = 0.983, TLI = 0.975 and RMSEA of 0.045. The reliability tests of personality and leadership skills cluster had a Cronbach's alpha of 0.860. Therefore, based on the results presented above, social and interpersonal, personality and leadership skills form a cluster of personality and leadership skills. The skills codes in the diagram are presented in Table 5. Table 5 shows the summary of skills clusters, categories and sub-skills that were derived from CFA.

Discussion

The study commenced by identifying the skills applied by entrepreneurs in running their businesses. As a result, nine categories of skills were identified from the qualitative data analysis and were validated in the quantitative phase through CFA.

TABLE 5: Summary of skills from quantitative phase.

Skills clusters	Skills categories and their sub-skills
Start-up skills	Start-up: growth planning, environmental scanning, innovation, calculated risk taking and opportunity recognition
Core business skills	Business management: planning, problem solving, business modelling, legal skill, decision-making, delegation, business development and strategic competence
	Marketing: market researching, benchmarking competition, business positioning and selling
	Financial management: pricing products, cash flow management, calculating costs and reading financial statements
	Human resource management: recruitment, employees skills assessment, defining job specs, performance management and payment of salaries
Technical skills	Technical: industry-specific skills, product development, managing operations and quality audit
Personal and leadership skills	Leadership: crafting vision, inspiring employees, sharing the vision, cultivating excellent performance and leading responsibly
	Social and interpersonal: people skills, communication, listening, building relationships and cultural sensitivity
	Personal: hard work, intuition in decision-making and self-motivation

Source: Authors' own work

Start-up skills are necessary for the identification and exploitation of a business opportunity. Consistent with the literature these can also be termed 'entrepreneurial or opportunity recognition skills' (Loué & Baronet 2012; Wasdani & Mathew 2014). The start-up skills include opportunity recognition and exploitation, calculated risk taking, innovation, environmental scanning and planning the growth of the business.

Technical skills include an understanding of and proficiency in specific activities involving methods, processes and techniques in the business's line of operation. The technical skills include industry-specific skills, product development, management of operations and quality-monitoring skills.

Core business skills focus on the internal business environment, which involves financial management, human resource management and technical skills:

- Business management skills are needed to run the business on a daily basis. The business management skills that were considered significant were planning, problem solving, legal skills, decision-making, developing and executing a business model, strategic competence, delegation and business development.
- Financial management skills are required to manage capital in an efficient and effective way so as to accomplish the financial obligations of the business. The financial management skills were pricing products (tangible or service), cash flow management, calculating costs and interpreting financial statements.
- Marketing skills are about communicating the value of the tangible and service products to the customers, for the purpose of selling. Therefore, skills under the marketing category are market research, benchmarking competition, positioning the business in the market and selling skills.
- Human resource management skills pertain to the ability to deal with managing people in the business, including designing and implementing workplace policies. The skills under this category were recruitment, employees' skills assessment, defining job specs, performance management and payment of salaries.

Personal and leadership skills focus on leading employees to achieve maximum results and interaction with stakeholders. The stakeholders can either be internal, for instance employees or external such as customers and suppliers. The categories of skills within this cluster were social and interpersonal, leadership and personal skills:

- Social and interpersonal skills: In order to interact and form relationships with other people, entrepreneurs need social and interpersonal skills. The significant skills in this category are: people skills, communication skills, listening, building relationships and cultural sensitivity.
- Leadership skills are needed to lead 'self' and employees in the business. The sub-skills within this category include crafting vision, inspiring employees, sharing the vision, cultivating excellent performance and leading responsibly.
- Personal skills: The skills under this category are hard work, intuition and self-motivation.

The four main clusters of skills derived from this study were consistent with Chandler and Jansen (1992), Man and Lau (2000), Loué and Baronet (2012) and Chell (2013). However, the identified clusters had more categories and sub-skills than those already existing in the literature. Also, Pyysiäinen et al. (2006) noted that there is scarcity of exhaustive list of skills that match the different functional areas in the business. Pyysiäinen et al. (2006) argued that skills should be related to the different functions of the business. In each functional area there are activities that need to be performed and those activities have requisite skills. Therefore, this study addressed the categories and their sub-sets of skills, which deal with the functional areas such as marketing, finance, human resource, business management and technical functions.

Besides the skills specific to the functional business areas, there were skills which differentiate entrepreneurs from non-entrepreneurs and these were start-up skills (Carland et al. 1984). In addition to start-up skills, there were personal and leadership skills, which can be seen as 'soft skills' pertaining to the entrepreneur's relations and engagements with stakeholders.

There were inconsistencies within the identification of sub-skills in the personal skills category. Some of the sub-skills identified in the qualitative phase did not load well on the personal skills construct in CFA. The skills which did not load well were assertiveness, passion, single mindedness, emotional coping and accountability. An explanation to this may be that these skills are assumed to be behaviours or personal traits (Rauch & Frese 2007), and as a result they will load better when classified with other personality traits. Baum et al. (2001) separated skills from traits by empirically

showing that personality traits may serve to impact the development of skills for running a business. Therefore, this study supports the notion that skills should be considered as being different from traits.

Conclusions and practical implications

Using both qualitative and quantitative methods this study was able to identify an exhaustive list of skills with operational definitions. The entrepreneurship management skills needed by entrepreneurs are financial management, human resource management, start-up, social and interpersonal, leadership, personality, marketing, technical and business management skills. These categories of skills were found to be consistent with the existing literature but were more exhaustive and included new skills not identified in prior literature. Based on the empirical findings presented in the previous sections, this study makes some recommendations. Firstly, the identified skills can be used as a questionnaire for empirical testing in an attempt to advance theory on entrepreneurship. Secondly, the skills framework can serve as a baseline for skills training, support, mentoring and development programmes to develop practical and critical skills required in the process of entrepreneurship – what cannot be identified, cannot be developed. If entrepreneurship education and training based on the identified skills are implemented, even in a weaker overall educational system, the level of entrepreneurship activity can be improved. Finally, for the enterprise development programme, the skills framework can be adapted into a skills tool which can be used for pre- and post-training assessment of skills. This will assist in determining the skills needs of entrepreneurs before the training and in accessing impact of training on skills development of entrepreneurs.

Limitations and future research

Although the categories and skills of clusters may be generalisable in a different contextual setting, a probable limitation is that the sub-sets of the skills may not all be generalisable in a different context of application. The research was positioned in a context, which is characterised by a low entrepreneurial activity and low skills levels; therefore, the study may be less generalisable in contexts where entrepreneurial activity and skills are very high. The empirical evidence of the impact of skills on venture outcomes remains unknown as this study did not have an outcome variable of skills.

Because this was a cross-sectional study, future research can focus on how skills change over time as the entrepreneurship process unfold with a focus on entrepreneurs at different phases. Also, a deeper investigation into the sources of entrepreneurial skills and determine the informal platforms from which entrepreneurs learn skills. The study did not focus on entrepreneurial tasks and their requisite skills, so future studies can discover the requisite skills required to perform those activities. Future research should also test the generalisability of the skills framework in a different contextual setting and to a larger population.

Acknowledgements

Thanks to the Gordon Institute of Business Science (GIBS) and National Research Foundation (NRF) for the financial support.

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

M.A.M. conducted the research study, literature review and wrote the first draft of the article. M.K. and T.K. contributed in the conceptualisation of the theoretical framework and interpretation of the research findings.

References

Adendorff, C., Emuze, F. & Vilakazi, E., 2013, 'Evaluating the skills of emerging entrepreneurs in a developing economy', *International Journal of Social Entrepreneurship and Innovation* 2(3), 240–252. https://doi.org/10.1504/IJSEI.2013.057019

Ahmad, N.H., Ramayah, T., Wilson, C. & Kummerow, L., 2010, 'Is entrepreneurial competency and business success relationship contingent upon business environment? A study of Malaysian SMEs', *International Journal of Entrepreneurial Behaviour & Research* 16(3), 182–203. https://doi.org/10.1108/13552551011042780

Amorós, J.E. & Bosma, N., 2014, *Global entrepreneurship monitor 2013 global report*, Global Entrepreneurship Research Association, London, United Kingdom.

Baron, R.A. & Markman, G.D., 2000, 'Beyond social capital: How social skills can enhance entrepreneurs' success', *The Academy of Management Executive* 14(1), 106–116. https://doi.org/10.5465/ame.2000.2909843

Baron, R. A., & Tang, J., 2009, "Entrepreneurs" social skills and new venture performance: Mediating mechanisms and cultural generality', *Journal of Management* 35(2), 282–306.

Baum, J.R., Locke, E.A. & Smith, K.G., 2001, 'A multidimensional model of venture growth', *Academy of Management Journal* 44(2), 292–303. https://doi.org/10.2307/3069456

Becker, G.S., 1964, *Human capital: A theoretical and empirical analysis, with special reference to education*, National Bureau of Economic Research, New York.

Bird, B., 1995, 'Towards a theory of entrepreneurial competency', *Advances in Entrepreneurship Firm Emergence and Growth* 2(1), 51–72.

Botha, M., Nieman, G. & van Vuuren, J., 2006, 'Enhancing female entrepreneurship by enabling access to skills', *The International Entrepreneurship and Management Journal* 2(4), 479–493. https://doi.org/10.1007/s11365-006-0011-2

Boyatzis, R.E., 1982, *The competent manager: A model for effective performance (Bound)*, Wiley, New York.

Brière, S., Tremblay, M. & Daou, A., 2014, 'Entrepreneurship in South Africa: Looking beyond funding', *Development and Learning in Organizations* 28(2), 17–19. https://doi.org/10.1108/dlo-08-2013-0052

Bruton, G.D., Ahlstrom, D. & Obloj, K., 2008, 'Entrepreneurship in emerging economies: Where are we today and where should the research go in the future', *Entrepreneurship Theory and Practice* 32(1), 1–14. https://doi.org/10.1111/j.1540-6520.2007.00213.x

Carland, J.W., Hoy, F., Boulton, W.R. & Carland, J.A.C., 1984, 'Differentiating entrepreneurs from small business owners: A conceptualization', *Academy of Management Review* 9(2), 354–359.

Chandler, G.N. & Jansen, E., 1992, 'The founder's self-assessed competence and venture performance', *Journal of Business Venturing* 7(3), 223–236. https://doi.org/10.1016/0883-9026(92)90028-P

Chang, J. & Rieple, A., 2013, 'Assessing students' entrepreneurial skills development in live projects', *Journal of Small Business and Enterprise Development* 20(1), 225–242. https://doi.org/10.1108/14626001311298501

Chell, E., 2013, 'Review of skill and the entrepreneurial process', *International Journal of Entrepreneurial Behaviour & Research* 19(1), 6–31. https://doi.org/10.1108/13552551311299233

Creswell, J.W., 2003, *Research design: Qualitative, quantitative, and mixed methods approaches*, Sage, London, United Kingdom.

Creswell, J.W., 2009, *Research design: Qualitative, quantitative, and mixed methods approaches*, Sage, London, United Kingdom.

Deakins, D., Bensemann, J. & Battisti, M., 2016, 'Entrepreneurial skill and regulation: Evidence from primary sector rural entrepreneurs', *International Journal of Entrepreneurial Behavior & Research* 22(2), 234–259. https://doi.org/10.1108/IJEBR-12-2014-0240

Denzin, N.K., 1978, *The research act*, 2th edn., McGraw-Hill, New York.

Dixon, R., Meier, R.L., Brown, D.C. & Custer, R.L., 2005, 'The critical entrepreneurial competencies required by instructors from institution-based enterprises: A Jamaican study', *Journal of Industrial Teacher Education* 4(42), 25–51.

Fletcher, D.E., 2006, 'Entrepreneurial processes and the social construction of opportunity', *Entrepreneurship and Regional Development* 18(5), 421–440. https://doi.org/10.1080/08985620600861105

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. & Tatham, R.L., 2010, *Multivariate data analysis*, 7th edn., Pearson Prentice Hall, Upper Saddle River, NJ.

Hayton, J.C. & McEvoy, G.M., 2006, 'Competencies in practice: An interview with Hanneke C. Frese', *Human Resource Management* 45(3), 495–500. https://doi.org/10.1002/hrm.20126

Herrington, M. & Kew, P., 2015, *GEM 2015–2016 South Africa report*, Global Entrepreneurship Research Association, Cape Town.

Herrington, M., Kew, J. & Kew, P., 2014, *GEM 2014 sub-Saharan Africa report*, Global Entrepreneurship Research Association, Cape Town.

Hisrich, R.D., Peters, M.P. & Shepherd, D.A., 2005, *Entrepreneurship*, 6th edn., McGraw-Hill, New York.

Jick, T.D., 1979, 'Mixing qualitative and quantitative methods: Triangulation in action', *Administrative Science Quarterly* 24(4), 602–611. https://doi.org/10.2307/2392366

Kirzner, I.M., 1973, *Competition and entrepreneurship*, University of Chicago Press, Chicago, IL.

Kline, R.B., 2011, *Principles and practice of structural equation modeling*, Guilford Press, New York.

Lashgarara, F., Roshani, N. & Najafabadi, M.O., 2011, 'Influencing factors on entrepreneurial skills of rural women in Ilam City, Iran', *African Journal of Business Management* 5(14), 5536–5540.

Lichtenstein, G.A. & Lyons, T.S., 2001, 'The entrepreneurial development system: Transforming business talent and community economies', *Economic Development Quarterly* 15(1), 3–20. https://doi.org/10.1177/089124240101500101

Loué, C. & Baronet, J., 2012, 'Toward a new entrepreneurial skills and competencies framework: A qualitative and quantitative study', *International Journal of Entrepreneurship and Small Business* 17(4), 455–477. https://doi.org/10.1504/IJESB.2012.050164

Lugemwa, P., 2014, 'Improving the secondary school curriculum to nurture entrepreneurial competences among students in Uganda', *International Journal of Secondary Education* 2(4), 73–86. https://doi.org/10.11648/j.ijsedu.20140204.13

Man, T.W. & Lau, T., 2000, 'Entrepreneurial competencies of SME owner/manager in the Hong Kong service sector: A qualitative analysis', *Journal of Enterprising Culture* 8(03), 235–254. https://doi.org/10.1142/S0218495800000139

Markman, G.D., 2007, 'Entrepreneurs' competencies', in J.R. Baum, M. Frese & R.A. Baron (eds.), *The psychology of entrepreneurship*, pp. 67–92, Psychology Press, New York.

McLarty, R. & Dousios, D., 2006, 'Dynamics and patterns of skills within small and medium-sized enterprises', *Strategic Change* 15(4), 175–186. https://doi.org/10.1002/jsc.755

Mitchelmore, S. & Rowley, J., 2010, 'Entrepreneurial competencies: A literature review and development agenda', *International Journal of Entrepreneurial Behaviour & Research* 16(2), 92–111. https://doi.org/10.1108/13552551011026995

Morales, C. & Marquina, P.S., 2013, 'Entrepreneurial skills, significant differences between Serbian and German entrepreneurs', *The Business and Economics Research Journal* 6(1), 129–141. https://doi.org/10.7835/jcc-berj-2013-0085

Narkhede, B.E., Nehete, R.S., Raut, R.D. & Mahajan, S.K., 2014, 'Impact of entrepreneurial skills on the firm's performance: Evidence from manufacturing SMEs in India', *International Journal of Indian Culture and Business Management* 8(2), 216–236. https://doi.org/10.1504/IJICBM.2014.059207

Pyysiäinen, J., Anderson, A., McElwee, G. & Vesala, K., 2006, 'Developing the entrepreneurial skills of farmers: Some myths explored', *International Journal of Entrepreneurial Behaviour & Research* 12(1), 21–39. https://doi.org/10.1108/13552550610644463

Rauch, A. & Frese, M., 2007, 'Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success', *European Journal of Work and Organizational Psychology* 16(4), 353–385. https://doi.org/10.1080/13594320701595438

Saunders, M., Lewis, P. & Thornhill, A., 2009, *Research methods for business students*, 5th edn., Pearson Education, London.

Schumpeter, J.A., 1934, *The schumpttr: Theory economic development*, Harvard University Press, Boston, MA.

Shane, S., 2000, 'Prior knowledge and the discovery of entrepreneurial opportunities', *Organization Science* 11(4), 448–469. http://dx.doi.org/10.1287/orsc.11.4.448.14602

Shane, S. & Venkataraman, S., 2000, 'The promise of entrepreneurship as a field of research', *Academy of Management Review* 25(1), 217–226. https://doi.org/10.5465/amr.2000.2791611

Smilor, R.W., 1997, 'Entrepreneurship: Reflections on a subversive activity', *Journal of Business Venturing* 12(5), 341–346. https://doi.org/10.1016/S0883-9026(97)00008-6

Smith, B. & Morse, E., 2005, *Entrepreneurial competencies: Literature review and best practices*, Small Business Policy Branch, Industry Canada, Ottawa, ON.

Solesvik, M., 2012, May, 'Entrepreneurial competencies in emerging economy context', *paper presented at the 17th Nordic Conference on Small Business Research*, Helsinki, 23–25 May. Timmons, J.A., 1999, *New venture creation: Entrepreneurship for the 21st century*, 5th edn., McGraw Hill, Irwin, PA.

Timmons, J.A. & Spinelli, S., 2004, *New venture creation: Entrepreneurship for the 21st century*, 6th edn., Irwin, Boston, MA.

Turton, N. & Herrington, M., 2012, *Global entrepreneurship monitor 2012 South Africa*, Global Entrepreneurship Research Association, Cape Town.

Unger, J.M., Rauch, A., Frese, M. & Rosenbusch, N., 2011, 'Human capital and entrepreneurial success: A personal-analytical review', *Journal of Business Venturing* 26(3), 341–358. https://doi.org/10.1016/j.jbusvent.2009.09.004

Van Vuuren, J.J & Nieman, G., 1999, 'Entrepreneurship education and training: A model for syllabi/curriculum development', *paper presented at the 44th ICSB World Conference Proceedings*, Italy, 20–23 June.

Wasdani, K.P. & Mathew, M., 2014, 'Potential for opportunity recognition along the stages of entrepreneurship', *Journal of Global Entrepreneurship Research* 2(1), 7. https://doi.org/10.1186/2251-7316-2-7

Wickham, P.A., 1998, *Strategic entrepreneurship: A decision-making approach to new venture creation and management*, Pitman, London.

Collaborating to compete: The role of collective creativity in a South African clothing design small business

Authors:
Thea J. Tselepis[1]
Anne Mastamet-Mason[2]
Alex J. Antonites[3]

Affiliations:
[1]Department of Fashion Design, University of Johannesburg, South Africa

[2]Department of Fashion Design, Tshwane University of Technology, South Africa

[3]Department of Business Management, University of Pretoria, South Africa

Corresponding author:
Alex Antonites,
alex.antonites1@up.ac.za

Background: The number of apparel manufacturers in the South African clothing and textile industry is diminishing due to competition with importing apparel manufacturers. Nevertheless, South African small and micro-businesses still manufacture clothing products to meet the needs of the local markets.

Aim: This study set out to explore and describe the role of collective creativity in the design process of a South African clothing small business that provides innovative clothing to local niche markets.

Setting: The small and micro-businesses are typically owned by designers who can be viewed as artisan entrepreneurs. However, the competition for the local market is very competitive, and innovative designs and design processes can promote the competitiveness of the clothing small and micro-businesses.

Method: A case study research design was implemented in the study, which included qualitative research methods. Semi-structured interviews, participant observation and analysis of the products against an innovation design framework were done.

Results: The findings suggest that a collaborative design process supports the collective creativity of the particular owner-designers. Collective creativity enables innovative clothing products that result from the design process and it also reduced the perceived risk that the owner-designers experienced with regard to launching a ready-to-wear range.

Conclusion: It is argued that collective creativity contributes to sustaining innovative design and enhances abductive reasoning for problem solving. Abductive reasoning, which is typically associated with design thinking, could be important for entrepreneurial thinking and recommendations in this regard are made.

Introduction

Background

The decline of the South African clothing manufacturing sector is viewed as a crisis, because the local textile industry cannot keep up with the competition from Chinese imported apparel. This is due to local issues such as high labour costs, low productivity, slow turnaround time and a weak value chain (Dhliwayo 2012). As a result, it was determined in 2013 that the clothing and textile industry in South Africa shed approximately 50% of its jobs (Nattrass & Seekings 2014). This has created a situation where skilled machinists and pattern-makers have been forced to either work for small and micro-businesses that provide clothing to local clientele or to alternatively start micro- or small business enterprises.

Many of these clothing small and micro-businesses are less sophisticated cut, measure and trim businesses (Vlok 2006) that manufacture clothing by means of designing and constructing garments from concept to customer. Although no specific statistical evidence was available to indicate how many South African small and micro-businesses manufacture clothing for customers, it is apparent that at least 129 active apparel design small and micro-businesses were operating in the Tshwane region of the Gauteng Province between 2011 and 2013 (Tselepis 2013). Most of these businesses manufacture customised clothing for their individual customers and refer to themselves as clothing designers, irrespective of whether they have formal training in clothing design. Business owner-designers of this nature can be viewed as artisan entrepreneurs (Cyr, Meier & Pacitto 2011).

Many of the local artisan clothing entrepreneurs create individual and exclusive apparel for the local market, and therefore apply a business-to-customer trade model (Lemke, Clark & Wilson 2011). This model includes the trading of custom-designed clothing for private clients from a design studio or trading designer's clothing lines from exclusive retail stores to the target consumer. Clothing designers commonly implement this model to manufacture the so-called 'couture' wear, which implies that it is made-to-measure high-end clothing (Bickle 2011:57). Although these clothing small and micro-business owner-designers may survive by producing for local niche markets, a potential problem these owner-designers might face in the long run is competition with other local clothing designers who offer similar products – in addition to the competition with clothing imports. The importance of business differentiation strategies through producing innovative clothing or applying innovative processes can potentially enhance the competitiveness of businesses.

The prolonged production of innovative designs as an individual can present challenges to designers who do not embrace the creative contributions of others during the design process (Gong *et al*. 2013). Collaboration may enhance opportunities to be innovative in a business (Hartley, Sørensen &Torfing 2013). The inquiry presented in this study investigates the role that collective creativity plays in creating and sustaining a competitive advantage in the context of clothing product design of a specific clothing design small business that implements a collaborative design process.

Firstly, this study presents a review of the literature that supports the concepts relevant to the inquiry. A description of the research methodology follows, and the qualitative empirical findings are presented. After a discussion on the findings, this work concludes with implications for owner-designers of local clothing design small or micro-businesses.

Literature review

Design practice and thinking

In general, design (as a practice) is defined as a process that requires thinking and actions to combine elements or components into a cohesive whole, in a creative manner, to change an existing situation into a preferred one (Boztepe 2007:62). Rath *et al*. (2008:5) state that design entails a great deal of pre-production planning before implementation (production) takes place. Design is often viewed only as a conceptual process (Chan *et al*. 2011). Aspelund's (2010:5) definition is applicable to apparel design in particular: 'Design is about ideas: needing and finding ideas, examining and identifying their nature, and, most important, illustrating and explaining them so they can be realised'. Therefore, design entails that a plan of action is implemented during a design process to solve a design problem (Goldschmidt & Sever 2011).

From an entrepreneurial perspective, designing a product should not only involve the conceptual thinking related to the design process but also involve thinking that aims to add value to an intended market so that the business can thrive in the long run (Hobday, Boddington & Grantham 2012). A conceptual or cognitive process (thinking) that designers implement relates to entrepreneurial thinking (Neck & Greene 2011). More specifically, creativity and innovation applied to value creation and solving complex problems are two skills that designers and entrepreneurs share (Schmidt, Soper and Bernaciak 2012). Olsen (2015:182) signifies the latter through a perspective on the scientific origin of design thinking from a reflection on the work of John Dewey (1934) on art experience where the process commences with inquiry into an existing problem or problem situation. Goel and Shu (2015) add to the body of knowledge by encapsulating analogy as a cognitively embedded requirement for creative design thinking. Included in analogical design is domain-based design. In the context of this study, it involves the overlapping and integrated role of the designer in the entrepreneurial domain. The analogy of designing for a market reflects accordingly. Menon (2015) posits the structured nature of design and design thinking and refers to the entrepreneurial opportunity-finding process as an amalgamated element of the structured view. Therefore, it can be argued that one of the parallels between pure designers and entrepreneurs is solving problems through the application of design thinking and adding value as a result of the application of creativity.

Creativity

Olim, Mota and Silva (2015:205) quote the seminal work of *The rise of the creative class* (2002) by Richard Florida in emphasising the appreciation and significance of 'creative people, creative industries and creative economies'. The authors found that creativity in entrepreneurial new business formation was critical in modern business environments. For the purpose of this study, creativity is defined from a cognitive perspective and specifically with reference to problem solving. Creativity is at the heart of the entrepreneurial thought processes (Puhakka 2012). The scope of creativity in this study is thus associated with the design process, as well as the owner-designer's ability to create value for markets within an entrepreneurial context.

Creativity and the designer

From a design perspective, creativity is especially important to analyse and synthesise several ideas (Cennamo *et al*. 2012). Brannon (2007:68) argues that synthesis is a 'creative reintegration' of several ideas or elements. An evaluation of each idea can be done to refine new emerging ideas, while reflecting on other ideas to redefine them until the ultimate product-concept is finally defined (Regan, Kincade & Sheldon 1998). The designer's creativity should be applied to come up with feasible ideas that can provide solutions to the design problem (Tumasjan & Braun 2012). Creative thinking skills enable the designer to evaluate ideas regarding the design problem against possible constraints (Mumford *et al*. 2010). Therefore, evaluation can be viewed as a designer's ability to critically think about potential solutions to design problems.

Critical thinking skills associated with creativity include problem definition, conceptual combination and idea generation (Mumford *et al*. 2010). Not all the ideas on the components or materials are necessarily suitable for a specific clothing product (Regan *et al*. 1998), which is why a synthesis of several ideas takes place during the design process (Aspelund 2010:79; Lamb & Kallal 1992; Regan *et al*. 1998). One can argue that these ideas can revolve around the synthesis of client needs and input materials, or the synthesis of client preferences and materials, but the synthesis of ideas should be done in a creative manner so that the product that is eventually created is innovative. Nagai and Junaidy (2015:53) conclude with reference to the sense of design (Csikszentmihalyi & Robinson 1990; Taura & Nagai 2013) within a broader entrepreneurial context:

> A sense of design is a crucial point in considering the rationale of design, particularly creative design, which epitomizes the higher values of society and defines the direction for future generations.

Creativity and the entrepreneur

The creativity trait serves as an entrepreneurial facilitator in primarily the problem identification and solution-finding process towards exploiting opportunities in the market (Moroz & Hindle 2012). Blauth, Mauer and Brettel (2014:496) add, contextually, that creativity per definition derived from the related body of knowledge suggests *firstly* the newness of the solution to an aligned problem, and *secondly*, the 'appropriateness' of the solution, given market need. The authors further explain that creativity is directly linked to the creation of opportunities, rather than the 'observation' thereof, in quoting Read and Sarasvathy (2005). Scholars in the domain adopted a cognitive perspective with regard to creativity and problem solving (Mitchell *et al*. 2007; Tumasjan & Braun 2012). Accordingly, creativity in the entrepreneurial sense also involves the cognitive constructivism of ideas (Puhakka 2012).

Chell (2007) views cognitive constructivism as the process where, for example, an entrepreneur not only applies existing knowledge structures but also mentally constructs his/her world using categories. Puhakka (2012) describes this process as a conceptualisation process, enabling the entrepreneur to restructure his/her knowledge. With regard to problem solving, the main application of these cognitive processes (problem solving and cognitive constructivism) in a business environment is to find or even create business opportunities (Matthews 2010).

Business opportunities can be identified or created to grow existing businesses (Casson & Wadeson 2007). In this study, the authors embrace the idea that the owner-designers of the small and micro-businesses who offer clothing to local niche markets might be able to identify new and/or grow existing business opportunities through clothing product design. Therefore, thinking like a designer on a cognitive level may enhance the owner's ability to capitalise on product design. Thinking like a designer can involve three types of logic when problems are solved or solutions are discovered: deductive logics, inductive logics and abductive logics (Kimbell 2011; Kolko 2010). Deductive logics involves a process of reasoning from general principles and facts to new facts with certainty, whereas inductive logics involves reasoning from specific facts to general facts. Abduction is the act of process reasoning from general principles and facts to new facts under uncertainty (Kimbell 2011). Mirza *et al*. (2014:1981) exemplify the role of abductive reasoning in enhanced to complex problem situations to be solved through high levels of creative endeavour, experience and knowledge. The integration with the entrepreneurial domain serves relevance in this regard. Abduction can be associated with entrepreneurial thinking, because entrepreneurs often do not have certainty about proposed innovative solutions to problems. Rennemo and Åsvoll (2014:167) accurately accentuate the role of creativity in entrepreneurial opportunity-finding by echoing the seminal work of Peirce (1960) on abduction: ' … it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation'.

In this regard, the owner-designer's creativity, as well as employees' creativity, can potentially relate to entrepreneurial actions and is considered important for gaining a competitive, advantage especially with regard to innovation. Nevertheless, the specific dimension of the collaborative design that can possibly clarify the reason for innovation is referred to as collective creativity (Tadmor *et al*. 2012).

Collective creativity

Collective creativity is a phenomenon that has been researched with regard to ideation and has proven to be beneficial (Tadmor *et al*. 2012). It mainly manifests itself during creative problem solving (Shiu, Chien & Chang 2011; Steiner 2009). Hargadon and Bechky (2006:489) summarise this phenomenon by stating that 'collective creativity happens when social interactions between individuals trigger new interpretations and new discoveries of distant analogies that the individuals involved, thinking alone, could not have generated'. To summarise the core construct, Table 1 adapted from Parjanen (2012:113) is added that provides the key theoretical flow in research towards deeper understanding.

Further to the table, collective thinking involves the thinking pattern of several designers, but the condition for creativity is that all the group members of this process should be fully engaged (mindful) and that all the members of the group participate (Hargadon & Bechky 2006). In an empirical attempt and from an organisational perspective, Bissola and Imperatori (2011:77) frame collective creativity as a combination of 'individual traits, interpersonal relationships and organisational practices, which lead to a collective creative performance'. From another angle, cultural diversity in groups was found as a positive ingredient in collective creativity application, proposed by Tadmor *et al*. (2012). Given the context, collective thinking can also take place between entrepreneurs and is often applied in incubation

TABLE 1: Literature on collective creativity.

Study	Data	Results
Woodman, Sawyer and Griffin (1993)	Theoretical analysis	Full understanding of creativity in complex social settings requires going beyond a focus on individual actors and examining the situational context within which the creative process takes place. A variety of social and contextual influences affect creativity at the group and organisational levels. Many of these influences either constrain or enhance the creative performance of individuals and groups.
Oldham and Cummings (1996)	The research was conducted in two manufacturing facilities that produced component parts for technical equipment (171 employees)	According to the results, employees produced the most creative work when they had appropriate creative-relevant characteristics, worked on complex, challenging jobs and were supervised in a supportive, non-controlling fashion.
Drazin, Glynn and Kazanjian (1999)	Theoretical analysis	Authors' proposal sustains the relevance of continuous interaction processes in creativity aimed at establishing the common patterns of reference and shared meanings necessary to overcome moments of crisis in collective actions.
Bharadwaj and Menon (2000)	Data were gathered through a mail survey of key respondents in 750 business units of 500 corporations	The study finds that organisational creativity mechanism and individual creativity mechanism can lead to innovation in companies. The study suggests that high levels of organisational creativity mechanism led to significantly superior innovation performance than low levels of organisational and individual creativity mechanism.
Taggar (2002)	The performance of 94 groups on 13 different open-ended tasks was studied	The study shows that although it is necessary for a group to contain members who are creative, team creativity-relevant processes that emerge as part of group interaction are also important. Indeed, without this latter type of behaviour, the benefits of putting together a group of highly creative individuals are neutralised.
Hargadon and Bechky (2006)	The model is grounded in observations, interviews, informal conversations and archival data gathered in intensive field studies of work in professional service firms	The study confirms the relevance of investigating the processes that lead to significant and valuable collective creative results and demonstrates that four sets of interrelating activities foster collective creativity (help seeking, help giving, reflective reframing and reinforcing).
Bissola and Imperatori (2011)	A grounded research design through six focus groups attended by 24 managers from 17 Italian fashion and design firms and 12 academics	The results confirm that creativity is not only about creative genius, and designing potential for creativity is not a matter of linear correlation but includes a more sophisticated and integrative approach according to which individual creative skills, team dynamics and organisational solutions interact with each other to produce a collective creative performance.

Source: Adapted from Parjanen, S., 2012, 'Experiencing creativity in the organization: From individual creativity to collective creativity', *Interdisciplinary Journal of Information, Knowledge, and Management* 7, 113.

environments (Bruneel *et al*. 2012). The advantages of collective creativity relate to the innovative ideas on processes and products as outputs of processes (Jennings 2011:115; Oddane 2015; Steiner 2009).

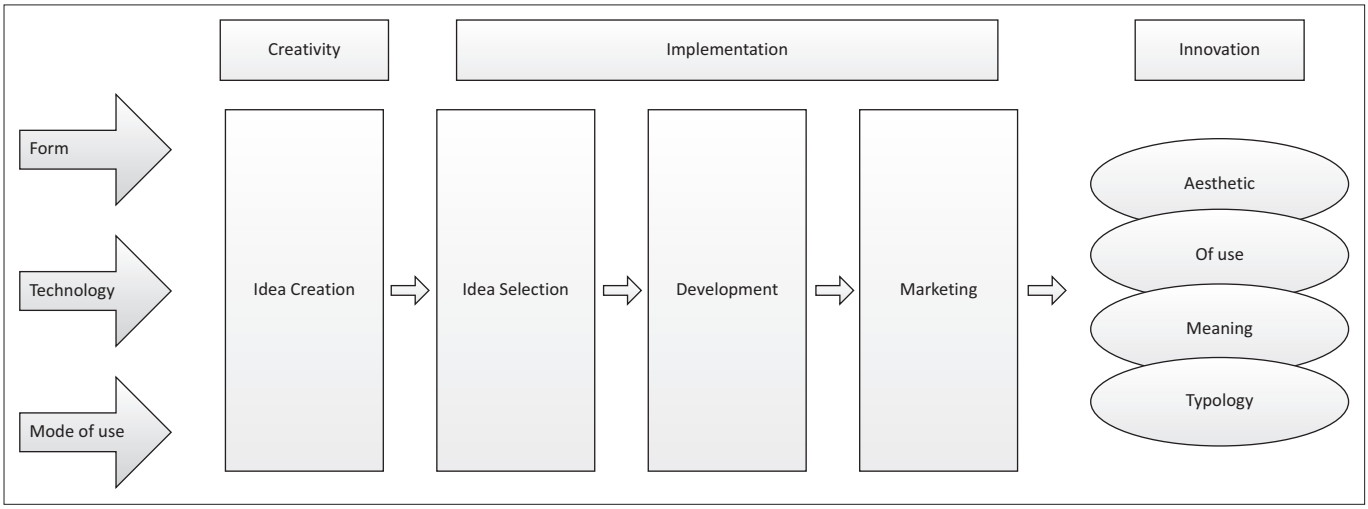
In their study on collective creativity, Tadmor *et al*. (2012) asserted that creative minds that collaborate enhance novelty, fluency and flexibility, especially as outcomes of an ideation phase. Hargadon and Bechky (2006) emphasise the importance of a qualitative approach to the creative process and identify four interrelating activities that take place during the collective creativity process when innovative products are created: (1) help seeking, (2) help giving, (3) reflective reframing and (4) reinforcing. According to these scholars, help seeking involves an individual in a group seeking help from others, help giving entails that there is a willing devotion of time and attention to assist a group member, reflective reframing involves the mindful behaviour of all participants in a group interaction and finally reinforcing involves any interesting solutions the group might find. In view of these actions, interaction is all about pooling resources, ideas and people. With this in mind, the theory of Hargadon and Bechky (2006) can be applicable to collaborative design as applied to create innovative products and/or offerings or processes that could, in turn, enhance the business's competitiveness.

Innovative products or processes to yield a competitive advantage

Innovative products (including services) can be defined as products that are novel or improved (Tung 2012), and innovative processes in a business can improve productivity or even the efficiency of business activities (Sawhney, Wolcott & Arroniz 2011). The outcome of innovative product creation should be reviewed within the entrepreneurial context. Autio *et al*. (2014:1103) highlight the importance of 'contextual interactions' within the entrepreneurial ecosystem that drives innovation. They suggest that research should support the deeper understanding of entrepreneurial innovation in different contextual settings. Garud, Gehman and Giuliani (2014:1179) support the latter by affirming that contexts 'shape not only the opportunities that are available, but also the dynamics that unfold'. Hence, the lens of design in this study. Berends *et al*. (2014) integrate causal and effectuation as key drivers of product innovation. This signifies that the contextual differences in a small business as compared to the big, are relevant to the frame of this study.

Given the process context, when the purpose of innovation through the design process is to add value to a specific market, the design process that yields the innovation is usually user-centred (Schreier, Fuchs & Dahl 2012). A user-centred approach to innovative products is applicable to the context of this study, which implies that the products that are innovative are designed to meet the needs of specific clients (Balka, Raasch & Herstatt 2014; Chandra & Leenders 2014; Gambardella, Raasch & Von Hippel 2014; Shearmur & Doloreux 2015; Theodorakopoulos *et al*. 2014).

In this regard, the theoretical framework of Rampino (2011) on product innovation was used to underpin the inquiry in this study. The author upholds that product innovation through design has three possible starting points, namely form, mode of use and technology. The innovation framework supports the notion that innovative products can result from the design process with different dimensions, which are an aesthetic dimension, a use dimension, a meaning dimension or a typological dimension. Figure 1 schematically illustrates this innovation framework.



Source: Rampino, L., 2011, 'The innovation pyramid: A categorization of the innovation phenomenon in the product-design field', *International Journal of Design* 5(1), 11.

FIGURE 1: Design innovation framework.

From Figure 1, it is apparent that creativity is applied to a product design process. The product (in this study a clothing product) may have undergone aesthetic innovation (e.g. having a different or unique appearance), can be used for a purpose less traditional (e.g. having multiple purposes or being used in an unconventional manner) and carry a meaning that is creative (e.g. portraying a specific image that is unconventional). Due to the fact that typological innovation usually requires high technology and is associated with radical innovation rather than a user-centred approach (Verganti 2013:10), it is excluded from this literature review. It is important to note that the application of creativity during a design process yields an innovative product, but in addition, it is argued that the actual design process may also be innovative. In this regard, collective creativity applied to designing a clothing product to enhance novelty, fluency and flexibility of designers might be viewed as process innovation.

Research methodology

The research question addressed in this study is: How does collective creativity contribute to a South African clothing design small business's competitiveness?

The specific objectives addressed in this study to answer the research question are as follows:

- To explore and describe the role of collective creativity in the collaborative design process of a South African clothing design small business (in order to determine the relevance for the business's competitiveness).
- To explore and describe the role of collective creativity in the product that results from the design process (in order to determine the relevance for possible product innovation as a competitive business strategy).

Research design

The research design adopted in this study was a case study. The researchers were interested in understanding events, actions and processes in their context, which is referred to as contextual interest (Babbie & Mouton 2001:272; Denscombe 2008:35). A list of various cases was compiled, from which the particular case was selected. The list contained information on the names and operations of 129 clothing design businesses in Pretoria, which were acquired through research on the Internet (websites, social media pages, blogs) and through telephone books and popular magazines (which are available to the public and in which the small businesses advertise), as well as information from fabric stores in the geographical area (recommendations and business cards).

The case selected for this study was a clothing design small business in Pretoria, which was identified as an extreme case when compared to other clothing design small businesses in this region. An extreme case is a case selected to represent exceptional aspects not observable in the typical cases (Denscombe 2008:35). The extreme case discussed in this study was regarded as competitive in the marketplace and had the following attributes:

- Has been operating for more than 5 years
- Provides designer clothing to local niche markets
- Owner is also the main designer
- Employs 10 people
- Is prominent in the media, especially with regard to differentiation
- Has more than one branch (Pretoria and Johannesburg)

Research methods

Multiple research methods were implemented to acquire rigorous data. The methods applied were semi-structured interviews, participant observations and an analysis of garments designed and manufactured in the business. Multiple methods are commonly implemented in a case study research design and can be applied in order to validate findings (Babbie & Mouton 2001:282; De Vos *et al*. 2011:321; Leedy & Ormrod 2005:135).

Unit of analysis

The unit of analysis in a study can be the object, phenomenon, entity or process of events that the researcher is investigating (Babbie & Mouton 2001:84). Merriam (2009:41–42) points out that it is especially the unit of analysis of a case study that needs special consideration when cases are selected. In this particular study, the phenomenon 'collective creativity' was investigated, which included the design process (including the behaviour of the owner-designers) and the clothing products resulting from the design process.

Data processing

Interviews were recorded and transcribed. Transcriptions of the interviews were completed after each interview, so that the researcher could start to organise the data before conducting the next interview. Transcriptions were done in the naturalised manner, which entails that the respondent's words are transcribed verbatim, as well as other details (including voice tone, laughter and other aspects) (Oliver, Serovich & Mason 2005).

A product analysis was done of the garments that were designed. This analysis was based on the criteria and questions recommended by Rampino (2011) to explore possible innovation. The specific dimensions were aesthetics, use of the product and meaning of the product.

Participant observation was also undertaken. Records of designer–client interactions, as well as events, behaviour or gestures that were significant to the researcher at that particular time, were documented throughout the study. Other raw reflective notes made in the field were later converted to detailed filed notes, as advised by Babbie and Mouton (2001:107).

Data analysis

Content analysis is seen as the analysis and interpretation of the content and follows the process of establishing categories (Schreier 2012:1). The researcher's practical strategy to analyse data within the framework of the relevant guidelines for qualitative data analysis proposed by Leedy and Ormrod (2005:136) involved the following steps:

- All information from transcriptions, observation notes and field notes on the case was processed in tables (phrase by phrase).
- The interview schedule was used to create initial categories in tables.
- All the data sources were read repeatedly in order to make sense of the patterns and themes that emerged (Merriam 2009:175). Categories, subcategories and units of meaning were created as they emerged from the data.
- All constructs and/or concepts were verified by literature.
- A conceptual framework for the case was compiled to show the relationships between possible constructs that emerged from categories, subcategories and units of meaning.

Assuring the quality of the data

The quality of the data in this study was assured through the application of strategies that combated errors pertaining to credibility, transferability and dependability.

Credibility

Credibility was important in this study, as the data had to 'ring true'. Therefore, techniques suggested by Babbie and Mouton (2001:277) were implemented to acquire credible data. Prolonged engagement was one technique used to assure credibility (the researcher stayed in the field until data saturation occurred), as well as persistent observation (looking for multiple influences), peer debriefing (with experts outside the context of the study) and member checks.

Transferability

Transferability can be viewed as the extent to which data can be transferred to other similar situations (Babbie & Mouton 2001:277). For this study, data were reported in the context that they were collected, with details about the case being recorded and documented. Furthermore, transcriptions and field notes on the observations were reported to put all the data in context.

Dependability

Dependability pertains to the similarity of results that will be found if the research should be repeated with similar participants (Babbie & Mouton 2001:278). Strategies to ensure dependability suggested by De Vos *et al.* (2011:420–421) were thus implemented.

One strategy to ensure dependability is sufficient record-keeping (e.g. taking notes during interviews, observation and informal discussions). Transcriptions of all interviews, field notes and the evidence of the data analysis were kept.

Limitations of the study

This study was underpinned by the logics of validation, as opposed to generalisation. This implies that the study offers a contextual view of how collective creativity contributes to the competitiveness of the business through a collaborative design process. The role of collective creativity in other business functions are not presented in this study. Therefore, further investigation is needed to test how the findings in this study can be generalised to other similar artisan entrepreneurial contexts and how collective creativity enhances business functions other than operations.

Research findings and discussion

This section presents the findings of the study, organised according to the research objectives. The research findings are discussed throughout this section as they relate to the empirical evidence that is presented.

Objective 1

The role of collective creativity in a collaborative design process.

The collaborative design process of this case is described from the perspective of the empirical observations.

The plain garments with A-line silhouettes referred to as 'canvasses' are displayed on fit mannequins and all the designers comment on what the dress 'needs' or what is working or not 'working'. Music is playing in the large open design area where the clients also try on the garments. A clear design concept is not finalised when the designers complete the garments (implementation phase of the design process). Instead, all the designers work in the open studio, simultaneously, commenting on each other's work as basic garments are transformed into more exclusive and creative garments. The clients who walk in also get to see the creative process in action. With the dress on a figure form, owner-designer 2 starts to add draping and lace detail until the look he wants and the look the other two designers approve is obtained. He sews the added pieces by hand and often recreates his initial idea. He is working at creating a dress and drapes fabric in an artistic manner over the dress. He frequently steps back to appraise the garment from a distance. Owner-designer 1 also steps back and comments on the length of the fabric that is different on the one side and owner-designer 2 fixes this. He works with precision to please designer 1, but also talks about what the client would like with regard to her personality. She is apparently less dramatic and more romantic. Owner-designer 3 adds some advice on colour combinations to enhance a part of the garment. The garment is transformed from an A-line plain garment to an exclusive gown with a different silhouette and different theme than the initial garment.

The above observations confirm that help seeking, help giving as well as reflective reframing, as Hargadon and Bechky (2006) suggest, take place during the collaborative design process in a creative environment, and therefore the collective creativity of the designers is observable in their behaviour. Moreover, the inputs from clients confirm the user-centred design process and could be viewed as strategies to enhance the collective creativity of the designers. It is important to note that the creativity of all three the owner-designers are applied to solve a design problem, and this has specific advantages from a designer's point of view.

Advantages of collective creativity during the design process from the designers' point of view

During interviews with the designers, the advantages of collective creativity from the designer's point of view are confirmed. The advantages seem to link to the problem solving process of the designers in order to evaluate ('see') their ideas and work so that complex design problems can be solved:

> 'I don't understand how designers can work on their own. It is really important that they [pointing to other designers] also see.' [Participant 2, male, designer, 30 years]

> '… the designs evolve as we go on. You'll have the fabric and then add something here and we add other stuff. It is done on the dress. It is different than what we started with, but it is always an improvement.' [Participant 1, male, designer, 49 years]

The above statement also points to the advantages of collective creativity with regard to problem solving through design thinking, and more specifically, with regard to solving complex design problems. Solving complex problems from a design perspective, as explained by Kimbell (2011), can involve different forms of reasoning: deductive reasoning (solving a problem by deducting information from a lot of information to apply to the specific), inductive reasoning (solving a problem with specific information and trying to apply it to a more general context) and finally abductive reasoning (which involves not having all the information at hand and still making design decisions to solve a design problem at hand).

Abductive reasoning, in particular, seems to be applicable in this case, where the designers have the technical skills (know-how), they know for who they design (the client), but they do not know what exactly the product should be. In this regard, drawing from each other's experiences and creativity can help the designer to solve the complex problem. Abductive reasoning relates to calculated risk-taking, which is typically associated with entrepreneurial thinking (Kolko 2010) and may enhance the business's competitiveness if the risk turns out to be worthwhile in monetary terms.

The following statement of the main designer confirms how the collective creativity of the design team impacts positively on the business's competitiveness:

> 'I think we have accomplished what we have because we are a team. Because the entire time we have a dress on a doll we walk past and this one will comment. I feel comfortable to ask designer 3 and designer 2 what they think of this. They also know what will sell and what is a bit too way-out.' [Participant 1, male, designer, 49 years]

Participant 3, who is the most inexperienced business owner of this small business, confirms from her point of view how the skills of the other designers contribute to her designs and ability to apply abductive reasoning:

> 'Designer 2 and designer 1 are both very creative people. Designer 2 is more a creative person. Designer 1 is technically good and he helps me to cost my stuff so that we make the profit without pricing ourselves out of the market'. [Participant 3, female, designer, 25 years]

More advantages of collective creativity from a business owner's perspective could be derived from the interviews.

Advantages of collective creativity from a business owner's point of view

Statements from the participants in this study illustrate how the collective creativity employed during the design process can have advantages for the business's overall competiveness in the sense that it aids as a process that can be used to overcome challenges of productivity, and consequently could save money:

> 'I think our biggest restriction also, after time, is money … when we think up the designs and not necessarily the drawing of the pattern, all three of us would sit together, brainstorm and decide

where we are going … It saves me time and money to get advice from designer 1 and designer 2.' [Participant 3, female, designer, 25 years]

In addition to overcoming challenges relating to time and money, the collective creativity seems to lower the perceived risk of launching a ready-to-wear clothing line (in addition to producing clothing on order). The particular case launched a ready-to-wear range that is distributed through local boutiques. Participant 3 explains the reasoning behind starting a ready-to-wear range as a strategy to be more sustainable:

'… so it is quite hectic because for six months you struggle to survive with regard to finances and then for the next six months you struggle to survive with regard to time and sleep and getting work done. It is a lot of hours and that is the main reason why we are trying to bring the ready-to-wear range in … so that we can take in a limited amount of couture, live out our creativity in that and then survive on the ready-to-wear range. The other two help me with this, because they know what will work for the customers of the boutiques.' [Participant 3, female, designer, 25 years]

Objective 2

The role of collective creativity with regard to product, resulting from the design process.

The product innovation framework of Rampino (2011) was used to guide the categories of the clothing product analysis, as well as categories of the participants' viewpoints on the role of collective creativity when creating innovative products. Table 2 includes the statements of participants, as well as the researcher's analysis of the clothing products designed by the owner-designers of the particular case.

Products were also perceived as competitive from the perspective of the designers as business owners. The following statement by Participant 1 confirms that innovative products are a strategy to stay competitive in the marketplace:

'And you can have a look if we [this business] does this, this year they do that the next year. This year we have to get to something totally new. I will tell you now others will do it the year after. It is difficult and it is hard work to get to something that no one thought of. A dress has to be redesigned so that it is different.' [Participant 1, male, designer, 49 years]

Conclusions and implications for local clothing design small businesses

From the findings presented in this study, it is apparent that design strategy and thinking – specifically with regard to solving complex design problems and the competitiveness of the small business – are interrelated in the context of artisan entrepreneurship.

Collaboration enhances the collective creativity of the designers and can also lower the risks that designers take as owners of their businesses. Collective creativity simply implies that a few designers can each bring their own ideas, experience and skills into a collaborative design process. If all the designers are mindfully engaged in the process, one designer can literally influence the next designer's ideas by contributing during the interaction. New meanings to an individual's actions are ascribed to the contribution of another. It seems that the unified ideas of the designers in this study enable them to produce clothing products that also satisfy the needs of a particular niche market. In this regard, designers as owners of businesses can draw from each other's business owner experiences.

Furthermore, collective creativity seems to contribute to the innovation of products, as well as the actual design process. The collective creativity enhances novelty, fluency and flexibility during the design process, as Tadmor *et al*. (2012) suggest. Moreover, the sustainability of the innovative ideas is more probable when designers collaborate during the design process. In this regard, it is important to note that collective creativity applied to the design process cannot be viewed separately from the design business's competitiveness.

Therefore, collective creativity has several benefits for designers as owners of a business in a highly competitive clothing industry. The designers inspire each other by making contributions during the design process. Moreover, help seeking, help giving, reflective reframing and reinforcing can

TABLE 2: Product innovation resulting from collective creativity.

Category of innovation	Researcher's analysis of clothing products	Participants' statements relating to the category
Aesthetics of clothing products	Garments are described in the local and international media as exclusive and aesthetically pleasing. More than 50% of the garments are handcrafted. The handcrafted elements enhance the uniqueness of the clothing products. An example of this is re-engineered lace, which is cut with soldering irons and combined with other kinds of lace to enhance the uniqueness of the newly engineered lace.	'Each garment is handcrafted. Every piece of lace that is sewn on there is cut out and sewn on'.
Meaning of clothing products	The clothing products for traditional occasions such as weddings are unconventional and do not symbolise tradition. Most of the wedding garments, for example, are not white. The silhouettes are also not traditional.	'So it is about being different and finding that niche market. Everything you do should revolve around that'. ' … we add just that little thing to make it a bit more designer than something you can go and buy in the shop'. ' … most of our clients don't like to be traditional, so we add a twist'.
Uses of clothing products	The Adjust range has several clothing products (including accessories) that can be worn in different ways. This range adds value to the client in the sense that she can adjust her appearance with the clothing products and maintain an individual style.	'We have launched the Adjust range just after we launched the Just ready-to-wear range. So far the feedback from clients have been so positive. They like that they get to do different things with the same piece like this [illustrating] wrap pants that can be worn as a skirt or even a dress. We have nice pieces that you add to the plain Just (ready-to-wear) dresses to make them pop! The shoe jewellery is also a real hit, because it completely transforms a plain shoe'.

motivate designers to be open to possibilities, accept responsibility for their own evaluation and be conducive to their ability to toy with ideas.

From the findings, it is evident that collective creativity can especially be beneficial to inexperienced owner-designers who collaborate with more experienced owner-designers. Not only does collective creativity enhance ideation but it also seems to enhance the motivation of the designers and business owners to solve complex problems that are often related to external factors like the marketplace. This implies that design thinking can enhance entrepreneurial thinking, but that the design thinking can also be enhanced by collective creativity.

In view of the above conclusions, collective creativity during a design process is recommended for owner-designers who find themselves working more hours in the business rather than on the business, as the collective creativity can provide access to business opportunities. In this way, the owner-designer's role as designer and the role of the business owner can be one and the same thing, which implies that every design is strategically executed to enhance the competitiveness of the business through innovative products. Therefore, artisan entrepreneurs are encouraged to share their creativity with other designers on a regular basis.

Collective creativity can be highly beneficial to entrepreneurial support platforms such as thinkubators, business incubators or even business accelerators and is therefore recommended as a strategy that such platforms could embrace to enhance the competitiveness and sustainability of businesses. Moreover, collective creativity can be applied by artisan entrepreneurs who aim to be proactive and produce innovative, trend-setting products. It is recommended that experienced artisan entrepreneurs contribute their creativity not only to enhance the creativity of inexperienced artisan entrepreneurs in solving design problems but also to identify new business opportunities. In this regard, the authors of this study conclude that creativity shared is creativity gained.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

T.T. was the project leader in conducting the research. A.J.A. contributed as scientific and conceptual contributor on the fields of entrepreneurship and creativity. M.-M.A. served as a subject and scientific contributor on the apparel industry. All authors contributed equally in compiling the final paper.

References

Aspelund, K., 2010, *The design process,* 2nd edn., Fairchild, New York.

Autio, E., Kenney, M., Mustar, P., Siegel, D. & Wright, M., 2014, 'Entrepreneurial innovation: The importance of context', *Research Policy* 43(7), 1097–1108. http://dx.doi.org/10.1016/j.respol.2014.01.015

Babbie, E. & Mouton, J., 2001, *The practice of social research* (South African ed.), Oxford University Press Southern Africa, Cape Town.

Balka, K., Raasch, C. & Herstatt, C., 2014, 'The effect of selective openness on value creation in user innovation communities', *Journal of Product Innovation Management* 31(2), 392–407. http://dx.doi.org/10.1111/jpim.12102

Berends, H., Jelinek, M., Reymen, I. & Stultiëns, R., 2014, 'Product innovation processes in small firms: Combining entrepreneurial effectuation and managerial causation', *Journal of Product Innovation Management* 31(3), 616–635. http://dx.doi.org/10.1111/jpim.12117

Bickle, M.C., 2011, *Fashion marketing: Theory, principles and practice,* Fairchild, New York.

Bissola, R. & Imperatori, B., 2011, 'Organising individual and collective creativity: Flying in the face of creativity clichés', *Creativity and Innovation Management* 20(2), 77–89. http://dx.doi.org/10.1111/j.1467-8691.2011.00597.x

Blauth, M., Mauer, R. & Brettel, M., 2014, 'Fostering creativity in new product development through entrepreneurial decision making', *Creativity and Innovation Management* 23, 495–509. http://dx.doi.org/10.1111/caim.12094

Boztepe, S., 2007, 'User value: Competing theories and models', *International Journal of Design* 1(2), 55–63.

Brannon, E.L., 2007, *Fashion forecasting*, 2nd edn., Fairchild, New York.

Bruneel, J., Ratinho, T., Clarysse, B. & Groen, A., 2012, 'The evolution of business incubators: Comparing demand and supply of business incubation services across different incubator generations', *Technovation* 32(2), 110–121. http://dx.doi.org/10.1016/j.technovation.2011.11.003

Casson, M. & Wadeson, N., 2007, 'The discovery of opportunities: Extending the economic theory of the entrepreneur', *Small Business Economics* 28(4), 285–300. http://dx.doi.org/10.1007/s11187-006-9037-7

Cennamo, K., Baum, L., Newbill, P. & Finn, T., 2012, 'Teaching to develop critical and creative thinking skills', in P. Resta (ed.), *Proceedings of Society for Information Technology and Teacher Education International Conference*, Austin, TX, March 5, pp. 3553–3557, AACE, Chesapeake, VA, viewed 20 August 2013, from http://www.editlib.org/p/40144

Chan, J., Fu, K., Schunn, C., Cagan, J., Wood, K. & Kotovsky, K., 2011, 'On the benefits and pitfalls of analogies for innovative design: Ideation performance based on analogical distance, commonness, and modality of examples', *Journal of Mechanical Design* 133(8), 081004-081011. http://dx.doi.org/10.1115/1.4004396

Chandra, Y. & Leenders, M.A., 2014, 'User innovation and entrepreneurship in the virtual worlds', *Technovation* 32, 464-476.

Chell, E., 2007, 'Social enterprise and entrepreneurship: Towards a convergent theory of the entrepreneurial process', *International Small Business Journal* 25(1), 5–26. http://dx.doi.org/10.1177/0266242607071779

Cyr, A., Meier, O. & Pacitto, J.C., 2011, 'Method in their madness: Understanding the behaviour of VSE owner-managers', *Journal of Small Business and Enterprise Development* 18(2), 331–351. http://dx.doi.org/10.1108/14626001111127106

Denscombe, M. 2008. *The good research guide: For small-scale social research projects,* 3rd edn., McGraw-Hill, New York.

De Vos, A.S., Strydom, H., Fouche, C.G. & Delport, C.S.L., 2011, *Research at grass roots: For the social sciences and human service professions,* 4th edn., Van Schaik, Cape Town.

Dhliwayo, R., 2012, 'A continent vs. a country: China putting strain on Africa's clothing and textile industries', Africa Conflict Monthly Monitor, viewed 17 December 2012, from http://www.consultancyafrica.com.

An introduction in the context of design', *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 29(2), 133–134. http://dx.doi.org/10.1017/S0890060415000013

Goldschmidt, G. & Sever, A.L., 2011, 'Inspiring design ideas with texts', *Design Studies* 32(2), 39–155. http://dx.doi.org/10.1016/j.destud.2010.09.006

Gong, Y., Kim, T.Y., Lee, D.R. & Zhu, J., 2013, 'A multilevel model of team goal orientation, information exchange, and creativity', *Academy of Management Journal* 56(3), 827–851. http://dx.doi.org/10.5465/amj.2011.0177

Hargadon, A.B. & Bechky, B.A., 2006, 'When creations of creatives become creative collectives: A field study of problem solving at work', *Organization Science* 17(4), 484–525. http://dx.doi.org/10.1287/orsc.1060.0200

Hartley, J., Sørensen, E. & Torfing, J., 2013, 'Collaborative innovation: A viable alternative to market competition and organizational entrepreneurship', *Public Administration Review* 73(6), 821–830. http://dx.doi.org/10.1111/puar.12136

Hobday, M., Boddington, A. & Grantham, A., 2012, 'An innovation perspective on design: Part 2', *Design Issues*, 28(1), 18–29. http://dx.doi.org/10.1162/DESI_a_00137

Jennings, B.J., 2011, *Factors that contribute to knowledge sharing within research based companies,* Doctoral thesis in organisational learning and instructional technology,University of New Mexico, Albuquerque, USA.

Kimbell, L., 2011, 'Rethinking design thinking: Part I', *Design and Culture* 3(3), 285–306. http://dx.doi.org/10.2752/175470811X13071166525216

Kolko, J., 2010, 'Abductive thinking and sensemaking: The drivers of design synthesis', *Design Issues* 26(1), 15–28. http://dx.doi.org/10.1162/desi.2010.26.1.15

Lamb, J.M. & Kallal, M.J., 1992, 'A conceptual framework for apparel design', *Clothing and Textiles Research Journal* 10(2), 42–47. http://dx.doi.org/10.1177/0887302X9201000207

Leedy, P.D. & Ormrod, J.E., 2005, *Practical research: Planning and design,* 8th edn., Prentice Hall, New Jersey.

Lemke, F., Clark, M. & Wilson, H., 2011, 'Customer experience quality: An exploration in business and consumer contexts using repertory grid technique', *Journal of the Academy of Marketing Science,* 39(6), 846–869. http://dx.doi.org/10.1007/s11747-010-0219-0

Matthews, J.H., 2010, *Investigating design, creativity and entrepreneurial processes*, in *Annual Meeting of the Academy of Management Dare to Care: Passion and Compassion in Management Practice & Research,* Montreal, QC, Canada, 6–10th August, 31 p.

Menon G., 2015, 'The need for design approach in opportunity identification stage of product innovation', *Voice of Research* 3(4), 49–53.

Merriam, S.B., 2009, *Qualitative research: A guide to design and implementation,* 2nd edn., John Wiley and Sons, San Francisco, CA.

Mirza N.A., Akhtar-Danesh N., Noesgaard C., Martin L. & Staples E., 2014, 'A concept analysis of abductive reasoning', *Journal of Advanced Nursing* 70(9), 1980–1994. http://dx.doi.org/10.1111/jan.12379.

Mitchell, R.K., Busenitz, L.W., Bird, B., Gaglio, C.M., Mcmullen, J.S., Morse, E.A. & Smith, J.B., 2007, The central question in entrepreneurial cognition research, *Entrepreneurship Theory and Practice* 31, 1–27. http://dx.doi.org/10.1111/j.1540-6520.2007.00161.x

Moroz, P.W. and Hindle, K., 2012. Entrepreneurship as a process: Toward harmonizing multiple perspectives. *Entrepreneurship Theory and Practice* 36(4), 781–818.

Mumford, M.D., Antes, A.L., Caughron, J.J., Connelly, S. & Beeler, C., 2010, 'Cross-field differences in creative problem-solving skills: A comparison of health, biological, and social sciences', *Creativity Research Journal* 22(1), 14–26. http://dx.doi.org/10.1080/10400410903579510

Nagai, Y. & Junaidy, D.W., 2015, 'Meta-contents of design creativity: Extraction of the key concepts that form the sense of design', *The Third International Conference on Design Creativity (3rd ICDC),* Bangalore, India, 12th January.

Nattrass, N. & Seekings, J., 2014, 'Job destruction in Newcastle: Minimum wage-setting and low-wage employment in the South African clothing industry, *Transformation: Critical Perspectives on Southern Africa* 84(1), 1–30. http://dx.doi.org/10.1353/trn.2014.0009

Neck, H.M. & Greene, P.G., 2011, 'Entrepreneurship education: Known worlds and new frontiers', *Journal of Small Business Management* 49(1), 55–70. http://dx.doi.org/10.1111/j.1540-627X.2010.00314.x

Oddane, T.A.W., 2015, 'The collective creativity of academics and practitioners in innovation projects', *International Journal of Managing Projects in Business* 8(1), 33–57. http://dx.doi.org/10.1108/IJMPB-10-2013-0060

Olim, A., Mota, I. & Silva, S.T., 2015, *The influence of creativity on entrepreneurship: The Portuguese case, Entrepreneurship, Human Capital, and Regional Development*, pp. 205–235, Springer International Publishing. Switzerland.

Oliver, D.G., Serovich, J.M. & Mason, T.L., 2005, 'Constraints and opportunities with interview transcription: Towards reflection in qualitative research', *Soc Forces* 84(2), 1273–1289. http://dx.doi.org/10.1353/sof.2006.0023

Olsen, N.V., 2015, 'Design thinking and food innovation', *Trends in food science & technology* 41, 18–187. http://dx.doi.org/10.1016/j.tifs.2014.10.001

Parjanen, S., 2012, 'Experiencing creativity in the organization: From individual creativity to collective creativity', *Interdisciplinary Journal of Information, Knowledge, and Management* 7, 109–128.

Puhakka, V., 2012, 'Entrepreneurial creativity as discovery and exploitation of business opportunities', in T. Burger-Helmchen, (ed.), *Entrepreneurship – Creativity and innovative business models,* pp. 3–24, InTech, Rijeka, Croatia.

Rampino, L., 2011, 'The innovation pyramid: A categorization of the innovation phenomenon in the product-design field', *International Journal of Design* 5(1), 3–16.

Rath, P.M., Bay, S., Petrizzi, R. & Gill, P., 2008, *The why of the buy: Consumer behavior and fashion marketing,* Fairchild, New York.

Regan, C.L., Kincade, D.H. & Sheldon, G., 1998, 'Applicability of the engineering design process theory in apparel design process', *Clothing and Research Textile Journal* 16(1), 36–46. http://dx.doi.org/10.1177/0887302X9801600105

Rennemo, Ø. & Åsvoll, H., 2014, 'Abduction, deduction and induction as concepts for understanding entrepreneurial opportunities: A metaperspective based on three views of the market process', *Academy of Entrepreneurship Journal* 20(2), 164.

Sawhney, M., Wolcott, R.C. & Arroniz, I., 2011, 'The 12 different ways for companies to innovate', *Sloan Management Review* 47(3), 28–34.

Schmidt, J.J., Soper, J.C. & Bernaciak, J., 2012, 'Creativity in the entrepreneurship program: A survey of directors of award winning programs', *Academy of Entrepreneurship* 18(1), 51.

Schreier, M., 2012, *Qualitative content analysis in practice,* Sage Publications, California.

Schreier, M., Fuchs, C. & Dahl, D.W., 2012, 'The innovation effect of user design: Exploring consumers' innovation perceptions of firms selling products designed by users', *Journal of Marketing* 76(5), 18–32. http://dx.doi.org/10.1509/jm.10.0462

Shearmur, R. & Doloreux, D., 2015, 'Knowledge-intensive business services (KIBS) use and user innovation: High-order services, geographic hierarchies and internet use in Quebec's manufacturing sector', *Regional Studies* 49(10), 1654–1671.

Shiu, S., Chien, H. & Chung, R., 2011, 'A study of learning process to promote the ability of creativity and creative problem solving in the technological university student', *International Journal of Arts and Sciences* 4(8), 31–36.

Steiner, G., 2009, 'Collaborative creative problem solving for innovation generation: A systems approach', *Journal of Business and Management* 15(1), 5–33.

Tadmor, C.T., Statterstorm, P., Lang, S. & Polzer, J.T., 2012, 'Beyond individual creativity: The superadditive benefits of multicultural experience for collective creativity in culturally diverse teams', *Journal of Cross-Cultural Psychology* 43(3), 384–392. http://dx.doi.org/10.1177/0022022111435259

Theodorakopoulos, N., Bennett, D. & Sánchez Preciado, D.J., 2014, 'Intermediation for technology diffusion and user innovation in a developing rural economy: A social learning perspective', *Entrepreneurship & Regional Development* 26(7–8), 645–662. http://dx.doi.org/10.1080/08985626.2014.971077

Tselepis, T.J., 2013, 'The development of an entrepreneurially orientated design model for the South African small business that offers custom-made apparel', Doctoral thesis, University of Pretoria, Pretoria, South Africa.

Tumasjan, A. & Braun, R., 2012, 'In the eye of the beholder: How regulatory focus and self-efficacy interact in influencing opportunity recognition', *Journal of Business Venturing* 27(6), 622–636. http://dx.doi.org/101016/j.jbusvent.2001.08.001

Tung, J., 2012, 'A study of product innovation on firm performance', *The International Journal of Organizational Innovation* 4(3), 84–97.

Verganti, R., 2013, *Design driven innovation: Changing the rules of competition by radically innovating what things mean,* Harvard Business Press, Boston, MA.

Vlok, E., 2006, 'The textile and clothing industry in South Africa', in H. Jauch, & R. Traub-Merz, (eds.), *The future of the textile and clothing industry in Sub-Saharan Africa,* Friedrich-Ebert-Stiftung, Bonn, Germany, viewed 02 June 2012, from http://library.fes.de/pdf-files/iez/03796/16suedafrika.pdf

Innovation and organisational performance: A critical review of the instruments used to measure organisational performance

Authors:
Tebogo Sethibe[1]
Renier Steyn[1]

Affiliations:
[1]Graduate School of Business Leadership, University of South Africa, South Africa

Corresponding author
Tebogo Sethibe,
tsethibe@gmail.com

Background: Innovation is recognised as one of the most important determinant of organisational performance. Yet, the results of studies that investigate the relationship between innovation and organisational performance are inconclusive. The inconsistency has been attributed to a number of factors, which include, among others, the measures used to evaluate organisational performance.

Aim: This study was set out to identify, categorise and critically analyse the instruments used to assess organisational performance when investigating the relationship between innovation and organisational performance.

Setting: The study focuses on all scientific publications reporting on organisational performance, inclusive of both financial and non-financial indicators of performance, and are not limited to any specific country or industry.

Methods: The systematic literature review methodology was used to identify studies which investigated the relationship between innovation and organisational performance. Once identified, articles were analysed on the way organisational performance was measured. Classification was done with reference to financial and non-financial indicators, accounting and market-based, as well as objective and subjective measures.

Results: The findings show that profitability, sales growth and return on assets (ROA) are the most preferred accounting-based financial measures of organisation performance. In addition, Tobin's Q was found to be the most favoured market-based financial measure of organisational performance. The study further reveals that market share, customer satisfaction and productivity are the most popular non-financial-based measures of organisational performance.

Conclusion: The use of measures of organisational performance is often left to the discussion of the researcher, which is not implicitly wrong, but does little to contribute to the body of knowledge on this important topic. Researchers are firstly urged to clearly define which aspects of organisational performance they intend to study, secondly to use established instruments or often used indicators of organisational performance, and thirdly to combine both objective and subjective measures of organisational performance. This would allow for researchers to build on the work of other and strengthen the body of knowledge in this area.

Introduction

Organisational performance is an important indicator of organisational success (Stegerean & Gavrea 2010). Apart from organisational performance, organisational success also relates to employee skills levels, personnel development, quality of strategic planning and the ability to understand and adapt to the nature and dynamics of the business environment (Carvalho *et al*. 2016). However, organisational performance is arguably the most important indicator of organisational success and one of the most important variables in management research (Stegerean & Gavrea 2010).

Research indicates that organisational performance is influenced by innovation (Durán-Vázquez, Lorenzo-Valdés & Moreno-Quezada 2012; Likar, Kopa & Fatur 2014; Nybakk & Jenssen 2012; Oke, Walumbwa & Myers 2012; Yen 2013). Undertaking research on these constructs is important to organisations as managers should be aware of the impact of different variables on organisational performance in order to manage them in an effective manner (Bigliardi 2013; Ndregjoni & Elmazi 2012). Yen (2013), for example, states that the facilitation of innovation is an important management function that can be directly linked to organisational performance.

An important aspect to consider when evaluating innovation efforts and organisational performance is the time factor, given that there is a time lag between innovation initiatives and the outcome that follows (Likar *et al*. 2014). In fact, O'Connor *et al*. (2008) state that the time lag between innovation and its impact on organisational performance ranges from 3 to 6 years. It is important to note this, as a focus on short term indicators (e.g. return on investment [ROI], sales growth and operating income) may be inappropriate and may indicate that innovation strategies are not working, while the effect may only be visible in the longer term (Ndregjoni & Elmazi 2012).

Although the study of organisational performance has been at the core of management research, very little has been done with regard to appropriate measures to assess the effectiveness of innovation initiatives. In addition, a cursory review of the literature shows that researchers focus on the discussion around typologies of organisational performance on financial and non-financial aspects, with very little attention to other dimensions, such as objective and subjective measures. The present study, therefore, aims primarily to investigate the most frequently used instruments. The results of this investigation will then be used as a lens through which to investigate which typologies (financial vs. non-financial; objective vs. subjective) of organisational performance were adopted and further to investigate whether the instruments selected played a role in the outcome of the study. This will result in the compilation of a more comprehensive and updated literature review that can form the basis for future research when selecting measures of organisational performance.

Problem statement and objective

The results of studies that investigate the relationship between innovation and organisational performance are inconclusive, with some studies (Carvalho *et al*. 2016; Cortez *et al*. 2015; Mafini 2015) showing a positive relationship, while others showed mixed results or no relationship with no definite conclusion (Hervas-Oliver, Sempere-Ripoll & Boronat-Moll 2014; Simachev, Kuzyk & Feygina 2015). This inconsistency has been attributed to a number of factors, including, among others, the measures used to evaluate organisational performance.

In an attempt to understand these inconsistences, Rubera and Kirca (2012) conducted a meta-analysis in a quest to better understand a firm-innovativeness-performance relationship, drawing on the chain-of-effects model as a unifying framework. The study revealed that the size of the firm, the sector in which the firm operates and the nature of innovation (radical innovation, for example) adopted can influence the relationship between innovation and organisational performance. However, although Rubera and Kirca's study is significant in many ways, the study did not investigate whether the type of instruments used to measure organisational performance can also influence the relationship between these constructs. This reveals a gap in the literature and shows the need for a critical review of the influence of the type of instruments used to measure organisational performance on the reported relationship between innovation and organisational performance.

Therefore, the objective of this study is twofold: firstly, the study seeks to investigate the most frequently used instruments and, secondly, the study will investigate whether the type of instruments used does influence the nature of the relationship between these constructs.

Measures of organisational performance

The construct of organisational performance is central to the understanding of organisational success and the factors responsible for that variation (Hoopes, Hadsen & Walker 2003). In order to get an accurate and comparative gauge of the variation mentioned, valid and reliable measures are necessary (Saunders 2012). Although several methods for measuring organisational performance exist, these methods can be classified into two main categories, namely financial and non-financial performance measurement (Maltz, Shenhar & Reilly 2003; Shin *et al*. 2015).

Financial performance measurement

Despite the general consensus among scholars that a firm's performance is a multidimensional construct, one of the most extensively used measures is the financial component – the fulfilment of the economic goal of the organisation (Gentry & Shen 2010). This is in line with Davidson's (2003) argument that the primary goal (aim) of management is to generate profit and to maximise shareholder value. Important to note is that scholars who embark on empirical studies employ a number of different measures to evaluate financial performance (Berger & Bonaccorsi di Patti 2003; Davidson 2003).

The literature research reveals that to assess the financial aspects of organisational performance, researchers generally use either accounting-based measures, such as profitability, sales growth, return on assets (ROA), return on sales (ROS), return on equity (ROE) and/or ROI, or stock market measures, such as Tobin's Q and price earning (P/E) ratio (Hult *et al*. 2008; Likar *et al*. 2014; Nawaz, Hassan & Shaukat 2014; Tsao & Lien 2013).

In the 1980s, researchers primarily used accounting-based measures of financial performance (Hoskisson *et al*. 1999). However, with the rise of shareholder activism in the late 1980s and early 1990s, organisations started adopting shareholder value maximisation as a measure of financial performance (Useem 1993). This paradigm shift promoted the adoption of market-based performance measures in management research (Hoskisson *et al*. 1999).

Despite its limitations, profit maximisation remains one of the key measures of organisational performance (Garg, Joubert & Pellissier 2004). Various researchers use growth as a sole measure of performance, while others choose to combine growth and profitability (Likar *et al*. 2014). However, most researchers prefer to combine ROS, ROA, ROE and ROI

because they complement one another. The use of a single ratio generally does not provide sufficient information to allow investors to judge the overall performance of the firm (Marx 2004). For instance, ROA allows analysts to evaluate the effectiveness and efficiency of the firm's management and employees in generating profit by productively using assets (Firer *et al*. 2008). On the contrary, ROS allows analysts to evaluate the effectiveness and efficiency of the firm's management and employees in generating profit by means of sales (Karanja 2011; Marx 2004).

For the sake of clarity, a short explanation of the aforementioned measures has been provided in Table 1.

According to Campbell and Mínguez-Vera (2008), accounting-based measures are useful because they provide useful objective measures of organisational performance. However, various authors (Fernandez 2001; Frigo 2003; Smith 2007) argue that accounting measures only reflect the history, both in terms of income statements, which explain what happened in a certain year, and those of the balance sheet, which reflects the state of the firm's assets and liabilities at a certain point in time. As such, it is impossible for accounting-based measures to measure value creation.

The challenge of uncovering the true financial value of innovation is a result of practices such as international financial reporting standards (IFRS) not adequately reflecting innovation expenditure (Frigo 2003; Smith 2007). IFRS forces the recording of the immediate expense of investment and thus creates a challenge owing to the time lag between innovation expenditure and the effect it has on financial performance. This leads to a situation in which researchers will need to correlate initial expenditure with a product that will only emerge a few years later (Selby 2010).

Despite the need to measure the effects of innovation, Morris (2008) convincingly argues that measuring innovation presents a problem in itself, because innovation involves venturing into the unknown. Therefore, if one tries to pin down these unknowns too quickly, they may become harder to recognise. In addition, when measuring the impact of innovation, the innovation lifespan should also be put into perspective (Eggink 2011). For instance, sustaining innovation is continuous in nature and as such there is no beginning and no end to the innovation process (OECD/Eurostat 2005). Moreover, different types of innovation will have different lifespans. For example, some innovations will last for a very long time while others may have a short lifespan.

Several market-related measures are proposed in order to account for the long-tern benefits of innovation in an organisation. These include Tobin's Q and price earning (P/E):

- Advocates of Tobin's Q argue that stock market measures incorporate all relevant information and thus, unlike accounting-based measures, are not limited to a single aspect of financial performance (Lubatkin & Shrieves 1986). Tobin's Q is a ratio that indicates the market value of the firm in relation to the replacement cost of the tangible assets (Tobin 1969). Tobin's Q is computed by dividing market capitalisation by the replacement cost of the firm's assets (Cho & Pucik 2005). Tobin's Q is based on the idea that stock markets, if the takeover market for companies was efficient, would operate at a Tobin's Q of 1 (Karanja 2011). In other words, the value of 1 for Tobin's Q indicates that the market value of the firm is greater than the value of the recorded assets in the book of accounts. High Tobin's Q value is an indication of higher capital investment. In contrast, a Tobin's Q value of less than 1 indicates that the market value of the firm is less than the recorded assets in the book of accounts.
- Price earning (P/E), on the contrary, is calculated by dividing share price by earnings per share (EPS). In this method, the relationship between the market share price of a share of stock and the stock's current EPS is often stated in terms of P/E ratio (Garrison *et al*. 2008). The strength of the P/E ratio is its ability to use current and historical data to predict the future. Consequently, investors widely use the P/E ratio as an indicator of future prospects. A high P/E ratio means that investors are willing to pay a premium for a company stock, mainly because the company is expected to have higher than average future earnings growth. According to Selby (2010), when the company's outlook holds the likelihood of future profit, a generic investor will be more inclined to buy that stock.

Despite the intuitive appeal of the above-mentioned measures of the stock market (Lubatkin & Shrieves 1986), the assumption of market-efficiency has been questioned by prominent scholars in finance (Tobin 1969). Bettis (1983) argues that, even if the market-efficiency theory holds, stock price does not necessarily reflect its fundamental value because it is influenced by what management chooses to disclose to the investors. Acknowledging that neither accounting nor market-based measures are perfect, management researchers have accepted measures based on both accounting and stock

TABLE 1: Financial instruments.

Instrument	Description
Return on assets	ROA is an accounting measure of a firm's financial performance based on income before tax and interest, and it indicates how profitable a firm is in relation to its assets (Alexander & Nobes 2010). It shows how effective managers are at generating revenue from the invested assets.
Return on sales	ROS is a performance variable used to evaluate the firm's operational efficiency (Karanja 2011). It indicates how much profit is being generated for each rand of sales.
Return on investment	ROI is defined as net operating income divided by average operating assets (Garrison, Noreen & Brewer 2008). ROI measures how efficiently the organisation utilises its available assets to generate income. Thus, the greater the return on investment, the better (Marx 2004).
Return on equity	ROE, on the contrary, measures the return earned on the owner's investment. It relates to the return generated for shareholders with finance made available by the shareholders (Alexander & Nobes 2010). It is calculated by dividing the net profit after tax by the shareholders' equity. Generally, the owners are better off with a higher ROE.

market as valid for assessing organisational performance (Hoskisson *et al*. 1999). In support of this view, Shook *et al*. (2004) agree and argue that in order to improve the quality of construct measurement, a stream of management researchers prefer using multiple indicators to measure key constructs and then use the structural equation modelling technique (SEM) to do the analysis. For instance, Tsao and Lien (2013) used both ROA and Tobin's Q whereas Talke, Salomo and Kock (2011) and Padgett and Moura-Leite (2012) decided to use Tobin's Q exclusively, mainly because of its ability to capture the value of long-term investment such as innovation.

Non-financial performance measurement

According to Ndregjoni and Elmazi (2012), non-financial measures must also be assessed in order to evaluate overall performance, for two main reasons. Firstly, several interest groups are involved in the business and they all have particular goals and expectations related to the organisation. Secondly, the strategic business areas are not necessarily financial in nature. As a result, several approaches to non-financial indicators exist, such as customer satisfaction and retention, market share, productivity, operational effectiveness and efficiency, reputation, branding and quality (Battor & Battor 2010; Tsai & Tsai 2010; Oke *et al*. 2012; Ul Hassan *et al*. 2013).

Alam (2003), after examining the literature on new product performance measures, proposes three performance dimensions for determining the success of new products, namely financial criteria, customer criteria and opportunity criteria. As indicated by other scholars, financial criteria include financial indicators of new products such as profitability, sales, cost, ROI and market share. The second dimension (customer criteria) refers to customer satisfaction and how new products attract new customers and create new market opportunities. The third dimension (opportunity criteria) is much broader in scope as it relates to overall opportunity that can be created by new products. These include, among others, unlocking opportunities for existing products, providing a platform for developing other new products and acquiring skills and experience, as a result of new product development projects.

More recently, Gentry and Shen (2010) conducted an extensive literature review on organisational performance with the aim of contributing to the debate concerning appropriate measures of organisational performance. They concluded that the use of both financial and non-financial measures is the most appropriate and sound approach to measure organisational performance. However, the authors further argue that the use of financial aspects of performance as a sole measure is not necessarily wrong, but they emphasise that researchers should always clearly define which aspects of organisational performance they intend to study, and then develop and test the hypotheses around that. All of the above should be viewed against the background research against which organisational performance is measured, namely objectively and subjectively.

Objective versus subjective measures

Objective measures are the absolute values of a firm's actual performance (Battor & Battor 2010) and subjective measures generally ask respondents to assess their company's performance relative to that of their competitors (Greenley 1995). For instance, objective financial measures are audited financial data such as sales, profit or asset values (Rajan & Reichelstein 2009). By contrast, the term 'subjective measure' is used to mean that the company's performance is derived from direct observations by management, financial analysts or employee perceptions about organisational performance (Dawes 1999). By virtue of its nature, objective measures are verifiable whereas subjective measures cannot be verified (Rajan & Reichelstein 2009).

Method

This study adopted two generic steps central to the systematic review methodology (Nightingale 2009), namely defining the search strategy, and then selecting relevant studies by applying the inclusion and exclusion criteria. Originating in medical science, a systematic review differs from conversional reviews in that it aims at synthesising research in a systematic, transparent and reproducible manner (Tranfield, Denyer & Smart 2003). A systematic literature review uses explicit, thorough methods to identify, select, appraise and synthesise a set of research studies on a well-defined topic (Robson *et al.* 2007). The primary aim of this review was to identify and report on the instruments used in prior studies that investigated the relationship between innovation and organisational performance, and to identify the most frequently used instruments as well as the rationale behind choosing those instruments.

The keywords 'innovation' (innov*) and 'performance' (perform*) were used in the search. The options (criteria) selected for the search were full text, peer-reviewed and scholarly journals. Target articles needed to match both keywords in a title. Fifty-eight databases on the major database (presented in Box 1-A1), EBSCOhost, were searched for articles and 120 articles were retrieved. Articles whose abstract indicated that either financial or non-financial performance was used as a measure of organisational performance, which were published in English in the last 5 years and where the full text was available were included in the study. Only 71 articles (Table 1-A1) met these criteria.

Findings and discussion

In the sample of 71 studies, five studies (Articles 10; 17; 19; 40 and 46) focused exclusively on non-financial measures, 29 studies (Articles 2; 6; 7; 9; 11; 12; 15; 20; 25; 26; 27; 30; 32; 34; 36; 39; 43; 45; 47; 51; 52; 55; 56; 60; 61; 65; 69; 70 and 71) focused exclusively on the financial component and 37 studies (Articles 1; 3; 4; 5; 8; 13; 14; 16; 18; 21; 22; 23; 24; 28; 29; 31; 33; 35; 37; 38; 41; 42; 44; 48; 49; 50; 53; 54; 57; 58; 59; 62; 63; 64; 66; 67 and 68) combined both the financial and non-financial instruments to measure organisational performance. The financial (accounting and market) measures are discussed first, followed immediately by the non-financial measures.

Financial measures

The different instruments used to measure financial performance in the sample of 71 studies are presented in Table 2. From the sample of 71, a total of 16 financial instruments (profit, sales growth, ROA, ROI, turnover, ROE, ROS, Tobin's Q, operating costs, market to book, income, cash flow, basic earning power, long-term debt, inventory turnover and EPS) were used to measure financial performance.

In support of the argument by Cho and Pucik (2005), Table 2 shows that profitability, despite its weaknesses in measuring long-term investment, is by far the most preferred financial indicator used to measure financial performance, with a staggering 29 studies opting to use this measure, followed by sales growth with 28 studies. The most cited reason for using profitability and sales growth to measure organisational performance is twofold. Firstly, authors argue that innovative behaviour leads to improved operational performance such as cost efficiency, quality improvement and speed to market, which ultimately results in higher profitability and sales growth (Cambra-Fierro *et al*. 2011; Ul Hassan *et al*. 2013). Secondly, authors (Basterretxea & Martinez 2012; Cortez & Cudia 2010; Forsman & Temel 2011) argue that both profitability and sales growth are the most common indicators used in prior studies to measure organisational performance and, as such, enable a comparison between the output of prior studies and the study in question.

In agreement with literature, ROA completes the top three most commonly used instruments to measure financial performance. Consistent with the rationale for using profitability and sales growth instruments, ROA, ROS, ROI and ROE are generally selected for their popularity in prior studies that investigated innovation and organisational performance (Postruznik & Moretti 2012; Rubera & Kirca 2012). Similarly, revenue is preferred because it can be directly linked to innovation activities and it is also a commonly used indicator in prior studies (Eris & Ozmen 2012; Likar *et al*. 2014).

Tobin's Q is the most preferred market-based measure of financial performance, with five studies opting to use this measure. In contrast to the reasons provided for using accounting-based measures, Tobin's Q is used mainly because of its ability to capture the value of long-term investment, such as innovation investment (Padgett & Moura-Leite 2012; Sivakumar *et al*. 2011; Talke *et al*. 2011). Furthermore, Table 2 illustrates that financial instruments, such as operating cost, market to book, income, cash flow, basic earning power, inventory turnover and EPS are not so popular among innovation scholars, despite Selby (2010) presenting a good argument for the use of EPS as a measure of organisational performance, owing to its strength in capturing future expected earnings.

TABLE 2: Financial instruments used to measure organisational performance.

Number	Financial instruments	Article reference number	Number of articles
1	Profitability	3, 4, (7), 8, 12, 13, 14, 16, 24, (25), (26), (27), 28, 31, 37, (39), 42, (43), 44, 53, (55), (56), 57, 59, 62, 66, (68), (69), (70)	29
2	Sales/sales growth	(2), 3, 4, (11), 13, 14, 24, (25), (27), 28, (30), 31, 35, 38, 41, 42, 44, 48, 49, 53, (55), (56), 58, (60), 62, (69), (71)	28
3	Return on assets	(6), (9), (11), (15), 18, (20), (26), 31, 48, 49, 52, 58, (65), (69), (70), (71)	16
4	Return on investment	3, 4, (6), (27), 33, (34), 38, 41, (56), (70)	10
5	Revenue/turnover	5, 18, 23, 41, (45), 47, (61), 63, (69), (71)	10
6	Return on equity	(6), (15), 18, (20), (26), (69), (71)	7
7	Return on sales	(9), (34), (56), 66, (69), (71)	6
8	Tobin's Q	(34), (36), (51), (65)	4
9	Operating costs	58, 64	2
10	Income	(6), 18	2
11	Cash flow	18, 66	2
12	Market to book	(9)	1
13	Basic earning power	21	1
14	Risk/long-term debt	(6)	1
15	Inventory turnover	29	1
16	Earnings per share	(20)	1
Total	-	-	**127**

Note: Numbers in brackets represent studies that exclusively used financial measures.

Non-financial measures

Table 3 presents the instruments used to measure non-financial aspects of organisational performance when investigating the relationship between innovation and organisational performance. From the sample of 71 studies, a total of 10 instruments (market share, customer satisfaction, productivity, operational efficiency, employment growth, quality, competitiveness, reputation or branding, product attractiveness and quick to market) were used to measure non-financial aspects of organisational performance. Table 3 reveals that market share (14 studies), customer satisfaction and retention (12 studies) and productivity (10 studies) are the most popular instruments used to measure non-financial components of organisational performance. Interesting to note is that there are no reasons provided for why the measures were selected. However, one can infer that market dominance, customer satisfaction and productivity were chosen because they are easy to measure and they provide useful information to gauge whether a company is doing well or not.

TABLE 3: Non-financial instruments used to measure organisational performance.

Number	Non-financial instruments	Article reference number	Number of articles
1	Market share	1, 3, 4, 8, 18, 24, 27, 33, 35, 38, 41, 53, 591, 67	14
2	Customer satisfaction or retention	2, 13, 18, (19), 23, 29, (40), 44, 50, 62, 64, 66	12
3	Productivity	(10), (17), 21, 22, 35, 42, 58, 64, 66, 68	10
4	Operational efficiency	17, 18,(19), 23, 29, 60	6
5	Employment growth	5, 22, 23, 35, 58, 71	6
6	Quality	(17), (19), 23, 64, 66	5
7	Competitiveness	31, 48, 49, 66	4
8	Reputation/branding	23, (46), 50	3
9	Product attractiveness	(17), 46	2
10	Quick to market	(17)	1
Total	-	-	**63**

Note: Numbers in brackets represent studies that exclusively used non-financial measures.

Other studies used competitiveness, branding, product attractiveness and quick to market as instruments to measure organisational performance. Studies that focused exclusively on non-financial aspects of organisational performance prefer to use the top three frequently used measures, namely customer satisfaction (Modi 2012; Oke *et al*. 2012; Walker, Damanpour & Devece 2011), market share (Adner & Kapoor 2010) and productivity (Ito & Lechevalier 2010).

Subjective versus objective

Only three studies (Articles 50, 53 and 54) used both objective and subjective measures. In two studies (Articles 50 and 53), the results of the study revealed mixed results and in one study (Article 54), the results showed that innovation leads to superior organisational performance. Despite the importance of using both objective and subjective measures, a considerable number of studies adopted either subjective or objective measures of organisational performance.

Subjective measures

Table 4 presents the article reference number of studies (see Table 1-A1) that used the subjective measures of organisational performance and the findings of the studies that investigated the relationship between innovation and organisational performance.

As stated in the literature, subjective measures are perceived organisational performance, where respondents are requested to assess their company's performance relative to that of their competitors. Of the 71 studies that investigated the relationship between innovation and organisational performance, 43 studies used the subjective measures of organisational performance. The findings provide overwhelming evidence (41 studies) indicating innovation is positively and significantly related to organisational performance. In contrast, two studies found mixed results.

Objective measures

Table 5 depicts authors and hypothesis results of studies that used objective measures of organisational performance on the relationship between innovation and organisational performance. Objective measures, the absolute values of a firm's actual performance, are generally sourced from an independent body such as a stock exchange.

Table 5 shows that when objective measures of organisational performance are used, the higher number of studies reveals mixed results. This suggests that the type of instrument used might also influence the results in studies that investigate the relationship between innovation and organisational performance. For example, the study conducted by Likar *et al*. (2014) showed innovation is significantly and positively related to performance when measured using ROE, whereas the same study revealed no relationship when ROS and ROA were used. Table 5 shows that, of the 25 studies that investigated the relationship between innovation and organisational performance, 13 found a positive relationship and 12 found mixed results.

TABLE 4: Subjective measures of organisational performance.

Article reference number	Findings	Number of articles
1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 16, 18, 23, 24, 28, 29, 31, 33, 34, 35, 37, 38, 39, 40, 41, 42, 44, 46, 48, 49, 55, 56, 57, 58, 59, 62, 64, 66, 68, 70, 71	Innovation is significantly and positively related to organisational performance	41
17, 19	The results were mixed (positive, negative or no relationship)	2
Total	-	**43**

TABLE 5: Objective measures of organisational performance.

Article reference number	Findings	Number of articles
7, 9, 26, 27, 30, 36, 47, 52, 60, 61, 63, 65, 71	Innovation is significantly and positively related to organisational performance	13
6, 11, 15, 20, 21, 22, 25, 32, 43, 45, 51, 69	The results were mixed (positive, negative or no relationship)	12
Total	-	**25**

Managerial implication

The primary purpose of this study is to report on the instruments used to measure organisational performance and investigate whether the type of instrument used influences the results of those studies that investigated the relationship between innovation and organisational performance. Using the systematic review methodology, this study finds that combining both financial and non-financial measures is touted as the most effective measure of organisational performance. In total, 37 studies use both financial and non-financial measures, which constitute 50.7% of the overall sample of articles. However, a substantial number of authors still prefer to use financial measures as the sole measure of organisational performance, with 29 studies focusing exclusively on the financial measures, which constitute 40.8% of the overall sample. The sole use of financial indicators as a proxy for organisational performance may be informed by the popular notion that ultimately the goal of the organisation is to maximise profit in the short term and to maximise shareholder value in the long-term.

In addition, the study provides evidence that profitability, sales growth, ROA, ROS, ROI, ROE and turnover are the most preferred accounting measures for financial performance. Similarly, the study further reveals that Tobin's Q is the most favoured market-related measure used by innovation scholars to measure financial aspects of organisational performance.

On the contrary, market share, customer satisfaction and productivity measures are reported as the most preferred non-financial measures of organisational performance. This study provides clear evidence that the use of non-financial measures as a sole measure is not a common trend, with only 5 (7%) of 71 studies opting to exclusively use non-financial measures to measure organisational performance.

The use of any specific measure of organisational performance is not implicitly wrong, but Gentry and Shen (2010) urge that researchers should always be cautious in their approach and clearly define which aspects of organisational performance they intend to study, and then develop and test hypotheses around that defined area.

When findings were studied, this study showed that organisations that practise innovative behaviour generally exhibit superior organisational performance relative to organisations with less innovative behaviour. The study showed that 54 studies, which constitute 76% of the overall sample, supported the hypothesis that innovation leads to superior organisational performance. In addition, the findings also showed that 60.6% of the overall sample used the subjective measures of organisational performance, relative to only 35.2% which used objective measures of organisational performance. When objective measures were used, the findings reveal that a higher number of studies (48%) showed mixed results, no relationship or negative relationship, relative to 0.05% which showed mixed results, no relationship or negative relationship when subjective measures are used. This finding suggests that the selection of the instruments to measure organisational performance does influence the outcome of the results, as shown in studies that investigate the relationship between innovation and organisational performance.

Thus, the implications of the research for both researchers and practitioners can be divided into two main areas:

- Firstly, the study revealed the measurement instrument favoured by researchers. But of significance is that the reasons for selecting the instruments are generally based on the popularity of the instrument in this domain, and not necessarily based on the objective of the study. This observation suggests that researchers should be more cautious when selecting the instrument to measure organisational performance because the instrument has a direct impact on the outcome of the study.
- Secondly, the finding shows that the method in which the instruments is used can affect the outcome of the research. In other words, when subjective measures of organisational performance are used, the outcome of the results is easily predictable. In contrast, when objective measures are used, the extent of variability of the results increases. In other words, the outcome of the results is not easily predictable when objective measures are used. As such, researchers and practitioners should be more alert to the possible false inferences that may be the result of using a specific method to measure organisational performance, particularly the use of subjective measures.

Conclusion

In conclusion, this finding supports the argument put forward by Gentry and Shen (2010), which states that a thorough literature study should be central to decision-making when selecting measures of organisational performance, as the types of measures seemingly influence the outcome of the enquiry.

Recommendation for future research

This study should serve as stimulus for future studies to explore all the possible factors that influence findings related to the relationship between innovation and organisational performance. Future studies that investigate the relationship between innovation and organisational performance should try to isolate the role of innovation on organisations, and eliminate the cloud created by factors such as measurement tools, by selecting the instrument(s) based on the objective of the study.

Acknowledgements

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

T.S. was responsible for all aspects of the research, including matters such as identifying the research problem, formulating the research objective, the research design, execution of the research and drafting the article. R.S. played a mentoring role and assisted with the critical comments and provided guidance in drafting the article.

References

Aas, T.H. & Pedersen, P.E., 2011, 'The impact of service innovation on firm-level financial performance', *Service Industries Journal* 31(13), 2071–2090. http://dx.doi.org/10.1080/02642069.2010.503883

Adner, R. & Kapoor, R., 2010, 'Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generations', *Strategic Management Journal* 31(3), 306–333. http://dx.doi.org/10.1002/smj.821

Alam, I., 2003, 'Innovation strategy, process and performance in the commercial banking industry', *Journal of Marketing Management* 19(9/10), 793–999.

Alexander, D. & Nobes, C., 2010, *Financial accounting: An international introduction*, 4th edn., Pearson Education Limited, Harlow.

Alpay, G., Bodur, M., Yilmaz, C. & Büyükbalci, P., 2012, 'How does innovativeness yield superior firm performance? The role of marketing effectiveness', *Innovation: Management, Policy & Practice* 14(1), 107–128. http://dx.doi.org/10.5172/impp.2012.14.1.107

Artz, K.W., Norman, P.M., Hatfield, D.E. & Cardinal, L.B., 2010, 'A longitudinal study of the impact of R&D, patents, and product innovation on firm performance', *Journal of Product Innovation Management* 27(5), 725–740. http://dx.doi.org/10.1111/j.1540-5885.2010.00747.x

Aspara, J., Hietanen, J. & Tikkanen, H., 2010, 'Business model innovation vs. replication: Financial performance implications of strategic emphases', *Journal of Strategic Marketing* 18(1), 39–56. http://dx.doi.org/10.1080/09652540903511290

Basterretxea, I. & Martinez, R., 2012, 'Impact of management and innovation capabilities on performance: Are cooperatives different?', *Annals of Public and Cooperative Economics* 83(3), 357–381. http://dx.doi.org/10.1111/j.1467-8292.2012.00467.x

Battor, M. & Battor, M., 2010, 'The impact of customer relationship management capability on innovation and performance advantages: Testing a mediated model', *Journal of Marketing Management* 26(9/10), 842–857. http://dx.doi.org/10.1080/02672570903498843

Berger, A.N. & Bonaccorsi di Patti, E., 2003, 'Capital structure and firm performance: A new approach to testing agency theory and an application to the banking industry', *Journal of Banking and Finance* 30(4), 1065–1102. http://dx.doi.org/10.1016/j.jbankfin.2005.05.015

Bettis, R.A., 1983, 'Modern financial theory, corporate strategy, and public policy: Three conundrums', *Academy of Management Review* 8(3), 406–415. http://dx.doi.org/10.2307/257829

Bigliardi, B., 2013, 'The effect of innovation on financial performance: A research study involving SMEs innovation', *Management, Policy & Practice* 15(2), 245–256. http://dx.doi.org/10.5172/impp.2013.15.2.245

Bodlaj, M., 2010, 'The impact of a responsive and proactive market orientation on innovation and business performance', *Economic and Business Review* 12(4), 241–261.

Brockman, B.K., Jones, M.A. & Becherer, R.C., 2012, 'Customer orientation and performance in small firms: Examining the moderating influence of risk-taking, innovativeness, and opportunity focus', *Journal of Small Business Management* 50(3), 429–446. http://dx.doi.org/10.1111/j.1540-627X.2012.00361.x

Cainelli, G., Mazzanti, M. & Zoboli, R., 2011, 'Environmentally oriented innovative strategies and firm performance in services. Micro-evidence from Italy', *International Review of Applied Economics* 25(1), 61–85. http://dx.doi.org/10.1080/02692170903426146

Carvalho, A.O., Ribeiro, I., Cirani, C.B.S. & Cintra, R.F., 2016, 'Organisational resilience: A comparative study between innovative and non-innovative companies based on the financial performance analysis', *International Review of Applied Economics* 25(1), 61–85.

Camarero, C., Garrido, M.J. & Vicente, E., 2011, 'How cultural organizations' size and funding influence innovation and performance: The case of museums', *Journal of Cultural Economics* 35(4), 247–266. http://dx.doi.org/10.1007/s10824-011-9144-4

Cambra-Fierro, J.J., Hart, S., Fuster Mur, A. & Polo Redondo, Y., 2011, 'Looking for performance: How innovation and strategy may affect market orientation models', *Innovation: Management, Policy & Practice* 13(2), 154–172. http://dx.doi.org/10.5172/impp.2011.13.2.154

Campbell, K. & Mínguez-Vera, A., 2008, 'Gender diversity in the boardroom and firm financial performance', *Journal of Business Ethics* 83(3), 435–451. http://dx.doi.org/10.1007/s10551-007-9630-y

Cho, H. & Pucik, V., 2005, 'Relationship between innovativeness, quality, growth, profitability, and market value', *Strategic Management Journal* 26(6), 555–575. http://dx.doi.org/10.1002/smj.461

Clifton, N., Keast, R., Pickernell, D. & Senior, M., 2010, 'Network structure, knowledge governance, and firm performance: Evidence from innovation networks and SMEs in the UK', *Growth and Change* 41(3), 337–373. http://dx.doi.org/10.1111/j.1468-2257.2010.00529.x

Cortez, M.A.A. & Cudia, C.P., 2010, 'The impact of environmental innovations on financial performance: The case of Japanese automotive and electronics companies', *Journal of International Business Research* 9(1), 33–46.

Cortez, M.A.A. & Cudia, C.P., 2011, 'The virtuous cycles between environmental innovations and financial performance: Case study of Japanese automotive and electronics companies', *Academy of Accounting & Financial Studies Journal* 15(2), 31–44.

Cortez, M.A.A., Ikram, M.I.N., Nyuyen, T.T. & Pravini, W.P., 2015, 'Innovation and financial performance of electronic companies: A cross-country comparison', *Journal of International Business Research* 14(1), 166–179.

Dawes, J., 1999, 'The relationship between subjective and objective company performance measures in market orientation research: Further empirical evidence', *Marketing Bulletin* 10(3), 65–75.

Davidson, G.M., 2003, *The relationship between organizational culture and financial performance in South African Investment Bank*, Unpublished Master's dissertation, University of South Africa, Pretoria.

Durán-Vázquez, R., Lorenzo-Valdés, A. & Moreno-Quezada, G.E., 2012, 'Innovation and CSR impact on financial performance of selected companies in Mexico', *Journal of Entrepreneurship, Management and Innovation* 8(3), 5–20.

Eggink, M.E., 2011, *The role of innovation in economic development*, Unpublished Doctoral thesis, University of South Africa, Pretoria.

Eris, E.D. & Ozmen, O.N.T., 2012, 'The effect of market orientation, learning orientation and innovativeness on firm performance: A research from Turkish logistics sector', *International Journal of Economic Sciences and Applied Research* 5(1), 77–108.

Faems, D., De Visser, M., Andries, P. & Van Looy, B., 2010, 'Technology alliance portfolios and financial performance: Value-enhancing and cost-increasing effects of open innovation', *Journal of Product Innovation Management* 27(6), 785–796. http://dx.doi.org/10.1111/j.1540-5885.2010.00752.x

Fang, E., Palmatier, R.W. & Grewal, R., 2011, 'Effects of customer and innovation asset configuration strategies on firm performance', *Journal of Marketing Research* 48(3), 587–602. http://dx.doi.org/10.1509/jmkr.48.3.587

Fernandez, P., 2001, *EVA, economic profit and cash value added do not measure shareholder value creation*, working paper, IESE Business School, University of Navarra, Spain.

Firer, C., Ross, S.A., Westerfield, R.W. & Jordan, B.D., 2008, *Fundamentals of corporate finance*, 4th edn., McGraw-Hill Education, London.

Forsman, H. & Temel, S., 2011, 'Innovation and business performance in small enterprises: An enterprise-level analysis', *International Journal of Innovation Management* 15(3), 641–665. http://dx.doi.org/10.1142/S1363919611003258

Frigo, M.L., 2003, 'Guidelines for strategic financial analysis', *Strategic Finance* 85(5), 1-9.

García-Zamora, E., González-Benito, O. & Muñoz-Gallego, P.A., 2013, 'Organizational and environmental factors as moderators of the relationship between multidimensional innovation and performance', *Innovation: Management, Policy & Practice* 15(2), 224–244. http://dx.doi.org/10.5172/impp.2013.15.2.224

Garg, A.K., Joubert, R.J.O. & Pellissier, R., 2004, 'Measuring business performance: A case study', *Southern African Business Review* 8(1), 7–21.

Garrison, R.H., Noreen, E.R. & Brewer, P.C., 2008, *Managerial accounting*, 4th edn., McGrew-Hill/Irwin, New York.

Gentry, R.J.P. & Shen, W.P., 2010, 'The relationship between accounting and market measures of firm financial performance: How strong is it?', *Journal of Managerial Issues* 22(4), 514–530, 434–435.

Gibb, J. & Haar, J.M., 2010, 'Risk taking, innovativeness and competitive rivalry: A three-way interaction towards firm performance', *International Journal of Innovation Management* 14(5), 871–891. http://dx.doi.org/10.1142/S136391961000291X

Gökmen, A. & Hamşioğlu, A.B., 2011, 'The effect of knowledge management, technological capability and innovation on the enterprise performance: A comprehensive empirical study of the Turkish textile sector', *Journal of Information & Knowledge Management* 10(1), 1–10. http://dx.doi.org/10.1142/S021964921100278X

Grawe, S.J., Daugherty, P.J. & Roath, A.S., 2011, 'Knowledge synthesis and innovative logistics processes: Enhancing operational flexibility and performance', *Journal of Business Logistics* 32(1), 69–80. http://dx.doi.org/10.1111/j.2158-1592.2011.01006.x

Greenley, G.E., 1995, 'Market orientation and company performance: Empirical evidence from UK companies', *British Journal of Management* 6(1), 1–13. http://dx.doi.org/10.1111/j.1467-8551.1995.tb00082.x

Gronum, S., Verreynne, M.L. & Kastelle, T., 2012, 'The role of networks in small and medium-sized enterprise innovation and firm performance', *Journal of Small Business Management* 50(2), 257–282. http://dx.doi.org/10.1111/j.1540-627X.2012.00353.x

Guiral, A., 2012, 'Corporate social performance, innovation intensity, and financial performance: Evidence from lending decisions', *Behavioral Research in Accounting* 24(2), 65–85. http://dx.doi.org/10.2308/bria-50096

Hemert, P., Nijkamp, P. & Masurel, E., 2013, 'From innovation to commercialization through networks and agglomerations: Analysis of sources of innovation, innovation capabilities and performance of Dutch SMEs', *Annals of Regional Science* 50(2), 425–452. http://dx.doi.org/10.1007/s00168-012-0509-1

Hervas-Oliver, J., Sempere-Ripoll, F. & Boronat-Moll, C., 2014, 'Process innovation strategy in SMEs, organisational innovation and performance: A misleading debate?', *Small Business Economics* 43, 873–886. http://dx.doi.org/10.1007/s11187-014-9567-3

Hoopes, D.G., Hadsen, T.L. & Walker, G., 2003, 'Guest editors' introduction to the special issue: Why is there a resource-based view? Toward a theory of competitive heterogeneity', *Strategic Management Journal* 24(10), 889–902. http://dx.doi.org/10.1002/smj.356

Hoskisson, R.E., Hitt, M.A., Wan, W.P. & Yiu, D., 1999, 'Theory and research in strategic management: Swings of a pendulum', *Journal of Management* 25(3), 417–456. http://dx.doi.org/10.1177/014920639902500307

Huang, H., Lai, M., Kao, M. & Chen, Y., 2012, 'Target costing, business model innovation, and firm performance: An empirical analysis of Chinese firms', *Canadian Journal of Administrative Sciences* 29(4), 322–335. http://dx.doi.org/10.1002/cjas.1229

Huang, L., Chen, S.K. & Han, S.B., 2011, 'The effect of business reorganization and technical innovation on firm performance', *Journal of Business and Economic Studies* 17(1), 29–36.

Huffman, F.A. & Skaggs, B.C., 2010, 'The effects of customer-firm interaction on innovation and performance in service firms', *Journal of Business Strategies* 27(2), 151–175.

Hult, G.T.M., Ketchen, D.J., Griffith, D.A., Chabowski, B.R., Hamman, M.K., Dykes, B.J. *et al*., 2008, 'An assessment of the measurement of performance in international business research', *Journal of International Business Studies* 39(6), 1064–1080. http://dx.doi.org/10.1057/palgrave.jibs.8400398

Iona, A., Leonida, L. & Navarra, P., 2013, 'Business group affiliation, innovation, internationalization, and performance: A semiparametric analysis', *Global Strategy Journal* 3(3), 244–261. http://dx.doi.org/10.1111/j.2042-5805.2013.01060.x

Ito, K. & Lechevalier, S., 2010, 'Why some firms persistently out-perform others: Investigating the interactions between innovation and exporting strategies', *Industrial and Corporate Change* 19(6), 1997–2039. http://dx.doi.org/10.1093/icc/dtq056

Karanja, E., 2011, *The mediating effect of innovation on the relationship between information technology investment and firm performance: An empirical study*, Unpublished Doctoral thesis, Morgan State University, Baltimore, MD.

Kreiser, P.M. & Davis, J., 2010, 'Entrepreneurial orientation and firm performance: The unique impact of innovativeness, proactiveness, and risk-taking', *Journal of Small Business and Entrepreneurship* 23(1), 39–51. http://dx.doi.org/10.1080/08276331.2010.10593472

Lau, A.K.W., Tang, E. & Yam, R.C.M., 2010, 'Effects of supplier and customer integration on product innovation and performance: Empirical evidence in Hong Kong manufacturers', *Journal of Product Innovation Management* 27(5), 761–777. http://dx.doi.org/10.1111/j.1540-5885.2010.00749.x

Likar, B., Kopa, J. & Fatur, P., 2014, 'Innovation investment and economic performance in transition economies: Evidence from Slovenia', *Innovation: Management, Policy & Practice* 16(1), 53–66. http://dx.doi.org/10.5172/impp.2014.16.1.53

Liu, X. & Wu, X., 2011, 'Technology embeddedness, innovation differentiation strategies and firm performance: Evidence from Chinese manufacturing firms', *Innovation: Management, Policy & Practice* 13(1), 20–35. http://dx.doi.org/10.5172/impp.2011.13.1.20

Lubatkin, M. & Shrieves, R.E., 1986, 'Towards reconciliation of market performance measures to strategic management research', *Academy of Management Review* 11(3), 497–512.

Mafini, C., 2015, 'Predicting organisational performance through innovation, quality and inter-organisational systems: A public sector perspective', *Journal of Applied Business Research* 31(3), 939–952. http://dx.doi.org/10.19030/jabr.v31i3.9227

Maltz, A., Shenhar, A. & Reilly, R., 2003, 'Beyond the balanced scorecard: Refining the search for organizational success measures', *Long Range Planning* 36(2), 187–204. http://dx.doi.org/10.1016/S0024-6301(02)00165-6

Marx, J., 2004, *Finance for non-financial managers*, 2nd edn., ABC Press, Cape Town.

Mat Rabi, N., Zulkafli, A.H. & Che Haat, M.H., 2010, 'Corporate governance, innovation investment and firm performance: Evidence from Malaysian public listed companies', *Economia: Seria Management* 13(2), 225–239.

Mazzola, E., Bruccoleri, M. & Perrone, P., 2012, 'The effect of inbound, outbound and coupled innovation on performance', *International Journal of Innovation Management* 16(6), 27. http://dx.doi.org/10.1142/S1363919612400087

McNally, R.C., Cavusgil, E. & Calantone, R.J., 2010, 'Product innovativeness dimensions and their relationships with product advantage, product financial performance, and project protocol', *Journal of Product Innovation Management* 27(7), 991–1006. http://dx.doi.org/10.1111/j.1540-5885.2010.00766.x

Modi, P., 2012, 'Market orientation in nonprofit organizations: Innovativeness, resource scarcity, and performance', *Journal of Strategic Marketing* 20(1), 55–67. http://dx.doi.org/10.1080/0965254X.2011.628405

Mollick, E., 2012, 'People and process, suits and innovators: The role of individuals in firm performance', *Strategic Management Journal* 33(9), 1001–1015. http://dx.doi.org/10.1002/smj.1958

Morris, L., 2008, *Innovation metrics: An innovation labs*, viewed 26 February 2015, from http://www.innovationlabs.com/Measuring_Innovation.pdf

Nawaz, M.S., Hassan, M. & Shaukat, S., 2014, 'Impact of knowledge management practices on firm performance: Testing the mediation role of innovation in the manufacturing sector of Pakistan', *Pakistan Journal of Commerce & Social Sciences* 8(1), 99–111.

Ndregjoni, Z. & Elmazi, L., 2012, 'The effects of relationship between information technology and firm innovation on firm performance: The case of Albania', *International Journal of Management Cases* 14(1), 235–246. http://dx.doi.org/10.5848/APBJ.2012.00023

Nightingale, A., 2009, 'A guide to systematic literature review', *Surgery* 27(9), 381–384. http://dx.doi.org/10.1016/j.mpsur.2009.07.005

Noruzy, A., Dalfard, V., Azhdari, B., Nazari-Shirkouhi, S. & Rezazadeh, A., 2013, 'Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms', *International Journal of Advanced Manufacturing Technology* 64(5–8), 1073–1085. http://dx.doi.org/10.1007/s00170-012-4038-y

Nybakk, E., 2012, 'Learning orientation, innovativeness and financial performance in traditional manufacturing firms: A higher-order structural equation model', *International Journal of Innovation Management* 16(5), 28. http://dx.doi.org/10.1142/S1363919612003873

Nybakk, E. & Jenssen, J.I., 2012, 'Innovation strategy, working climate, and financial performance in traditional manufacturing firms: An empirical analysis', *International Journal of Innovation Management* 16(2), 1–26. http://dx.doi.org/10.1142/S1363919611003374

O'Connor, G.C., Leifer, R., Paulson, A.S. & Peters, L.S., 2008, *Grabbing lightning: Building a capability for breakthrough innovation*, Jossey-Bass, San Francisco, CA.

OECD/Eurostat, 2005, *Islo manual: Guidelines for collecting and interpreting innovation data*, 2nd edn., OECD Publishing, Paris.

Oke, A., Walumbwa, F.O. & Myers, A., 2012, 'Innovation strategy, human resource policy, and firms' revenue growth: The roles of environmental uncertainty and innovation performance', *Decision Sciences* 43(2), 273–302. http://dx.doi.org/10.1111/j.1540-5915.2011.00350.x

Padgett, R.C. & Moura-Leite, R.C., 2012, 'Innovation with high social benefits and corporate financial performance', *Journal of Technology Management & Innovation* 7(4), 59–69. http://dx.doi.org/10.4067/S0718-27242012000400005

Postružnik, N. & Moretti, M., 2012, 'Innovation and communication as dimensions of the marketing culture: Their influence on financial performance in Slovenia's insurance and construction industries', *Our Economy* 58(1/2), 35–47.

Rajan, M.V. & Reichelstein, S., 2009, 'Objective versus subjective indicators of managerial performance', *The Accounting Review* 84(1), 209–327. http://dx.doi.org/10.2308/accr.2009.84.1.209

Ritala, P., 2012, 'Coopetition strategy – When is it successful? Empirical evidence on innovation and market performance', *British Journal of Management* 23(3), 307–324.

Robeson, D. & O'Connor, G.C., 2013, 'Boards of directors, innovation, and performance: An exploration at multiple levels', *Journal of Product Innovation Management* 30(4), 608–625. http://dx.doi.org/10.1111/jpim.12018

Robson, L.S., Clarke, J.A., Cullen, K., Bielecky, A., Severin, C., Bigelow, P.L. *et al*., 2007, 'The effectiveness of occupational health and safety management system interventions: A systematic review', *Safety Science* 45, 329-353. http://dx.doi.org/10.1016/j.ssci.2006.07.003

Rubera, G. & Kirca, A.H., 2012, 'Firm innovativeness and its performance outcomes: A meta-analytic review and theoretical integration', *Journal of Marketing* 76(3), 130–147. http://dx.doi.org/10.1509/jm.10.0494.

Ruiz-Arroyo, M., Fuentes-Fuentes, M.D.M., Bojica, A.M. & Rodriguez-Ariza, L., 2012, 'Innovativeness and performance in women-owned small firms: The role of knowledge acquisition', *Journal of Small Business and Entrepreneurship* 25(3), 307–326. http://dx.doi.org/10.1080/08276331.2012.10593575

Saunders, P., 2012, *Research methods for business students*, 6th edn., Pearson Education Limited, Harlow.

Selby, J., 2010, *A quantitative study describing the impact of innovation-related investment and management performance on corporate financial returns*, Unpublished Doctoral thesis, Walden University, Minneapolis, MN.

Shin, Y., Sung, S.Y., Choi, J.N. & Kim, M.S., 2015, 'Top management ethical leadership and firm performance: Mediating role of ethical and procedural justice climate', *Journal of Business Ethics* 129, 43–57. http://dx.doi.org/10.1007/s10551-014-2144-5

Shook, C.L., Ketchen, D.J., Jr, Hult, G.T.M. & Kacmar, K.M., 2004, 'An assessment of the use of structural equation modeling in strategic management research', *Strategic Management Journal* 25(4), 397–404. http://dx.doi.org/10.1002/smj.385

Simachev, Y., Kuzyk, M. & Feygina, V., 2015, 'Public support for innovation in Russia firms: Looking for improvements in corporate performance quality', *International Atlantic Economic Conference* 21, 13-31.

Sivakumar, K., Roy, S., Zhu, J. & Hanvanich, S., 2011, 'Global innovation generation and financial performance in business-to-business relationships: The case of cross-border alliances in the pharmaceutical industry', *Journal of the Academy of Marketing Science* 39(5), 757–776. http://dx.doi.org/10.1007/s11747-010-0229-y

Slavković, M. & Babić, V., 2013, 'Knowledge management, innovativeness, and organizational performance: Evidence from Serbia', *Economic Annals* 58(199), 85–107. http://dx.doi.org/10.2298/EKA1399085S

Smith, M.J., 2007, 'Accounting conservatism and real options', *Journal of Accounting, Auditing & Finance* 22(3), 449–467.

Song, M., Im, S., Bij, H. & Song, L.Z., 2011, 'Does strategic planning enhance or impede innovation and firm performance?', *Journal of Product Innovation Management* 28(4), 503–520. http://dx.doi.org/10.1111/j.1540-5885.2011.00822.x

Stegerean, R. & Gavrea, C., 2010, 'Innovation and development: Criteria for organizational performance', *Managerial Challenges of the Contemporary Society* (1), 202–205.

Stock, R.M., Six, B. & Zacharias, N.A., 2013, 'Linking multiple layers of innovation-oriented corporate culture, product program innovativeness, and business performance: A contingency approach', *Journal of the Academy of Marketing Science* 41(3), 283–299. http://dx.doi.org/10.1007/s11747-012-0306-5

Stock, R.M. & Zacharias, N.A., 2011, 'Patterns and performance outcomes of innovation orientation', *Journal of the Academy of Marketing Science* 39(6), 870–888. http://dx.doi.org/10.1007/s11747-010-0225-2

Subrahmanya, M.H.B., 2011, 'Technological innovations and firm performance of manufacturing SMEs: Determinants and outcomes', *ASCI Journal of Management* 41(1), 109–122.

Talke, K., Salomo, S. & Kock, A., 2011, 'Top management team diversity and strategic innovation orientation: The relationship and consequences for innovativeness and performance', *Journal of Product Innovation Management* 28(6), 819–832. http://dx.doi.org/10.1111/j.1540-5885.2011.00851.x

Terziovski, M., 2010, 'Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: A resource-based view', *Strategic Management Journal* 31(8), 892–902. http://dx.doi.org/10.1002/smj.841

Tobin, J., 1969, 'A general equilibrium approach to monetary theory', *Journal of Money Credit and Banking* 1(1), 15–29. http://dx.doi.org/10.2307/1991374

Tranfield, D., Denyer, D. & Smart, P., 2003, 'Towards a methodology for developing evidence-informed management knowledge by means of systematic review', *British Journal of Managemen* 14, 207–222. http://dx.doi.org/10.1111/1467-8551.00375

Tsao, S.M. & Lien, W.H., 2013, 'Family management and internationalization: The impact on firm performance and innovation', *Management International Review* 53(2), 189–213. http://dx.doi.org/10.1007/s11575-011-0125-9

Tsai, M. & Tsai, C., 2010, 'Innovation capability and performance in Taiwanese science parks: Exploring the moderating effects of industrial clusters fabric', *International Journal of Organizational Innovation* 2(4), 80–103.

Ul Hassan, M., Shaukat, S., Nawaz, M.S. & Naz, S., 2013, 'Effects of innovation types on firm performance: An empirical study on Pakistan's manufacturing sector', *Pakistan Journal of Commerce and Social Sciences* 7(2), 243–262.

Useem, M., 1993, *Executive defence: Shareholder power and corporate reorganization*, Harvard University Press, Cambridge, MA.

Walker, R.M., Damanpour, F. & Devece, C.A., 2011, 'Management innovation and organizational performance: The mediating effect of performance management', *Journal of Public Administration Research and Theory* 21(2), 367–386. http://dx.doi.org/10.1093/jopart/muq043

Wheatley, K.K. & Doty, D.H., 2010, 'Executive compensation as a moderator of the innovation-performance relationship', *Journal of Business and Management* 16(1), 89–102.

Wu, S. & Lin, M.C., 2011, 'The influence of innovation strategy and organizational innovation on innovation quality and performance', *International Journal of Organizational Innovation* 3(4), 45–81.

Yang, Y.F., Yang, L. & Chen, Y.S., 2014, 'Effects of service innovation on financial performance of small audit firms in Taiwan', *International Journal of Business and Finance Research* 8(2), 87–99, viewed n.d., from http://www.theibfr.com/ijbfrsample.htm

Yen, Y., 2013, 'The impact of bank's human capital on organizational performance: How innovation influences performance', *Innovation: Management, Policy & Practice* 15(1), 112–128. http://dx.doi.org/10.5172/impp.2013.15.1.112

Zhou, Y., Hong, Y. & Liu, J., 2013, 'Internal commitment or external collaboration? The impact of human resource management systems on firm innovation and performance', *Human Resource Management* 52(2), 263–288. http://dx.doi.org/10.1002/hrm.21527

The influence of culture on female entrepreneurs in Zimbabwe

Authors:
Nomusa B. Mazonde[1]
Teresa Carmichael[1]

Affiliations:
[1]Graduate School of Business Administration WBS (Wits), University of the Witwatersrand, South Africa

Corresponding author:
Teresa Carmichael,
terri.carmichael@wits.ac.za

Background: There is an increasing interest in female entrepreneurship, not only to realise the potential for economic growth, but also in light of the opportunities for female expression, emancipation, agency and empowerment. Literature has found that many female entrepreneurs are profoundly affected by the traditional sociocultural context in which they operate, and that they have needed to work around patriarchal barriers in order to succeed. This study explores the ways in which they do this.

Aim: The aim of this paper was to contribute to an understanding of how female entrepreneurs in a patriarchal African society can work within cultural constraints to achieve success within their own terms of reference.

Setting: The study took place in Zimbabwe among female entrepreneurs who had recently formalised their businesses

Methods: Using a qualitative interpretive research design, in-depth, face-to-face interviews were conducted with 43 African female entrepreneurs running their own businesses in the Zimbabwean cities of Harare and Bulawayo.

Results: The complex interplay of macro- (national cultural characteristics), meso- (institutional and social factors), and micro- (individual identity) level factors shaped the ways in which the women dealt with the shackles of patriarchy, inequality and high power distance that had historically impeded their economic participation. Through their own agency, they mobilised their public and private identities separately, balancing the seemingly incompatible roles of home-maker vs entrepreneur.

Conclusion: Zimbabwean women successfully managed the interaction between their different social roles and identities to balance domestic obligations with income generation to better the lives of their families.

Introduction

There is an increased focus on female entrepreneurship globally in light of tangible evidence of the significance of new business creation for economic growth and development (Bergmann, Müller & Schrettle 2014; Jamali 2009; Langowitz & Minniti 2007; Lock & Lawton-Smith 2016). Besides the contribution to economic growth and job creation, female entrepreneurs augment the diversity of entrepreneurship of any economy (Huarng, Mas-Tur & Yu 2012; Reed, Storrud-Barnes & Jessup 2012) in addition to making inroads into female expression, fulfilment (Bahmani, Sotos & García 2012; Huarng *et al*. 2012), agency, emancipation and empowerment (Goss *et al*. 2011; Ramadani, Hisrich & Gërguri-Rashiti 2015). As female entrepreneurship talent and potential remain poorly tapped in many contexts, there remains a great deal of benefit to be leveraged (Baughn, Chua & Neupert 2006; Ramadani *et al*. 2015).

Studies of female entrepreneurs in developing countries (particularly black female entrepreneurs) are still relatively few compared to those in developed countries (Brush & Cooper 2012; Link & Strong 2016). This is possibly because, historically, most entrepreneurs in the formal sector have been male (Saridakis, Marlow & Storey 2014), and an awareness of the importance of female entrepreneurship has only relatively recently been highlighted (Moses *et al*. 2016). This lack of visibility is of concern, as female entrepreneurs in developing countries may follow an entrepreneurial path that differs from that of the developed countries because of sociocultural factors (Baah, Amani & Abass 2015; Mboko & Smith-Hunter 2009). For example, in Pakistan, a patriarchal society like Zimbabwe, many women choose entrepreneurship over formal employment for flexibility as a coping mechanism to meet family and community obligations in addition to being economically active (Rehman & Azam-Roomi 2012). In many countries,

sociocultural factors do not act in favour of women, where their traditional role is subordination to men, often in patronising relationships in which the woman's place is in the home rather than the workplace (Hechavarria & Ingram 2016; Yusuf 2013).

Approximately 52% of the population of Zimbabwe are women (ZimStat 2012). They are therefore potentially major participants in Zimbabwe's economy by virtue of their number. Whilst some studies on female entrepreneurs have been completed in Zimbabwe (Chitsike 2000; Mboko & Smith-Hunter 2009; Nani 2013; Nyamwanza *et al*. 2012; Van Eerdewijk & Mugadza 2015), there is limited knowledge about the role of culture and social structure on female entrepreneurs and female entrepreneurship in this particular context. In this study, it has been assumed that studies conducted in other parts of Southern Africa may have some relevance. Zimbabwean women had an especially torrid time during the 2007–2009 period of hyperinflation (Siziba 2010) and many of them elected the daily income of the entrepreneurial option, as it was impossible to survive with inflation at 231 million percent and price increases at least three times per day. Thus, the primary entrepreneurial motivation relates to 'push factors' as articulated by Ramadani *et al*. (2015), and therefore fits into necessity, rather than opportunity, entrepreneurship. This is in line with other reports about transitioning and developing economies (Maden 2015).

Furthermore, studies on how the challenges experienced by female entrepreneurs could be overcome, worked around or turned into enablers are under-researched in Zimbabwe. The aim of this paper is to contribute to an understanding of how female entrepreneurs in a patriarchal African society can work within cultural constraints to achieve success within their own terms of reference.

The Zimbabwean context for female entrepreneurship

Zimbabwe is a patriarchal society, with men having more (social) rights to ownership of resources and decision-making authority (Matondi 2013). This is despite a great deal of legislation around women's rights having been embedded into the 2013 Constitution (Gaidzanwa 2016), which has resulted in a female representation in parliament of 33%. Thus, many of the determinants of female entrepreneurship lie in the interaction of micro-individual, meso- and macro-level factors (Baughn *et al*. 2006; De Bruin, Brush & Welter 2007; Henry *et al*. 2015; Lock & Lawton-Smith 2016). The interconnectedness of these factors can be detected even in making distinctions between these levels (De Bruin *et al*. 2007). The way that the embeddedness and context specificity shape the experience of female entrepreneurship (Langevang *et al*. 2015) appears to have been underestimated (Van Eerdewijk & Mugadza 2015). Fayolle *et al*. (2015) reached a similar conclusion to De Bruin *et al*. (2007), who suggested that existing theoretical debates overlook possible gender disparities in entrepreneurship, which points to the value of harmonising diverse views on female entrepreneurship in different contexts.

As Mboko and Smith-Hunter (2009) note, some entrepreneurial behaviour can be attributed to environmental factors. An integrated approach that is sensitive to the differential effect of micro-, meso- and macro-level factors will facilitate the study of female entrepreneurs (ILO 2009). An adaptation of the relational framework suggested by Syed and Ozbilgin (2009) and reinforced by Henry *et al*. (2015) is proposed as the basic theoretical framework for this study, with the incorporation of Hofstede's six and the nine GLOBE (Ozgen 2012) dimensions of culture (Figure 1).

The national context includes structural and institutional conditions, including social ideologies, education, socio-political factors, legal frameworks and religious dogma; it is the all-inclusive area inside which all others exist (Henry *et al*. 2015; Syed & Ozbilgin 2009). For this study, the outer circle represents a single component of Syed and Ozbilgin's model, that of national cultural dimensions. The meso-level involves both organisational and social practices that intercede between employment opportunities based on individual capabilities and contextual circumstances (Bullough, Renko & Abdelzaher 2014; Syed & Ozbilgin 2009). This level, which includes policy frameworks, has been very favourable towards women in Zimbabwe in the past 10 years or so, at least in leadership and management positions because of legislation specifically geared towards getting women (particularly black women) into senior positions in organisations (Booysen & Nkomo 2010; Gaidzanwa 2016). However, this does not necessarily translate into favourable entrepreneurial conditions because of societal influences and micro-level gendered behavioural expectations; Vossenberg (2013:2) surmised that:

> Women's entrepreneurship promotion undoubtedly benefits individual women, but when the main problem for the persistence of the gender gap is left unchallenged – which is that entrepreneurs, men and women alike, operate in patriarchal, gender-biased economies and societies, efforts remain in vain and without any significant macroeconomic and social change.

The micro-individual domain includes factors like individual agency, motivation, and identity, and influences individual capabilities and opportunities. At this level, family (nuclear and extended) plays a significant role, together with other social contacts.

The characterisation of different levels of analysis as interdependent and inter-related implies that entrepreneurship is socially (meso-level) and historically (macro-level) embedded, but also at the micro-level, individually constructed and negotiated (Jamali 2009). It is in this context that the research explores female entrepreneurship in Zimbabwe, using an adapted relational multilevel framework design.

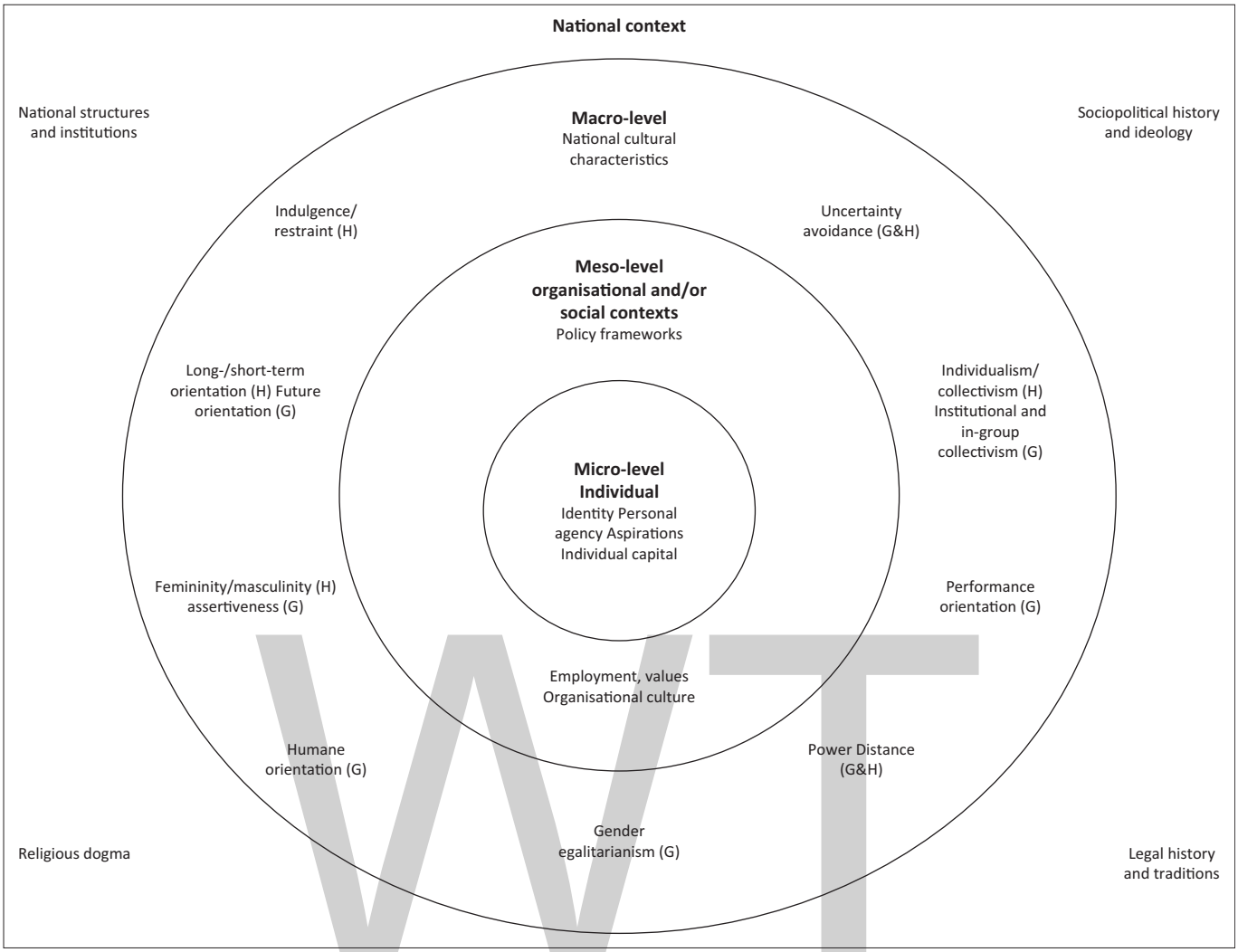


FIGURE 1: A narrowed adaptation of Syed and Ozbilgin's framework with Hofstede's six dimensions and the nine GLOBE dimensions incorporated.

Cultural influences and traditional roles

Research suggests that cultural context can shape entrepreneurial attitudes and intentions (Shinnar, Giacomin & Janssen 2012), particularly in the early stages (Zhao, Li & Rauch 2012) and less so in established ventures. This implies that knowing how culture shapes entrepreneurial intentions could be useful to understanding the gender gap in entrepreneurship and possibly for identifying strategies to reduce it. A definition of what constitutes culture is necessary at this juncture. A UNESCO declaration (2001:4) states that:

> culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs.

This definition is not dissimilar to that of Hofstede (2011:3), who offers, 'culture is the collective programming of the mind that distinguishes members of one group or society from those of another'.

Accordingly, culture is, therefore, a combination of social practices, traditions and beliefs that influence the mindset of individuals, groups and nations (Baah *et al*. 2015; Hofstede 2011; Liyanage, Dale & Dulaimi 2016). A culture informed by the underlying value systems that are unique to a group or society and that motivate individuals to behave in certain ways, such as when starting a new business (Stephan & Pathak 2016).

Concerning gender relations, cultural and social traditions help influence who becomes an entrepreneur (Espíritu-Olmos & Sastre-Castillo 2012). For instance, social circumstances in some countries restrain women from starting their own businesses (World Bank 2014) and shape social gender roles and stereotypes in terms of occupations considered suitable for women (Azmat & Fujimoto 2016; Maden 2015), such as personal services (e.g. beauty salons and child care), web design, education and retail.

In Zimbabwe, the prevalence of gender-based discrimination is still a predicament for female entrepreneurs (Mutanana & Bukaliya 2015). Before 1980, females were considered to be minors, with no acknowledgement of their role in the overall development of the country. This situation changed in 1982, with the inception of the Legal Age of Majority Act (1982). Whilst the law (at the meso-level) now recognises women as adults, cultural barriers still exist, and these negate the intended use of this law (Chitsike 2000). Traditionally and informally, in Zimbabwe, women are perceived as inferior to men irrespective of their age or educational status (Booysen & Nkomo 2010). Evidence from other patriarchal countries (Azmat 2013; Maden 2015) also suggests that women are expected to be subservient, supportive and submissive. It is easy to see that these conventional feminine qualities are in direct conflict with the more masculine cultural indicators required for a traditionally defined entrepreneur and required to succeed in business (Hechavarria & Ingram 2016).

In addition, for traditional patriarchal reasons, women are not readily accepted as entrepreneurs running and managing an enterprise (Van Eerdewijk & Mugadza 2015). The patriarchal system of social structures and practices allows men to dominate, oppress and exploit women (Hechavarria & Ingram 2016; Shinnar *et al*. 2012), negatively affecting women's self-assurance and achievement motivation, and contributing to barriers to female entrepreneurial success. A woman is typically not expected to make economic decisions such as opening a business of her own. Those who make it find it difficult to circumvent cultural barriers (Ewoh 2014). In a way, women's subconscious resistance to taking opportunities is embedded in their upbringing (Brush, De Bruin & Welter 2009; Fayolle *et al*. 2015).

Amoako-Kwakye (2012) and Azmat (2013) suggest that the patriarchal society expects women to be both producers and reproducers, carrying a double load of full-time work and domestic responsibilities. Social structures rather than individuals are made responsible for this systematic oppression. The indications of this systematic censorship can be observed in women's unequal opportunities to enjoy rights, goods, and resources (Rubio-Bañón & Esteban-Lloret 2016; Shinnar *et al*. 2012).

The greatest barrier for female entrepreneurs in developing countries is to overcome resistance from family (Sätre 2016) and prevailing cultural conditions (McKay 2001; Shinnar *et al*. 2012). According to Amoako-Kwakye (2012), women usually rely upon family support to get time for the business, but that the needs of extended family and the robust tradition of co-operation and reciprocity place an enormous burden on women to help relatives. McGowan *et al*. (2012) found that firms owned by women were at a commercial disadvantage because of pressures on them to prioritise family responsibilities over their entrepreneurial career. As a result, they were often discriminated against when applying for finance, seeking resources or getting permissions (Amin 2016). Nyamwanza *et al*. (2012) had observed that female entrepreneurs' businesses in Gweru, Zimbabwe, were both smaller and grew much more slowly than those of their male counterparts, possibly attributable to cultural barriers.

Women have shown that they can overcome challenges arising from cultural context, and they should therefore not be seen as 'victims' in an inflexible system with little or no power over their lives (Ezzedeen & Zikic 2015). Female entrepreneurs are drawing on their cultural attributes such as the importance of family and community, hard work, thriftiness, religious beliefs and conformity to social ethics in their entrepreneurial activities (Dhaliwal, Scott & Hussain 2010; Leung 2011).

The cultural dimensions, proposed by Hofstede (2011) and extended in the GLOBE study (Ozgen 2012), have been analysed and studied further by various authors, including in the GEM research, which is updated annually (Bosma 2013). A note of caution is that questions have been raised about the validity of Hofstede's VSM94 questionnaire in South Africa (Kruger & Roodt 2003), which may apply to other Southern African nations such as Zimbabwe. In addition, Zhao *et al*. (2012) have pointed out that various empirical results investigating the relationship between culture and entrepreneurship are contradictory (as seen in the points below), which they posit may be at least partly due to GDP as a moderating factor, and that the effects of culture on female entrepreneurship differs whether the venture is early stage or established. Thus, it is quite difficult to draw definitive conclusions from the literature about the cultural dimensions in Zimbabwe.

In the section below, the descriptions of each dimension are drawn from Ozgen (2012). Based on these studies, the following outline of the dimensions as they apply to entrepreneurs in various developing countries is given, although still inconclusive because of paucity of data about individual African countries, particularly split by gender:

- Uncertainty avoidance (UAI). A high UAI means low tolerance for risk, ambiguity, and unpredictability, which is managed by having a great number of rules in place, and is not considered 'good' for entrepreneurship. In South Africa, white managers scored low and black managers scored high on this dimension (Thomas & Bendixen 2000). Low UAI is favourable only for early stage female entrepreneurship (Zhao *et al*. 2012).
- Collectivism (IDV). In-group and institutional collectivism, split out in the GLOBE study, are discussed together here to reduce complexity; it reflects the degree to which groups are loyal, collective and cohesive. Where collectivism is low, higher barriers to business can be expected for female entrepreneurs (Ozgen 2012), and high in-group collectivism leads to more entrepreneurial activity (Zhao *et al*. 2012), but only in low to medium GDP countries. The concept of *Ubuntu,* prevalent in sub-Saharan African countries (including Zimbabwe) typically has 'high in-group solidarity, paternalistic leadership and humane orientation' (Wanasika *et al*. 2011:234).

Bullough *et al*. (2014) have shown that in-group collectivism is particularly important for women entrepreneurship, although her sample only included one African country: South Africa.

- Gender egalitarianism (GE) is the extent to which men and women are seen to have equal stature, with minimal gender differences. Sub-Saharan Africa, including Zimbabwe, shows low GE (Ozgen 2012), which would tend to reduce entrepreneurial activity amongst women. However, Zhao *et al*. (2012) found that low GE encourages female entrepreneurship in low GDP countries, which they suspect could be because formal employment opportunities are limited. Zimbabwe has a low GDP (ZimStat 2012).
- Performance orientation (PO) is the extent to which a society measures and rewards good performance. It has been suggested (Ozgen 2012) that where there is a low PO, female entrepreneurs are less likely to flourish due to low levels of support.
- Power distance (PDI), in which high PDI indicates hierarchies and inequality. Zimbabwe has been described as hierarchical (Mutanana & Bukaliya 2015), although the contrary was found in other Southern African states such as Swaziland ((Dlamini & Migiro 2014) and South Africa (Thomas & Bendixen 2000). Zhao *et al*. (2012) report that, in low-medium GDP countries, high PDI encourages female entrepreneurship and the reverse in high GDP countries.
- Assertiveness (AS) is the extent to which people face up to and challenge one another; it is associated with the masculinity dimension (Hofstede 2011). Low-assertive countries tend to be more cooperative, with relationships being more important than competitiveness (Ozgen 2012), and women fitting in with gender stereotypes. Zhao *et al*. (2012) found that increasing assertiveness encouraged female entrepreneurship only in high GDP countries, not in low-medium GDP countries.
- Humane orientation (HO) is the degree to which fairness and generosity are rewarded. It has been postulated that high scores on this dimension are associated with greater entrepreneurial activity (Zhao *et al*. 2012) and that there is more community support for entrepreneurs in such cultures.
- Femininity/masculinity (MAS) included assertiveness and willingness to confront in Hofstede's original dimensions, but the two characteristics were split out separately in the GLOBE study (Hofstede 2011). In less assertive societies, women may take fewer entrepreneurial opportunities (Ozgen 2012).
- Long-term (future) orientation (LTO) is the extent to which people plan and invest, rather than 'live for today' only. Zimbabwean female entrepreneurs show 'short-term focus and situational reactivity' (Nyamwanza *et al*. 2012:100), although future orientation is associated with intensified entrepreneurial activity. Figures directly from Hofstede's website, (Hofstede & Hofstede 2015) report LTO for Zimbabwe to be 15 on a scale of 0–100, which appears inconsequential.
- Indulgence/restraint (IR): Hofstede (2011) only added this dimension recently, so it has not yet been investigated in this context. He refers to it as the extent to which a society allows or restricts gratification of fundamental human desires; for example, having fun. Figures directly from Hofstede's website (Hofstede & Hofstede 2015) report IR for Zimbabwe to be 28 on a scale of 0–100, which is low, suggesting restraint.

Hechavarria and Ingram (2016) recently pointed out that the cultural dimensions of high power distance, high assertiveness and high inequality are strongly associated with gender issues in entrepreneurship, so it is difficult to discuss the dimensions as being fully independent of one another.

Methodology

An interpretive, qualitative research design was chosen to facilitate understanding of culture and its effects on female entrepreneurship in Zimbabwe. The philosophical worldview used to guide this study is social constructivism, which highlights the distinctiveness of situational and contextual depth (Hay 2016).

The backdrop against which this study was carried out was turbulent for Zimbabwean women seeking emancipation. In the decade after independence in Zimbabwe (1980), the government appeared to be working towards formulating policies to address discrimination against women, but the many women's groups that had formed for support, empowerment and development (Van Eerdewijk & Mugadza 2015) became frustrated with the direction and pace of change. Although policies have become more liberal in terms of women's rights, there is still much change needed in day-to-day exchanges that reveal the cultural inequality plaguing Zimbabwean women. The economic situation in Zimbabwe has continued to worsen since independence, and today the country ranks 125 out of 140 countries on the Global Competitiveness Index (Schwab 2015) and ranks last in the world in the availability of basic requirements.

Population and sampling

The field work was conducted in Harare and Bulawayo, the capital and second major cities, respectively, in Zimbabwe. Bulawayo was once the backbone of the economy housing major companies that have since relocated to Harare because of the deteriorating economic situation in the country. These two cities, by virtue of their size and stature, provide a base for the female entrepreneurs and their entrepreneurial endeavours. An exploration of the tribal variations between the two regions is beyond the scope of this study, although this could be an area for future research.

A sample of 43 female entrepreneurs was purposively selected (Bluhm *et al*. 2011) and interviewed in-depth, in face-to-face encounters. All respondents were black people, as there is scant research reporting on this particular group – gender

research is very seldom split by race, although there are reports of different cultural orientations in some sub-Saharan African (SSA) communities; for example, Afrocentric versus Eurocentric (Booysen 2001; Shrivastava *et al*. 2014). All of the women were running their own businesses and had started their entrepreneurial activities in the informal sector, then formalised, or were in the process of formalising their businesses. Ten interviews took place in Bulawayo and the rest in Harare. The respondents were selected on the basis that they owned a minimum of 50% of the company, were involved in the set-up of the organisation and managed the entrepreneurial endeavour themselves.

Data collection and analysis

Very open-ended questions and requests were asked, such as 'please tell me about your entrepreneurial journey', 'how do you manage both your business and home responsibilities?' and 'who do you turn to for advice or help?' with prompts like 'and what happened then?' or 'how did you deal with that?'. These centred on each woman's unique situation and her experiences in the context of transitioning from the informal to the formal economy. Guidance was given only to keep the dialogue on track, and the conversations flowed naturally. Guarantees of respondent anonymity facilitated open discussion.

Almost all of the interviews took place in the participants' offices, workplaces or homes. The interviews were recorded with prior approval from the respondents, and verbatim transcripts were created and analysed using ATLAS.ti© software. The analysis process involved several readings of each transcript for familiarisation, which was accompanied by memo writing to extract meaning and the main themes. After that, codes were extracted (line by line) using the software, and constant comparison within and between transcripts took place to refine the codes and develop categories for discussion.

Ethical consideration

Ethics approval was obtained from the University of the Witwatersrand Non-medical Ethics Committee #R14/49.

Findings and discussion

Whilst the research is on the female entrepreneurs' experiences as they transitioned to the formal economy, an issue that came to the fore was the historical and cultural context in which they were embedded.

The foremost cultural factors that emerged from the analysis were: dedication to work, (to deliver a 'double workload' (Azmat & Fujimoto 2016:19), conformity to social value patterns, dependability, thrift and reliance on family values, which helped to explain their priorities, choices and behaviour (Watts *et al*. 2007). Perceptions of the role of cultural factors in moderating their values and behaviour determined whether these factors acted as enablers or barriers to success (Azmat 2013; Dhaliwal *et al*. 2010).

Strong work ethic

In all of the conversations with the female entrepreneurs, the cultural attribute of 'hard work' was evident, and this was embedded in their upbringing and learned mainly from their mothers. This point is illustrated in the following verbatim quotes from three of the respondents:

> '... as a woman it is important to use the gift that God gave you 'sebenza nemaokoako' (put your hands to good use) so that you can get something for yourself in life.' [Participant 1, female]

> '... I find inspiration from my late mother ... She instilled in us that you have to wake up and work hard especially as a girl child.' [Participant 2, female]

> 'As women, we must appreciate to 'work with our hands' so that we avoid being people with a dependency syndrome. You see problems when women are dependent, but if we come out of that, everything will work out.' [Participant 3, female]

Hard work and industriousness have been highlighted elsewhere (Amin 2016) as being important characteristics for success amongst female entrepreneurs in developing countries. The trait of 'hard work' is typically associated with a high LTO (Ozgen 2012). This is on the basis that hard work is for the purpose of investing for future gains, although the literature (Nyamwanza *et al*. 2012) has reported that some female Zimbabwean entrepreneurs spend their business earnings on family and community needs rather than investing it. This was certainly found to be the case amongst the respondents in this study, and may represent a balancing mechanism to justify their participation in an essentially masculine activity, by directing it for an essentially feminine purpose. Additionally, Fang (2003) reminds us that respect for tradition, certainly evident in this study, is typical of low LTO and that Zimbabwe was found to have a low LTO.

In the minds of the women, a strong work ethic was associated with being entrepreneurial, as described by Beugelsdijk and Noorderhaven (2005) and that working hard is more than a woman's duty; it is her prerogative. This view allowed the women to be the personal custodian of their destiny, an important and empowering mental shift. One woman reported that working hard also helped to overcome obstacles such as poor access to capital:

> 'In most cases, business requires capital, but other things do not require capital. You just keep working hard so that you can attain your goals and reach your destination.' [Participant 4, female]

This woman continued to seek creative ways to raise capital whilst continuing to work hard. This approach implies both 'hard work' (persistence and physical intensity) and 'smart work', encompassing mental intensity and choice (Coad 1996). It has been reported that the main reason for individuals who want to be self-employed and who are not is a lack of capital (Blanchflower, Oswald & Stutzer 2001); therefore, the fact that this woman was not deterred shows a character that finds ways to succeed. Godsell (1991), Dia (1996) and Steel and Webster (1991) all found that ingenuity and initiative on the part of the entrepreneur can compensate for the need for additional capital.

Working hard is part of the core value system of these women, and rather than being a burden it becomes an enabler of entrepreneurship, as suggested by Leung (2011) and confirmed by Amin (2016). Henry *et al*. (2015) describe and refute the suggestion that one reason for women's poor success rate in obtaining finance is that they are perceived to 'not take business as seriously as men' (p. 581); similarly, this study also found that women entrepreneurs take both of their responsibilities very seriously.

Family and community

For female entrepreneurs, their domestic role in the family is not negotiable. It is something that they do without hesitation or thought. Leung (2011), reinforced by the findings of Ettl and Welter (2012), presents the view that women can draw from the values and knowledge embedded in their normative gender roles when they embark on entrepreneurial endeavours.

The female entrepreneurs interviewed did not contest the assumption that, as women, they were expected to carry a full load of domestic responsibility, with its associated cultural concepts of sacrifice and duty to family. Their traditional gender roles have been built around the stereotype of submissive wife and nurturing mother. For example:

> '... family comes first, and their issues have to be attended to first, be it nuclear or extended family. You cannot tell the family that you are busy with work when your services or your presence is required ...' [Participant 5, female]

and,

> '... Because, if the woman is clever enough and takes the lead, the whole family will be uplifted. ... when you can provide for your children, there will be peace at home and fewer squabbles.' [Participant 3, female]

Family commitment (in-group support) was also an enabler of female entrepreneurship. Dhaliwal *et al*. (2010) established that, besides providing support for start-ups of their female relatives' entrepreneurial endeavours, the family could also provide monetary assistance to enable them to take necessary, considered business risks. One of the women shared:

> 'My husband is my business partner; he was the one who had the cash. So into the business he brought the cash, and I brought the know-how. Then, in terms of management, we work together. He does the accounts for the business. I could not have found myself a better partner. He is very helpful and supportive, and it is an advantage to have him in the business.' [Participant 6, female]

Unfortunately, this was not true in all cases, as the husbands of most of the women interviewed rather looked down on their wives' entrepreneurial activities. As Amoako-Kwakye (2012) and Chitsike (2000) suggested, one of the women's roles in society is to foster peace, and these women realise that fighting the patriarchal system would not get them anywhere. In their quest to keep the family intact as well as continue to run their entrepreneurial endeavours, the female entrepreneurs were willing to bow to patriarchy. In this way they balance the visibility/invisibility dichotomy described by Harrison, Leitch and McAdam (2015) in which female entrepreneurs switch between their dual roles. The Zimbabwean women showed a deeply embedded acceptance of a high masculinity, low GE and high power distance culture as described by Hofstede (2011) and in the GLOBE studies (Ozgen 2012).

Institutional and social factors

At the meso-level, Zimbabwe's institutional environment affects the endeavours of the female entrepreneurs, as, despite many laws designed to emancipate women, culturally linked behaviours and practices often override them. For example, Zimbabwean law requires that any business entity having two or more directors needs to be registered, and it is a common practice for a married woman to designate her spouse as the other director. Thus, it would appear to the outside world that the male is dominant (a culturally rooted assumption), and the cultural *status quo* is maintained. So, although the company is owned by both parties, in reality, the woman runs and manages the business, as well as being responsible for all family and household duties. Thus cultural patriarchy (the macro-level illustrated in Figure 1) strongly influences practices (micro-level), despite policies (meso-level) favouring gender equity. None of the women expressly admitted to the breadwinner versus subordinate anomaly in their dual roles, and would turn a blind eye to 'save face', as described by Nguyen and Frederick (2014).

Perhaps female entrepreneurs in Zimbabwe are fortunate, as in many developing countries there are still policy frameworks that inhibit business activity amongst women (Brush & Cooper 2012; Dlamini & Migiro 2014; Oya & Sender 2009; Syed & Ozbilgin 2009).

Sense of identity

The dual sense of identity that the women had developed was the main reason that they were able to reconcile the contradictory expectations from the two roles that they played. An important aspect was that, unlike women in other patriarchal societies such as India (Azmat & Fujimoto 2016), they were not under the same cultural pressures of inferiority, weakness and in need of protection. There was no evidence in this study to suggest that the women were perceived as being incapable of running their own business, so it was easier for them to develop self-confidence in their own abilities and actually deliver on the double workload expectation. They were proud of their ability to deliver in both life spheres.

Zimbabwean women entrepreneurs' ability to apparently switch seamlessly between roles is an important coping factor. In a manner similar to that described by Hechavarria and Ingram (2016), the women portrayed their 'emphasized femininity' (p. 246) in their home role, and took on the leadership role in a more traditionally 'hegemonic masculine'

(p. 246) way when running their business ventures. Current laws in Zimbabwe favour female emancipation (Mutanana & Bukaliya 2015), so, at the meso-level, doors are open for women to participate in the more masculine and individualistic endeavour of commercial entrepreneurship (Hechavarria & Ingram 2016), without losing the integrity of maintaining their traditionally feminine, collectivistic responsibilities. This idea of balance between collectivism and individualism amongst women entrepreneurs is well illustrated by Bullough *et al*. (2014), where it is explained to optimise women's business ownership because they can pursue their personal goals (individualistic) and still serve their in-group (collectivistic).

Conclusion

Gender-differentiated cultural studies focusing on black female entrepreneurs in Zimbabwe are scarce, although there are some reports. It is evident that the cultural dimensions, described by Hofstede (2011) and expanded in the GLOBE studies (Ozgen 2012), do play a role in female entrepreneurship in Zimbabwe, although it would be beneficial to conduct research into the cultural profiles of a greater number of specific African countries, taking gender into account. It is evident from the literature that, although there are some commonalities between African countries and between developing countries, specific contexts vary considerably, and these affect the ways in which cultural variables are perceived and handled.

Women entrepreneurs' identities were initially disenfranchised as they were shackled by patriarchy, inequality and high power distance. This identity is not static and changed with changing circumstances, that is, it is constantly being reconstructed. Identities are linked with the different social roles (e.g. public vs. private) that women entrepreneurs must play, and these identities interact with one another. Public identities incorporate the entrepreneurial identity, including those linked with previous occupational experiences, with entrepreneurial activity of the enterprise, community roles and occupational gender related issues. Private identities include childhood experiences and family roles such as those of mother and wife. It is also evident that, although the vast majority of the women willingly demonstrate adherence to the cultural expectations of a patriarchal society, they nonetheless can display characteristics of assertiveness, PO and long-term orientation when running their businesses; however, they do this in such a way as to never emasculate their male partner. In this way, they work around the barriers to entrepreneurship of the cultural norms and use them to their advantage where possible, for example, to raise funding (Azmat 2013), in addition to demonstrating (even covertly) atypical cultural attributes.

Thus, despite the attempts to empower Zimbabwean women at the meso-level in terms of policies, the cultural norms at the macro-level still influence behaviours at the micro-level. However, Zimbabwean women have balanced their dual roles by shifting identity roles as required, enabling them to reconcile the inherent contradictions therein.

Importantly, these women view entrepreneurship as self-fulfilling, allowing them the flexibility and freedom to balance work and family obligations, whilst earning an income to better the lives of their families and the community.

Acknowledgements

Thank you to the two reviewers for their detailed and helpful comments and the Bradlow Foundation PhD Scholarship for Dr Mazonde.

Competing interests

The authors declare that they have no financial or personal relationships which may have inappropriately influenced them in writing this article.

Authors' contributions

N.B.M. prepared the proposal and conducted the research under T.C.'s supervision. N.B.M. did all the fieldwork herself, in Zimbabwe. N.B.M. wrote the early drafts of the paper, and T.C. did the majority of the article after that, including conceptualising and constructing the consolidated culture model in Figure 1.

References

Amin, N.B., 2016, *Women entrepreneurship: A cross country comparative study (Bangladesh, Pakistan and India)*, PhD thesis, University of Dhaka, Dhaka, India, viewed 17 October 2016, from http://repository.library.du.ac.bd:8080/handle/123456789/869

Amoako-Kwakye, F.Y., 2012, 'Background characteristics and determinants of performance of women's business operations in Agona and Asikuma-Odoben-Brakwa Districts, Ghana', *Journal of Management Policy & Practice* 13(3), 129–148.

Azmat, F., 2013, 'Opportunities or obstacles? Understanding the challenges faced by migrant women entrepreneurs', *International Journal of Gender and Entrepreneurship* 5(2), 198–215. http://dx.doi.org/10.1108/17566261311328855

Azmat, F. & Fujimoto, Y., 2016, 'Family embeddedness and entrepreneurship experience: A study of Indian migrant women entrepreneurs in Australia', *Entrepreneurship & Regional Development*, 1–27, viewed 16 October 2016, from http://www.tandfonline.com/doi/abs/10.1080/08985626.2016.1208279

Baah, R.A., Amani, D. & Abass, M. 2015, 'Cultural theory elaborations without predictive utility', *African Journal of Political Science and International Relations* 9(2), 42–48. http://dx.doi.org/10.5897/AJPSIR2012.0007

Bahmani, S., Sotos, F.E. & García, I.P., 2012, *Women, research, and entrepreneurship in women's entrepreneurship and economics*, vol. 1000, Springer, New York.

Baughn, C., Chua, B.L. & Neupert, K., 2006, 'The normative context for women's participation in entrepreneurship: A multi-country study', *Entrepreneurship Theory and Practice* 30(5), 687–708. http://dx.doi.org/10.1111/j.1540-6520.2006.00142.x

Bergmann, H., Müller, S. & Schrettle, T., 2014, 'The use of global entrepreneurship monitor data in academic research: A critical inventory and future potentials', *International Journal of Entrepreneurial Venturing* 6(3), 242–276. http://dx.doi.org/10.1504/IJEV.2014.064691

Beugelsdijk, S. & Noorderhaven, N., 2005, 'Personality characteristics of self-employed; an empirical study', *Small Business Economics* 24(2), 159–167. http://dx.doi.org/10.1007/s11187-003-3806-3

Blanchflower, D.G., Oswald, A. & Stutzer, A., 2001, 'Latent entrepreneurship across nations', *European Economic Review* 45(4), 680–691. http://dx.doi.org/10.1016/S0014-2921(01)00137-4

Bluhm, D.J., Harman, W., Lee, T.W. & Mitchell, T.R., 2011, 'Qualitative research in management: A decade of progress', *Journal of Management Studies* 48(8), 1866–1891. http://dx.doi.org/10.1111/j.1467-6486.2010.00972.x

Booysen, L., 2001, 'The duality in South African leadership: Afrocentric or Eurocentric', *South African Journal of Labour Relations* 25(3 & 4), 36–64.

Booysen, L.A. & Nkomo, S.M., 2010, 'Gender role stereotypes and requisite management characteristics: The case of South Africa', *Gender in Management: An International Journal* 25(4), 285–300. http://dx.doi.org/10.1108/17542411011048164

Bosma, N., 2013, 'The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research', *Foundations and Trends in Entrepreneurship* 9(2), 143–248. http://dx.doi.org/10.1561/0300000033

Brush, C. & Cooper, S.Y., 2012, 'Female entrepreneurship and economic development: An international perspective', *Entrepreneurship & Regional Development* 24(1–2), 1–6. http://dx.doi.org/10.1080/08985626.2012.637340

Brush, C.G., De Bruin, A. & Welter, F., 2009, 'A gender-aware framework for women's entrepreneurship', *International Journal of Gender and Entrepreneurship* 1(1), 8–24. http://dx.doi.org/10.1108/17566260910942318

Bullough, A., Renko, M. & Abdelzaher, D., 2014, 'Women's business ownership operating within the context of institutional and in-group collectivism', *Journal of Management* 1–28, viewed 16 October 2016, from http://jom.sagepub.com/citmgr?gca=spjom%3B0149206314561302v1. http://dx.doi.org/10.1177/0149206314561302

Chitsike, C., 2000, 'Culture as a barrier to rural women's entrepreneurship: Experience from Zimbabwe', *Gender & Development* 8(1), 71–77. http://dx.doi.org/10.1080/741923408

Coad, A., 1996, 'Smart work and hard work: Explicating a learning orientation in strategic management accounting', *Management Accounting Research* 7(4), 387–408. http://dx.doi.org/10.1006/mare.1996.0022

De Bruin, A., Brush, C.G. & Welter, F., 2007, 'Advancing a framework for coherent research on women's entrepreneurship', *Entrepreneurship Theory and Practice* 31(3), 323–339. http://dx.doi.org/10.1111/j.1540-6520.2007.00176.x

Dhaliwal, S., Scott, J. & Hussain, J., 2010, 'Help or hindrance – South Asian women in the family firm', *Journal of Family Business Studies* 4(1), 5–23.

Dia, M., 1996, *African Management in the 1990s and Beyond: Reconciling Indigenous and transplant Institutions,* Washington, DC, viewed 24 January 2016, from http://documents.worldbank.org/curated/en/251021468760493162/Africas-management-in-the-1990s-and-beyond-reconciling-indigenous-and-transplanted-institutions

Dlamini, N.B. & Migiro, S., 2014, 'The relationship between national culture and perception of women in leadership in Swaziland', *ASBM Journal of Management* 7(1), 70–81.

Espíritu-Olmos, R. & Sastre-Castillo, M.A., 2012, 'Why women claim to be less entrepreneurial than men', in M.-A. Galindo & D. Ribeiro (Eds.), *Women's entrepreneurship and economics: New perspectives, practices, and policies,* pp. 111–124, Springer, New York.

Ettl, K. & Welter, F., 2012, 'Women entrepreneurs and success', *Women's Entrepreneurship and Economics* 1000, 73–88. http://dx.doi.org/10.1007/978-1-4614-1293-9_6

Ewoh, E., 2014, *Female entrepreneurs performance: A systematic literature review of forces influencing the performance of African female entrepreneurs.* Master thesis, University of Jyvaskyla, Finland, viewed 10 October 2015, from https://jyx.jyu.fi/dspace/bitstream/handle/123456789/43564/URN%3aNBN%3afi%3ajyu-201405271839.pdf?sequence=1

Ezzedeen, S.R. & Zikic, J., 2015, 'Finding balance amid boundarylessness an interpretive study of entrepreneurial work–life balance and boundary management', *Journal of Family Issues* 1–31, viewed 14 October 2016, from http://jfi.sagepub.com/content/early/2015/08/14/0192513X15600731.full.pdf+html

Fang, T., 2003, 'A critique of Hofstede's fifth national culture dimension', *International Journal of Cross Cultural Management* 3(3), 347–368.

Fayolle, A., Yousafzai, S., Saeed, S., Henry, C. & Lindgreen, A., 2015, 'Special issue on: Contextual embeddedness of women's entrepreneurship: Taking stock and looking ahead', *Entrepreneurship & Regional Development* 27(9–10), 670–674. http://dx.doi.org/10.1080/08985626.2016.1099788

Gaidzanwa, R.B., 2016, 'Women and land in Zimbabwe: State, democracy and gender issues in evolving livelihoods and land regimes', in A. Pallotti & C. Tornimbeni (Eds.), *State, land and democracy in Southern Africa,* pp. 149–166, Routledge, New York.

Godsell, G., 1991, 'Entrepreneurs embattled: Barriers to entrepreneurship in South Africa', in B. Berger (Ed.), *The culture of entrepreneurship*, pp. 85–97, ICS Press, San Francisco, CA.

Goss, D., Jones, R., Betta, M. & Latham, J., 2011, 'Power as practice: A micro-sociological analysis of the dynamics of emancipatory entrepreneurship', *Organization Studies* 32(2), 211–229. http://dx.doi.org/10.1177/0170840610397471

Harrison, R., Leitch, C. & McAdam, M., 2015, 'Breaking glass: Toward a gendered analysis of entrepreneurial leadership', *Journal of Small Business Management* 53(3), 693–713. http://dx.doi.org/10.1111/jsbm.12180

Hay, C., 2016, 'Good in a crisis: The ontological institutionalism of social constructivism', *New Political Economy* 21(6), 520–535. http://dx.doi.org/10.1080/13563467.2016.1158800

Hechavarria, D.M. & Ingram, A.E., 2016, 'The entrepreneurial gender divide: Hegemonic masculinity, emphasized femininity and organizational forms', *International Journal of Gender and Entrepreneurship* 8(3), 242–281. http://dx.doi.org/10.1108/IJGE-09-2014-0029

Henry, C., Foss, L., Fayolle, A., Walker, E. & Duffy, S., 2015, 'Entrepreneurial leadership and gender: Exploring theory and practice in global contexts', *Journal of Small Business Management* 53(3), 581–586. http://dx.doi.org/10.1111/jsbm.12174

Hofstede, G., 2011, 'Dimensionalizing cultures: The Hofstede model in context', *Online readings in Psychology and Culture* 2(1), 1–26. http://dx.doi.org/10.9707/2307-0919.1014

Hofstede, G. & Hofstede, G., 2015, *Dimension data matrix*, viewed 11 October 2016, from http://geerthofstede.nl/dimension-data-matrix

Huarng, K.-H., Mas-Tur, A. & Yu, T.H.-K., 2012, 'Factors affecting the success of women entrepreneurs', *International Entrepreneurship and Management Journal* 8(4), 487–497. http://dx.doi.org/10.1007/s11365-012-0233-4

ILO, 2009, *The informal economy in Africa: Promoting transitions to formality: Challenges and strategies*, viewed 17 October 2016, from http://www.ilo.org/emppolicy/pubs/WCMS_127814/lang--en/index.htm

Jamali, D., 2009, 'Constraints and opportunities facing women entrepreneurs in developing countries: A relational perspective', *Gender in Management: An International Journal* 24(4), 232–251. http://dx.doi.org/10.1108/17542410910961532

Kruger, T. & Roodt, G., 2003, 'Hofstede's VSM-94 revisited: Is it reliable and valid?', *SA Journal of Industrial Psychology* 29(1), 75–82. http://dx.doi.org/10.4102/sajip.v29i1.85

Langevang, T., Gough, K.V., Yankson, P.W., Owusu, G. & Osei, R., 2015, 'Bounded entrepreneurial vitality: The mixed embeddedness of female entrepreneurship', *Economic Geography* 91(4), 449–473. http://dx.doi.org/10.1111/ecge.12092

Langowitz, N. & Minniti, M., 2007, 'The entrepreneurial propensity of women', *Entrepreneurship: Theory & Practice* 31(3), 341–364. http://dx.doi.org/10.1111/j.1540-6520.2007.00177.x

Leung, A., 2011, 'Motherhood and entrepreneurship: Gender role identity as a resource', *International Journal of Gender and Entrepreneurship* 3(3), 254–264. http://dx.doi.org/10.1108/17566261111169331

Link, A.N. & Strong, D.R., 2016, 'Gender and entrepreneurship: An annotated bibliography', *Foundations and Trends® in Entrepreneurship* 12(4–5), 287–441.

Liyanage, C., Dale, J.M. & Dulaimi, M.F., 2016, 'Cultural competence–a success factor in NGO projects?', *Built Environment Project and Asset Management* 6(2), 232–246. http://dx.doi.org/10.1108/BEPAM-08-2014-0038

Lock, R. & Lawton-Smith, H., 2016, 'The impact of female entrepreneurship on economic growth in Kenya', *International Journal of Gender and Entrepreneurship* 8(1), 90–96. http://dx.doi.org/10.1108/IJGE-11-2015-0040

Maden, C., 2015, 'A gendered lens on entrepreneurship: Women entrepreneurship in Turkey', *Gender in Management: An International Journal* 30(4), 312–331. http://dx.doi.org/10.1108/GM-11-2013-0131

Matondi, P.B., 2013, 'Scope for empowering women through entrepreneurial development in the Fresh Fruit and Vegetable (FFV) Sector in Zimbabwe', Harare, Zimbabwe, viewed 17 October 2016, from www.trustafrica.org/icbe

Mboko, S. & Smith-Hunter, A.E., 2009, 'Women entrepreneurs in Zimbabwe: A case study', *Journal of Global Business Issues* 3(1), 157–169.

McGowan, P., Redeker, C.L., Cooper, S.Y. & Greenan, K., 2012, 'Female entrepreneurship and the management of business and domestic roles: Motivations, expectations and realities', *Entrepreneurship & Regional Development* 24(1–2), 53–72. http://dx.doi.org/10.1080/08985626.2012.637351

McKay, R., 2001, 'Women entrepreneurs moving beyond family and flexibility', *International Journal Entrepreneurial Behaviour and Research* 7(4), 148–165. http://dx.doi.org/10.1108/EUM0000000005764

Moses, C., Olokundun, A.M., Falola, H.O., Ibidunni, A.S., Amaihian, A. & Inelo, F., 2016, 'A review of the challenges militating against women entrepreneurship in developing nations', *Mediterranean Journal of Social Sciences* 7(1), 64–69.

Mutanana, N. & Bukaliya, R., 2015, 'Women empowerment and gender related programmes implementation in Hurungwe District, Zimbabwe', *International Journal of Research in Humanities and Social studies* 2(2), 1–12.

Nani, G.V., 2013, *Urban Zimbabwean women entrepreneurs: Challenges and opportunities,* Amagugu Publishers, Bulawayo.

Nguyen, C. & Frederick, H., 2014, 'Female entrepreneurship in rural Vietnam: An exploratory study', *International Journal of Gender and Entrepreneurship* 6(1), 50–67. http://dx.doi.org/10.1108/IJGE-04-2013-0034

Nyamwanza, T., Mapetere, D., Mavhiki, S. & Dzingirai, C., 2012, 'Financial management: Case study of Gweru Women entrepreneurs', *International Journal of Business and Social Science* 3(18), 99–106.

Oya, C. & Sender, J., 2009, 'Divorced, separated, and widowed women workers in rural Mozambique', *Feminist Economics* 15(2), 1–31. http://dx.doi.org/10.1080/13545700902729516

Ozgen, E., 2012, 'The effect of the national culture on female entrepreneurial activities in emerging countries: An application of the GLOBE project cultural dimensions', *International Journal of Entrepreneurship* 16(Special), 69–92.

Ramadani, V., Hisrich, R.D. & Gërguri-Rashiti, S., 2015, 'Female entrepreneurs in transition economies: Insights from Albania, Macedonia and Kosovo', *World Review of Entrepreneurship, Management and Sustainable Development* 11(4), 391–413. http://dx.doi.org/10.1504/WREMSD.2015.072066

Reed, R., Storrud-Barnes, S. & Jessup, L., 2012, 'How open innovation affects the drivers of competitive advantage', *Management Decision* 50(1), 58–73. http://dx.doi.org/10.1108/00251741211194877

Rehman, S. & Azam-Roomi, M., 2012, 'Gender and work-life balance: A phenomenological study of women entrepreneurs in Pakistan', *Journal of Small Business and Enterprise Development* 19(2), 209–228. http://dx.doi.org/10.1108/14626001211223865

Rubio-Bañón, A. & Esteban-Lloret, N., 2016, 'Cultural factors and gender role in female entrepreneurship', *Suma de Negocios* 7(15), 9–17. http://dx.doi.org/10.1016/j.sumneg.2015.12.002

Saridakis, G., Marlow, S. & Storey, D., 2014, 'Do different factors explain male and female self-employment rates?', *Journal of Business Venturing* 29(3), 345–362. http://dx.doi.org/10.1016/j.jbusvent.2013.04.004

Sätre, A.-M., 2016, 'Women's entrepreneurship in Russia: Impacts from the Soviet system', *Journal of Enterprising Communities: People and Places in the Global Economy* 10(1), 53–69. http://dx.doi.org/10.1108/JEC-08-2015-0045

Schwab, K. (Ed.), 2015, *The Global Competitiveness Report 2015–2016,* Columbia University, Geneva, Switzerland.

Shinnar, R.S., Giacomin, O. & Janssen, F., 2012, 'Entrepreneurial perceptions and intentions: The role of gender and culture', *Entrepreneurship: Theory & Practice* 36(3), 465–493. http://dx.doi.org/10.1111/j.1540-6520.2012.00509.x

Shrivastava, S., Selvarajah, C., Meyer, D. & Dorasamy, N., 2014, 'Exploring excellence in leadership perceptions amongst South African managers', *Human Resource Development International* 17(1), 47–66. http://dx.doi.org/10.1080/13678868.2013.857510

Siziba, M., 2010, 'Strategies on women entrepreneurship survival: A case study of women entrepreneurs in Zimbabwe Between 2007 and 2009', *Journal of Women's Entrepreneurship & Education* (3–4), 71–79.

Steel, W.F. & Webster, L.M., 1991, *Small enterprises in Ghana: Responses to adjustment. Industry and Energy Department Working Paper No. 33*, World Bank, Washington, DC.

Stephan, U. & Pathak, S., 2016, 'Beyond cultural values? Cultural leadership ideals and entrepreneurship', *Journal of Business Venturing* 31(5), 505–523. http://dx.doi.org/10.1016/j.jbusvent.2016.07.003

Syed, J. & Ozbilgin, M., 2009, 'A relational framework for international transfer of diversity management practices', *International Journal of Human Resource Management* 20(12),2435–2453.http://dx.doi.org/10.1080/09585190903363755

Thomas, A. & Bendixen, M., 2000, 'The management implications of ethnicity in South Africa', *Journal of International Business Studies* 31(3), 507–519. http://dx.doi.org/10.1057/palgrave.jibs.8490919

UNESCO, 2002, 'Records of the General Conference', paper presented at the 31st Session of the UNESCO General Conference, Paris, France, 15th October–3rd November, 2001, p. 62, http://unesdoc.unesco.org/images/0012/001271/127162e.pdf

Van Eerdewijk, A. & Mugadza, T., 2015, *Resilience in adversity: The changing face of women's activism in Zimbabwe 2000–2014,* Knowledge Programme Hivos, The Hague, Netherlands.

Vossenberg, S., 2013, *Women entrepreneurship promotion in developing countries: What explains the gender gap in entrepreneurship and how to close it?* Working Paper, Maastricht School of Management, Maastricht, Netherlands, viewed 4 October 2016, from ftp://ftp.repec.org/opt/ReDIF/RePEc/msm/wpaper/MSM-WP2013-08.pdf

Wanasika, I., Howell, J.P., Littrell, R. & Dorfman, P., 2011, 'Managerial leadership and culture in Sub-Saharan Africa', *Journal of World Business* 46(2), 234–241. http://dx.doi.org/10.1016/j.jwb.2010.11.004

Watts, N., Trlin, A., White, C. & North, R., 2007, 'Immigration cultural capital in business: The New Zealand experience', in L.P. Dana (ed.), *Handbook of research on ethnic minority entrepreneurship: A co-evolutionary view on resource management*, pp. 279–243, Edward Elgar, Cheltenham.

World Bank, 2014, *Gender equality at work: A global priority*, viewed from Washington, DC, viewed 18 October 2016, from http://www.worldbank.org/en/results/2014/04/14/gender-equality-at-work-global-priority

Yusuf, L., 2013, 'Influence of gender and cultural beliefs on women entrepreneurs in eveloping economy', *Scholarly Journal of Business Administration* 3(5), 117–119.

Zhao, X., Li, H. & Rauch, A., 2012, 'Cross-country differences in entrepreneurial activity: The role of cultural practice and national wealth', *Frontiers of Business Research in China* 6(4), 447–474.

ZimStat, 2012, *Zimbabwe National Statistical Agency,* Government, Harare, viewed 13 January 2016, from http://www.zimstat.co.zw/

Permissions

The contributors of this book come from diverse backgrounds, making this book a truly international effort. This book will bring forth new frontiers with its revolutionizing research information and detailed analysis of the nascent developments around the world.

We would like to thank all the contributing authors for lending their expertise to make the book truly unique. They have played a crucial role in the development of this book. Without their invaluable contributions this book wouldn't have been possible. They have made vital efforts to compile up to date information on the varied aspects of this subject to make this book a valuable addition to the collection of many professionals and students.

This book was conceptualized with the vision of imparting up-to-date information and advanced data in this field. To ensure the same, a matchless editorial board was set up. Every individual on the board went through rigorous rounds of assessment to prove their worth. After which they invested a large part of their time researching and compiling the most relevant data for our readers.

The editorial board has been involved in producing this book since its inception. They have spent rigorous hours researching and exploring the diverse topics which have resulted in the successful publishing of this book. They have passed on their knowledge of decades through this book. To expedite this challenging task, the publisher supported the team at every step. A small team of assistant editors was also appointed to further simplify the editing procedure and attain best results for the readers.

Apart from the editorial board, the designing team has also invested a significant amount of their time in understanding the subject and creating the most relevant covers. They scrutinized every image to scout for the most suitable representation of the subject and create an appropriate cover for the book.

The publishing team has been an ardent support to the editorial, designing and production team. Their endless efforts to recruit the best for this project, has resulted in the accomplishment of this book. They are a veteran in the field of academics and their pool of knowledge is as vast as their experience in printing. Their expertise and guidance has proved useful at every step. Their uncompromising quality standards have made this book an exceptional effort. Their encouragement from time to time has been an inspiration for everyone.

The publisher and the editorial board hope that this book will prove to be a valuable piece of knowledge for researchers, students, practitioners and scholars across the globe.

List of Contributors

Corrinna L. Kirsten
School of Accountancy, Faculty of Economic and Management Sciences, Stellenbosch University, South Africa

Bridget N. O. Irene
Cardiff School of Management, Cardiff Metropolitan University, United Kingdom

Renier Steyn
Graduate School of Business Leadership, University of South Africa, South Africa

Boniface Okanga
Department of Business Management, University of Johannesburg, South Africa

Maddison-Lee Brinkley and Ingrid le Roux
Department of Business Management, University of Pretoria, South Africa

Eugine T. Maziriri
School of Economic and Business Sciences, University of the Witwatersrand, South Africa

Miston Mapuranga
The Da Vinci Institute for Technology Management, School of Managerial Leadership, Johannesburg, South Africa

Nkosivile W. Madinga
School of Management Studies, Department of Marketing, University of Cape Town, South Africa

Courage Gwena and Willie T. Chinyamurindi
Department of Business Management, Faculty of Management and Commerce, University of Fort Hare, South Africa

Fredrika (Miemie) W. Struwig and Riyaadh Lillah
Department of Business Management, Nelson Mandela Metropolitan University, South Africa

M. Anastacia Mamabolo, Myres Kerrin and Tumo Kele
Gordon Institute of Business Science, University of Pretoria, South Africa

Takawira M. Ndofirepi and Patient Rambe
Department of Business Support Studies, Faculty of Management Sciences, Central University of Technology, South Africa

Darma Mahadea
School of Accounting, Economics and Finance and Economics, University of KwaZulu-Natal, South Africa

Irrshad Kaseeram
Department of Economics, University of Zululand, South Africa

Lerato E. Mohalajeng and Japie Kroon
School of Business Management, North West University, South Africa

Wesley Niemann, Theuns Kotzé and Karabo Mannya
Department of Business Management, University of Pretoria, South Africa

Joash Mageto, Gerrie Prinsloo and Rose Luke
Department of Transport and Supply Chain Management, University of Johannesburg, South Africa

Melodi Botha and Alex Bignotti
Department of Business Management, University of Pretoria, South Africa

Jurie van Vuuren and Binyam Z. Alemayehu
Faculty of Economic and Management Sciences, University of Pretoria, South Africa

M. Anastacia Mamabolo, Myres Kerrin and Tumo Kele
Gordon Institute of Business Science, University of Pretoria, South Africa

Thea J. Tselepis
Department of Fashion Design, University of Johannesburg, South Africa

Anne Mastamet-Mason
Department of Fashion Design, Tshwane University of Technology, South Africa

Alex J. Antonites
Department of Business Management, University of Pretoria, South Africa

Tebogo Sethibe and Renier Steyn
Graduate School of Business Leadership, University of South Africa, South Africa

Nomusa B. Mazonde and Teresa Carmichael
Graduate School of Business Administration WBS (Wits), University of the Witwatersrand, South Africa

Index