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Sithembiso Govuzela, Chenedzai Mafini

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Organisational agility, business best practices and the performance of small to medium enterprises in South Africa

**Authors:**

Sithembiso Govuzela¹ 
Chengedzai Mafini¹ 

Affiliations:

¹Department of Logistics,
Faculty of Management
Sciences, Vaal University of
Technology, Vanderbijlpark,
South Africa

Corresponding author:

Chengedzai Mafini,
chengedzai@hotmail.com

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Background: Only one in 10 newly established business enterprises survives for longer than 10 years in the South African business environment. The primary reasons behind the demise of these small enterprises include the lack of access to financing, lack of financial and managerial skills, lack of expertise, as well as economic factors such as poor sales and weak growth prospects. The new norm in industrial markets is that business organisations must possess a remarkable amount of agility to survive and succeed. Success is important for South African small- and medium-sized enterprises (SMEs) given their significant contributions to the national economy.

Objectives: This study investigated the connection between organisational agility, business best practices and the performance of SMEs in South Africa.

Method: A quantitative approach using the cross-sectional survey research design was employed in which a structured questionnaire was administered to 564 randomly selected owner-managers of SMEs. Hypotheses were tested using the structural equation modelling procedure, which was conducted after implementing a confirmatory factor analysis to test the psychometric properties of the measurement scales.

Results: Hypotheses tests indicated that the four business best practices, namely, technology capability, collaborative innovation, organisational learning and internal alignment, exerted a significant positive influence on organisational agility. Also, organisational agility exerted a significant positive influence on business performance.

Conclusion: The study demonstrates that the performance of SMEs can be improved significantly through a proper alignment between the four business best practices considered in this study. Improving the level of organisational agility in SMEs is also important in stimulating their performance. The results of the study can be applied to assist SMEs to survive and flourish in turbulent and dynamic markets, where agile organisational abilities are a requirement for success.

Keywords: Organisational agility; technology capability; collaborative innovation; organisational learning internal alignment; business performance.

Introduction and background

Small and medium enterprises (SMEs) play a strategic role in the economic performance of any country. This strategic role in the economy revolves around the production of products and services, innovation, the aiding of big businesses and job creation (Aga, Francis, & Meza, 2015; Rijkers, Arourib, Freund, & Nucifora, 2015). According to the World Bank (2015), SMEs have a high labour absorption capacity because they contribute between 60% and 70% of jobs in most developing countries. In many countries, the intensity of entrepreneurship, which is indexed by the number of operational SMEs, is the major vehicle responsible for economic development (Arrow, Kerr, & Wittenberg, 2014; Nieman & Niewenhuizen, 2009). As indicated by Erusmus, Strydom and Rudansky-Kloppers (2013), most innovations throughout the world have been made in SMEs, with statistics showing that numerous scientific breakthroughs originated with small organisations and not in the laboratories of large businesses. Typically, SMEs are also viewed as a means to reduce the levels of economic inequality and to decrease the backlog of the previously disadvantaged (Edom, Inah, & Emori, 2015; Kongolo, 2010; Mamman, Kanu, Alharbi, & Baydoun, 2015). They can perform an essential role within the economy of a country by introducing disruptive products and services, thereby improving the standard of living for most

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people (Mbedzi, 2011). In this way, SMEs have evolved to become a primary vehicle for the growth and development of most economies throughout the world.

In South Africa, despite the popular view concerning the significance of SMEs to the national economy, statistics show that most of such businesses are failing to either break even or survive. As noted by some scholars (Mahadea & Pillay, 2008; Mthabela, 2015), in the South African business environment, the majority (up to 90%) of newly established business enterprises collapse within the first 10 years of operation. Bowler, Dawood and Page (2007) further reveal that 30% of business start-ups close within the first year of operating, whereas 60% fail during the second year of their existence and 90% flounder within the first 10 years with the pattern predicted to continue in the next two decades unless serious interventions are initiated. A separate statement by the Department of Trade and Industry (2008) reports that up to 80% of South African SMEs fail before they operate for five continuous years. Another report by Chimucheka and Rungani (2011) reveals that the number of SME failures in South Africa by the fifth year varies between 50% and 95%. These figures demonstrate that an average of 71% of all SMEs either go into self-liquidation or file for bankruptcy within just 5 years of existence. Besides depicting a high failure rate, these statistics further serve as evidence that South African SMEs are inundated by specific organisational and environmental challenges that deserve immediate attention.

This article aims to examine the connection between organisational agility (OA), business best practices and performance in South African SMEs. In line with the documented failures of SMEs, conundrums have been raised regarding the reasons why entrepreneurship seems to be difficult (Niewenhuizen & Rossouw, 2008; Olawale & Garwe, 2010). One such difficult issue relates to which best practices in business management can be utilised as a tool to streamline the operations of South African SMEs, and how this may be achieved. Although diverse management practices may be applied in organisations, one area of interest is the role of OA in businesses. As defined by Mavengere (2013), OA is the ability of firms to stay competitive in their markets by adjusting and adapting to new innovative ideas that can be used to create unique products, services and business models. Business best practices are considered to be those approaches that are widely acknowledged as effective in producing superior results in commercial organisations (Bogan & English, 1994). This study considers four business best practices identified by Shin, Lee, Kim and Rhim (2015), namely collaborative innovation, technological capability, organisational learning and internal alignment as the leading predictors of OA. Business performance is an indicator of the attainment of the objectives and goals of a firm in both financial and non-financial terms (Fasanya & Onakoya, 2013). Business performance is crucial as it is arguably one of the prevailing barometers used to measure the success of a business enterprise in both financial and non-financial areas (Chugh, Meador, & Meador, 2010).

This study proposes that business best practices are a tool that can be harnessed to stimulate OA and to improve business performance in South African SMEs. The study postulates that attainment of OA can prevent the failure of SMEs, leading to better performance of the national economy. It is also notable that although South African SMEs have been an area of focus in previous empirical literature (e.g. Abor & Quartey, 2010; Cant, 2012; Cant, Erdis, & Sephapo, 2014; Herrington, Kew, & Kew, 2010; Mafini & Loury-Okoumba, 2018; Mafini & Muposhi, 2017; Manzani & Fatoki, 2012; Timm, 2011), evidence of studies that have examined the connection between business best practices, OA and business performance is scant, which presents an opportunity for further research in this area.

This article is organised as follows: in the next section, a brief theoretical review of the concepts under investigation in this study is provided. Thereafter, the article presents the conceptual framework as well as the summary of hypotheses. Next, the article discusses the research methodology, followed by the results. The final sections of the article discuss the limitations, suggestions for future research, conclusions and managerial implications.

Literature review

This section briefly discusses the literature on South African SMEs and the five constructs considered in the article.

South African small- and medium-sized enterprises

In South Africa, the majority of businesses are described as SMEs, contributing approximately 40% to all economic activity, which makes their survival critical for the growth and success of the country (Small Enterprises Development Agency, 2016). The importance of SMEs within the country becomes even more critical for the achievement of social stability by creating jobs to solve the high unemployment rate, which was purportedly at nearly 28% by the first quarter of 2019 (Statistics South Africa, 2019). According to the Government Gazette (2003), a small enterprise in South Africa is described as one that employs 50 people or less and has a total turnover of up to R19 million, with a total asset value of R3m, depending on the industry. A medium enterprise is one that employs from 50 up to 200 people and has a total turnover of R39m with a total asset value of R6m, depending on the industry. Within the South African economy, SMEs perform four critical roles: (1) accounting for nearly 40% of all business, (2) generating up to 35% of the gross domestic product, (3) contributing to 43% of the total salaries and wages paid and (4) employing at least 55% of the workforce in the formal private sector (Groepe, 2015; Strydom, 2011). South African SMEs further perform the role of reducing the gap between the rich and the poor, stimulating business competition, promoting new product and service innovation, economically empowering previously marginalised groups, and enhancing employee learning and motivation (Edinburgh Group, 2016; Mafini & Omoruyi, 2013). Thus, the South African economy is similar

to other developing economies in that it is mostly driven by the SME sector.

Organisational agility

Winby and Worley (2014) conceptualise OA as the ability of a firm to create value by consistently modifying its decisions in line with developments in the external environment. Through OA, a firm becomes committed to maintaining and conserving the drive to achieve its strategic objectives and is sufficiently flexible in responding to changes in the market while maintaining its momentum in creating new business opportunities (Doz & Kosonen, 2010). The principal goal of OA is to integrate the firm's different strategic objectives, such as responsiveness, excellence, flexibility, operational commitment, innovation and adaptability, which are necessary for taking advantage of available opportunities (Di Minin, Frattini, & Bianchi, 2014). The new business environment favours innovation and agility, which means that firms must not only execute novel ideas once but also do so repeatedly (Alvesson & Sandberg, 2011). Moreover, the ability to generate novel ideas, develop viable products, services or processes and drive new value for the corporation is important in sustaining the business.

Within the South African environment, OA has been investigated to varying degrees in different industries. A study by Haller (2009) directed its focus to the financial services industry and concluded that human elements such as leadership and management are more important than technology and structure when embarking on OA initiatives. Nyambandi (2016) concentrated on factors influencing agility and business process implementation at a selected Further Education and Training College in the Western Cape Province. The availability of resources, the ability to collaborate, acceptance of change as well as updating of the curriculum were found to be major factors influencing agility. Another study by Mathe (2017) considered the impact of OA and organisational ambidexterity on business transformation. The study found that OA and organisational ambidexterity are useful tools when responding to volatile market changes. However, it is notable that studies on OA that have been directed to South African SMEs are rare to find. This existent gap acts as a catalyst for further studies to be conducted in this area within SMEs to discover how OA can be harnessed to revive and improve the performance of these vital businesses.

Technological capability

Technological capability is the effective application of specialised knowledge in adopting, utilising and transforming existent scientific expertise (Zhou & Wu, 2010). When firms innovate, they develop technological capabilities which are important in enabling them to generate and maintain sustainable competitive advantages by understanding their environments, coping with them and creating suitable strategies (Noh, Kim, & Jang, 2014). According to Salami, Taghavifard and Majidifar (2015), technological capabilities

are essential in nurturing changeover flexibility, which is the capacity to replace outdated processes and products with more recent ones promptly. Also, within manufacturing environments, sophisticated technologies are essential for stimulating agile production processes (Shin et al., 2015). When a firm develops technological capabilities over an extended period, it accumulates experience which may be employed as a resource that reflects its technical abilities (Noh et al., 2014). Firms with strong technology capabilities can search and apply information and knowledge reserves in attaining instant rewards (Shin et al., 2015). Most SMEs that have advanced technologies can create alliances with suitable partners as they collaborate in exchanging information on sourcing, production and marketing opportunities for new products and services (Zhou & Wu, 2010). Technology capability is equally important to SMEs in South Africa, as several studies, (Cant, Wiid, & Hung, 2015; Gono, Harindranath, & Özcan, 2016; Leboea, 2017) have affirmed its positive effects on the performance of emerging businesses in the country.

Collaborative innovation

Collaborative innovation involves networking with various stakeholders (e.g. suppliers, customers and consultants) in either designing and implementing new processes or enhancing existing ones to satisfy the requirements of both the internal and external environments (Camarinha-Matos, Afsarmanesh, Galeano, & Molina, 2009). Participation in networks has nowadays become very important for any organisation that strives to achieve a differentiated competitive advantage, especially if the firm is an SME (Shin et al., 2015). Collaboration is a crucial issue to rapidly answer market demands in a manufacturing firm through sharing competencies and resources (DeGroot & Marx, 2013). Through open collaboration, essential competitive advantages are gained as firms cooperate synergistically in addressing various problems encountered in dynamic and unpredictable environments (Camarinha-Matos et al., 2009). Firms are then able to attain high degrees of flexibility that are rarely achievable when they operate on their own since they now have to work with other organisations that have superior resources that may be directed to adapt to changes in the market (Shin et al., 2015). Collaborating with external stakeholders can also enable a firm to match its supply requirements to demand, while controlling the costs of doing business (DeGroot & Marx, 2013). In South Africa, a study by Krause and Schutte (2015) reveals that SMEs in South Africa have an appetite for open innovation, which places both customers and suppliers as the preferred partners when creating novel business ideas. Other studies undertaken within South Africa (Mohalajeng & Kroon, 2016; Moonsamy, 2016; Tselepis, Mastamet-Mason, & Antonites, 2016) also acknowledge the critical nature of collaborative innovation as an active ingredient in the operations of successful SMEs.

Organisational learning

Organisational learning is defined as a process of inquiry through which members of the organisation develop shared

values and knowledge based on their own experience and that of others (Ranjbar & Absalan, 2015). It entails creating, acquiring, interpreting, transferring and retaining new and current knowledge (Herstein, 2011; Kitapci & Celik, 2014; Saki, Shakiba, & Savari, 2013). According to Onyema (2014), competitive advantages may be gained through organisational learning. Learning organisations can better sense events, trends and market changes that can help in adopting more responsive structures than competitors, to respond to challenges (Ketchen, Ireland, & Snow, 2007; Martinez-Costa & Jimenez-Jimenez, 2009). Organisational learning influences interpersonal relationships positively since enterprises that are more committed to organisational learning show greater business performance (Vecchiato, 2014). Firms always learn from customers, and if knowledge is acquired from diverse geographic locations, it can be a useful resource for generating novel knowledge combinations, which lead to innovation (Wilson & Doz, 2011). Organisational learning is similarly important to South Africa, where SMEs are known for having one of the worst sustainability rates in the world (Naicker, Le Roux, Bruwer, & Bruwer, 2017). Thus, as reported in some South African studies (Geldenhuis & Cilliers, 2012; Urban & Gaffurini, 2018), SMEs in the country should emphasise organisational learning to improve their innovation, problem solving, efficiency and effectiveness as well as to transform them for long-term success.

Internal alignment

Sisco and Wong (2008) define internal alignment as the set of commitments, policies, strategies, procedures, behaviours and systems that support integrated customer decision-making based on suppliers' commercial and ethical commitment and performance. Internal alignment is important, both vertically, that is, from the top management level to the factory floor, and horizontally, that is, across departmental silos (Sisco & Wong, 2008). Broadly, internal alignment can promote harmony between a firm's goals, objectives, structure and needs – a concept known as 'strategic congruence' (Ahmmed & Noor, 2014). It offers a broader view of the intricate complexities of internal networks, processes and connections to the external environment (Puente-Palacios, Moreira, Puente, & Lira, 2015). For instance, alignment identifies opportunities for creating synergy between different functions, processes, products and customer groups (Alagaraja & Shuck, 2015). It also highlights the importance of recognising the real fit between goals and objectives with individuals, work teams, departments and the whole organisation (Walter, Kellermanns, Floyd, Veiga, & Matherne, 2013). A suitable internal and external fit strengthens a firm's understanding of its environment and the ability to respond timeously to allow essential modifications (Corsaro & Snehota, 2011). Since most SMEs are owner-controlled, which makes it necessary to coordinate different internal processes and systems properly, internal alignment has evolved to become an imperative tool to them (Shin et al., 2015). In South Africa, some studies (Bushe, 2019; Mafundu & Mafini, 2019) highlight that mismatches in either one or more components of internal alignment remain

amongst the major causes of SME failures. It is vital then for SMEs in the country to direct particular attention to areas such as policies, systems and procedures to ensure that they contribute positively towards the performance and long-term success of these businesses.

Business performance

Business performance can be defined as the degree to which the organisation carries its goals and objectives into effect (Sosiawani, Ramli, Mustafa, & Yussof, 2015; Wales, Plarida, & Patel, 2013). It is exhibited by the accomplishment of tasks by the employees of a firm as well as the quality of these completed tasks at the close of a specific business period as measured against predetermined targets or aims (Ledwith & O'Dwyer, 2014; Yıldız, 2010). To measure business performance, either subjective or objective scales may be used (Darwish & Singh, 2013). To counteract the shortcomings of either method, both subjective and objective methods can be integrated (Muduli, 2015). The most popular indicators of subjective performance include market share, sales, customer satisfaction, employee satisfaction and profitability, while return on earnings (ROE) and return on assets (ROA) are the most commonly used objective performance metrics (Yıldız & Karakaş, 2012). There is no single universally accepted method to measure business performance, despite the development of numerous frameworks by various scholars.

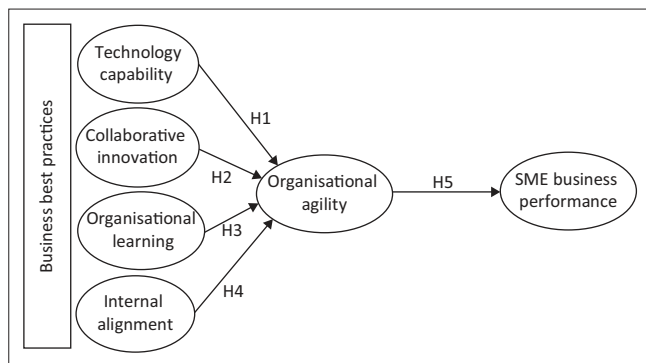
Within South Africa, various studies have used different frameworks to measure the performance of SMEs. For instance, a study by Vermaak, Kirsten and Wolmarans (2015) found that accountants in SMEs tend to depend on financial ratios more than the highly acclaimed Balanced Scorecard when measuring performance. Other studies conducted in South African SMEs (Dubihlela & Sandada, 2014; Epoh & Mafini, 2018; Loury-Okoumba & Mafini, 2018; Maduekwe & Kamala, 2016; Mafini & Muposhi, 2017) applied subjective measures to determine the performance of these businesses. In line with these studies, the current research also applies subjective measures to quantify the performance of SMEs.

Conceptual framework and the formulation of hypotheses

The study tested the conceptual framework presented in Figure 1, which identifies the four business best practices, which are technology capability, collaborative innovation, organisational learning and internal alignment as the predictor variables that exert an influence on OA, which is the mediating variable. The framework further shows that OA also exerts an influence on business performance (outcome variable) of SMEs.

Technological capability and organisational capability

The everyday application of technological knowledge in embracing, the utilisation, adaptation and transformation of existing technologies is essential for building agility (Abu-Radi, 2013). Firms possessing the capabilities to develop and



Source: Adapted from Shin, H., Lee, J. N., Kim, D. S., & Rhim, H. (2015). Strategic agility of Korean small and medium enterprises and its influence on operational and firm performance. *International Journal of Production Economics*, 168(1), 181–196. <https://doi.org/10.1016/j.ijpe.2015.06.015>

FIGURE 1: Conceptual framework for organisational agility, business best practices and performance.

design new products, new processes and more effectively operate the equipment or resources which are needed to produce managerial techniques including skills, knowledge and experiences as well as institutional structures and ties are also able to respond to environmental pressures (Kelly, 2012; Langley, 2015). Such firms are further capable of jointly mobilising different scientific resources, which allows the development of products or innovative and successful production processes, serving the implementation of competitive strategies that create value given certain environmental conditions (Dehaghi & Navabakhsh, 2014). A study conducted by Ganguly, Nilchiani and Farr (2009) revealed that the adoption of new technologies is a leading factor influencing the remarkable agility of Apple Incorporated in the United States. This possibly explains why Apple remains a leader in innovation and technology within the consumer electronics industry. Another study conducted by Li, Nagel and Sun (2011) focusing on firms such as Ace Hardware, Google, Procter & Gamble and Apple Incorporated in the United States similarly established that improvement of technological capability is crucial for the enhancement of OA. Ambrose (2014) concluded that technology capability positively influences OA in information technology firms in the United States. Also, Dehaghi and Navabakhsh (2014) studied OA within the Isfahan Municipality in Iran and found that it is linked to technological capability. This leads to the following hypothesis:

H1: There is a positive relationship between technological capability and OA in South African SMEs.

Collaborative innovation and organisational agility

A study by Winby and Worley (2014) explored OA within Hewlett-Packard (HP) and Alegent Health in Omaha, Nebraska, USA. Their study revealed how a connection between collaborative innovation and OA positively impacts collaborative innovation. Similarly, in a study conducted in South Korean SMEs, Shin et al. (2015) found another fundamental link between collaborative innovation and enhanced OA. A different study by Roshani, Lehoux and Frayret (2015) that concentrated on university–industry collaboration in Canada found a relationship between useful collaborative innovation and OA. Also, a study conducted by

Han and Wang (2015) which was conducted found that collaborative innovation accounted for much of the agility amongst SMEs in China. Based on these insights, the following hypothesis is suggested:

H2: There is a positive relationship between collaborative innovation and OA in South African SMEs.

Organisational learning and organisational agility

As indicated in a study by Kelly (2012), which concentrated on business organisations in Chicago, New York and Los Angeles in the United States, organisational learning is a crucial factor that promotes OA. Another study by Idris and Al-Rubaie (2013) conducted within the Elba House Company in Jordan, Middle East, found that the ability of firms to learn leads to greater OA. Furthermore, a study conducted by Vecchiato (2014) within organisations in England revealed that a positive relationship exists between OA and organisational learning. Likewise, Sherehiy and Karwowski (2014) discovered a link between organisational learning and OA in their study conducted in small manufacturing enterprises in the United States. These insights lead to the following hypothesis:

H3: There is a positive relationship between organisational learning and OA in South African SMEs.

Internal alignment and organisational agility

In a study conducted within Acme Aerospace in the United States by Worley and Lawler III (2010), it was found that internal alignment is positively related with OA. Tseng and Lin (2011) studied OA within information technology firms in Taiwan and likewise found that it is promoted by internal alignment. An additional study conducted by Balaji et al. (2014) within supply chain firms in India found a positive interaction between internal alignment and OA. Accordingly, the following hypothesis is suggested:

H4: There is a positive relationship between internal alignment and OA in South African SMEs.

Organisational agility and business performance

As revealed in a study conducted by Doz and Kosonen (2010), within firms such as Nokia, Easy Group, HP, SAP and Kone in Finland, OA is of vital importance to improved business performance. DeGroote and Marx (2013) conducted a study on OA within manufacturing firms in the United States and found that it positively impacts business performance. A study by Salih and Alnaji (2014) on OA within Jordanian insurance industry firms in the Middle East reveals that OA performs a crucial role in enhancing business performance. One more study conducted within the Gachsaran Oil and Gas Exploitation Company in Iran by Dabiri and Gholami (2015) showed that OA has a positive influence on business performance. Therefore, this study hypothesises that:

H5: There is a positive relationship between OA and business performance in South African SMEs.

Research methodology

This section discusses the research sample, procedures for data collection, statistical approaches and the ethical considerations.

Research sample

This quantitative study directed attention to SMEs in South Africa, specifically those operating in the Gauteng province. Owners and managers of SMEs based in the Gauteng province were targeted as the respondents who would complete the questionnaires. The Gauteng province was the preferred geographic area where the data would be collected because it houses the highest number of SMEs in South Africa and is considered to be the business centre of the national economy (Small Enterprise Development Agency [SEDA], 2016). The sampling frame used in this study is the list of SMEs maintained by the SEDA, an agency of the Department of Small Business Development. This list specifies that the number of SMEs in the Gauteng province is 676 831 (SEDA, 2016). The sample size for this study was determined by benchmarking with other historical samples ranging between 400 and 600 respondents that were used in several previous studies (Chae, Koh, & Prybutok, 2014; Leitner & Guldenberg, 2009; Yıldız, 2010) that focused on factors determining business performance. Using these examples as a nominal anchor, a total number of 950 questionnaires were distributed to the respondents, and 583 were collected. Out of these, 19 questionnaires were discarded because they were unusable in the statistical analyses, resulting in an actual sample size of 564 respondents and a response rate of 59.36%. This response rate was considered to be acceptable because it satisfied the recommendation by Fincham (2008) that response rates in quantitative survey studies should either be closer to or at least 60% to minimise the risk of non-response bias. The probability sampling approach, using the simple random technique, was used in this study to select the sampling elements from the target population (SMEs in the Gauteng province).

Procedures for data collection

The research followed a cross-sectional survey design, which involved the distribution of a structured survey questionnaire to the sample elements at just one point in time, which provides a snapshot of what was happening in that group at that particular time (Saunders, Lewis, & Thornhill, 2016). For the physical distribution of the questionnaires, a drop and collect method was used, which refers to the delivery and collection of questionnaires by the researcher (Creswell & Miller, 2000). This method was helpful as it increased the response rate when compared with the alternative email method. Distribution of questionnaires occurred between December 2016 and June 2017. The questionnaire was self-administered, and respondents were expected to complete it within two weeks.

Measurement instruments adapted from previous studies were used in this study. Technology capability was measured

using a 5-item scale that had been validated in several previous studies (Choi & Harley, 1996; Choi & Krause, 2006; Kitapci & Celik, 2014; Lee, Lee, & Pennings, 2001; Liker & Choi, 2004). Likewise, organisational learning was measured using a 6-item scale that had been validated in previous studies (Alvesson, 1995; Braunscheidel & Suresh, 2009; Fugate, Stank, & Mentzer, 2008; Gold, Malhotra, & Segars, 2001; Senge, 1990). Collaborative innovation measured using a 6-item scale previously validated in studies by Liker and Choi (2004), Narasimhan, Swink and Kim (2006), Swafford, Ghosh and Murthy (2006), Inman, Sale, Green and Whitten (2011), Krause, Schutte and Du Preez (2012) and Bukhamsin (2015). The internal alignment was measured using a 5-item scale previously validated in several studies by Boyer and McDermott (1999), Pett and Wolff (2007), Robinson and Steyn (1998), Zahra and George (1999) and Hung, Yang, Lien, Mclean and Kuo (2010). In addition, OA was measured using a 6-item scale, which was previously validated by Gerwin (1993), Goodman, Fichman, Lerch and Snyder (1995), Anderson and Narus (2003) and Khoddami (2016). Business performance was measured using 5-item scale previously validated by Avlontis and Gounaris (1997), Narver and Slater (1990) as well as Santos and Brito (2012). The measurement scales were selected for this study because they had managed to attain acceptable reliability above the recommended 0.7 cut-off value as measured by the Cronbach's alpha coefficient and had been found to have satisfactory levels of face, content, convergent and discriminant validity in the indicated studies.

Response options for the OA, technology capability, organisational learning, collaborative innovation and internal alignment measurement scales were presented on a 5-point Likert-type scale anchored by 1 = strongly disagree to 5 = strongly agree, to express the degree of agreement. For the business performance scale, response options were presented on a Likert-type scale that was anchored by 1 = much worse than the industry average to 5 = much better than the industry average. The Likert-type scale was chosen because it is simple to administer and code, offers more options for respondents (with less skewed distribution) and is adaptable to various statistical analyses (Al-Ansari, 2014).

Statistical analyses

Descriptive and inferential statistics were used to analyse the collected data. Descriptive statistics were used to assess the demographic details of participating SMEs. Inferential statistics used include the structural equation modelling (SEM) approach, which involved the confirmatory factor analyses (CFA) and the path analysis techniques. Two statistical applications, namely the Statistical Package for Social Sciences (SPSS version 24.0) and the Analysis of Moment Structures (AMOS version 24.0) were employed in the data analysis.

Ethical considerations

In this study, several ethical considerations were followed. Firstly, permission was obtained from participants who

are owners and managers of SMEs in the Gauteng province to administer the questionnaire. Secondly, respondents were under no obligation to complete the questionnaire. A potential respondent who refused to participate in the research was exempted, and the next qualifying individual was approached to participate. This ensured that respondents' rights to non-participation were observed. Thirdly, all respondents were adequately informed about the purpose of the study to secure their informed consent. Finally, the anonymity and confidentiality of respondents were protected throughout the study. Information about the respondents that was discovered during the study was kept in confidence.

Research results

This section presents the demographic details of participating SMEs as well as the results and discussion of the inferential statistics.

Demographic details of participating small- and medium-sized enterprises

The profiles of participating SMEs are presented in Table 1.

Table 1 shows the frequencies and percentages related to the distribution of participating SMEs in the sample. It shows that the highest number (67%; $n = 378$) was that of SMEs having less than 50 employees. Regarding the type of industry, the highest number (23.9%; $n = 135$) was that of SMEs operating within the retail, motor trade and repair services industries. Concerning annual turnover, the highest number of participating SMEs (49.5% $n = 279$) had less than R10m turnover per annum. Regarding years of existence, the majority (70.2%; $n = 396$) of participating SMEs had been operating for 1–5 years.

TABLE 1: Profile of participating small to medium enterprises.

Variable	Categories	<i>n</i>	%
Number of employees	Less than 50	378	67.0
	51 to 100	99	17.6
	101 to 150	71	12.6
	151 to 200	16	2.9
Type of industry	Manufacturing	86	15.3
	Retail, motor trade and repair services	135	23.9
	Electricity, gas and water	61	10.8
	Wholesale trade, commercial agents and allied services	92	16.3
	Transport, storage and communications	77	13.7
	Finance and business services	17	3.0
	Other	96	17.0
Turnover per annum	Less than R10m	279	49.5
	Between R10m and R20m	106	18.8
	Between R20m and R30m	98	17.4
	Between R30m and R40m	81	14.4
Years in existence	Less than 1 year	29	5.1
	Between 1 and 5 years	396	70.2
	Between 5 and 10 years	96	17.0
	Between 10 and 15 years	26	4.6
	15 years or more	17	3.0

R, South African rand; m, million.

Inferential statistics

Since this study was intended to test relationships between various constructs, inferential statistics were used to test the relationships between OA, technology capability, collaborative innovation, organisational learning, internal alignment and business performance. Structural equation modelling was used, which involved a CFA and testing the relationships between the different constructs using the path analysis technique. The SEM approach was considered to be suitable because the factor structure of the constructs used in this study was already known, established and validated through previous studies (Hair, Hult, Ringle, & Sarstedt, 2014).

Confirmatory factor analysis

A CFA is a multivariate method for testing measurement models of the relationship between a set of observed variables and a hypothesised set of latent variables (Easterby, Thorpe, & Jackson, 2012). In CFA, the accuracy of measurement scales used in the study was assessed to ascertain their internal consistency reliability, validity and model fit. The results of the CFA are presented in Table 2.

Internal consistency reliability of measurement scales was assessed by using total item correlations, Cronbach's alpha test and composite reliability (CR) test. All measurement scale items attained item-to-total scores higher than the lowest cut-off value of 0.3 (Hair, Anderson, Tatham, & Black, 1998). To calculate the CR, the following formula was used: sum all factor loadings, square this sum (call this SSI); sum all error variances of each indicator (call this SEV); $CR = SSI / (SSI + SEV)$. Cronbach's alpha and CR coefficients were higher than the lowest cut-off value of 0.7 (Hulland, 1999). Hence, the internal consistency reliability of the measurement scales used in this study was considered to be adequate.

The study also tested for three types of validity. The first was face validity, which was tested using a review of the questionnaire by a panel consisting of academics whose lines of research interests centre around the field of entrepreneurship and small business management. The second type is content validity, which was tested through a pilot study involving 40 conveniently selected SMEs. These SMEs were excluded from participating in the final survey. Feedback from the review panel was used to effect minor changes to the questionnaire to ensure that questions were more straightforward, more direct, and that the terms used were non-technical. After analysis of the pilot study results, items that had low factor loadings were removed, and the questionnaire was shortened to avoid respondent boredom, which could have resulted in unanswered questions.

The third type of validity tested in this study is construct validity, as measured by its two sub-components, namely convergent and discriminant validity. Convergent validity was tested by checking whether factor loadings were greater than the recommended minimum cut-off value of 0.5

TABLE 2: Psychometric properties of the measurement scales.

Research constructs		Cronbach's test		Mean score	CR	AVE	Highest shared variance	Factor loadings
		Item-total correlations	α value					
Technology capability	TC ₁	0.702	0.930	4.23	0.931	0.729	0.43	0.727
	TC ₂	0.856						0.887
	TC ₃	0.875						0.918
	TC ₄	0.848						0.896
	TC ₅	0.807						0.851
Collaborative innovation	CI ₁	0.685	0.843	3.73	0.844	0.575	0.20	0.721
	CI ₂	0.661						0.699
	CI ₃	0.706						0.825
	CI ₄	0.664						0.779
Organisational learning	OL ₁	0.676	0.939	4.61	0.941	0.772	0.18	0.680
	OL ₂	0.804						0.816
	OL ₃	0.812						0.827
	OL ₄	0.878						0.922
	OL ₅	0.880						0.927
	OL ₆	0.880						0.931
Internal alignment	IA ₁	0.818	0.902	4.58	0.909	0.683	0.44	0.833
	IA ₂	0.811						0.642
	IA ₃	0.620						0.871
	IA ₄	0.788						0.897
	IA ₅	0.814						0.866
Organisational agility	OA ₁	0.816	0.925	4.68	0.933	0.681	0.34	0.861
	OA ₂	0.754						0.807
	OA ₃	0.805						0.787
	OA ₄	0.764						0.843
	OA ₅	0.784						0.800
	OA ₆	0.813						0.854
Business performance	BP ₁	0.820	0.907	4.32	0.908	0.735	0.27	0.865
	BP ₂	0.913						0.976
	BP ₃	0.860						0.922
	BP ₄	0.593						0.622

TC, Technology capability; CI, Collaborative innovation; OL, Organisational learning; IA, Internal alignment; OA, Organisational agility; BP, Business performance; CR, Composite reliability; AVE, Average variance explained; α , alpha.

(Anderson & Gerbing, 1988). The factor loadings for all of the final items in the measurement scales satisfied this rule, indicating acceptable individual item convergent validity. Moreover, convergent validity was also tested using the Average Variance Extracted (AVE). The values for AVE were well above the recommended minimum threshold of 0.5 (Fraering & Minor, 2006). To test for discriminant validity, the study checked whether the AVE value was greater than the highest shared variance value (Fornell & Larcker, 1981). This rule was satisfied, as shown in Table 2. Also, correlations between the constructs were expected to be less than 0.85. As indicated in Table 4, correlations between constructs satisfied these thresholds, thereby indicating satisfactory discriminant validity.

An analysis of the overall mean scores for all measurement scales revealed that they ranged between $\bar{x} = 3.73$ and

$\bar{x} = 4.68$. This shows that respondents agreed that technology capability, collaborative innovation, organisational learning, internal alignment, OA and business performance were satisfactory in their SMEs.

Model fit analysis

The model fit analysis was performed for both the CFA and the structural model in line with the recommendation by Anderson and Gerbing (1988). Acceptable model fit was indicated by a chi-square value over degree of freedom (c2/d.f.) value of between 1 and 3, with the values of goodness-of-fit index (GFI), comparative fit index (CFI), incremental fit index (IFI) and Tucker-Lewis index (TLI) equal to or higher than 0.90, and the root mean square error of approximation (RMSEA) value to be equal to or less than 0.08. The results of the model fit analysis are presented in Table 3.

TABLE 3: Model fit statistics.

Fit indices	Acceptable fit indices	CFA	SEM
Chi square/degree of freedom	< 3.0	1.504	2.801
Incremental fit index	> 0.90	0.980	0.968
Tucker–Lewis index	> 0.90	0.966	0.957
Comparative fit index	> 0.90	0.982	0.936
Normative fit Index	> 0.90	0.961	0.947
Root mean square error of approximation	< 0.08	0.044	0.077

df, degree of freedom; IFI, Incremental fit index; TLI, Tucker–Lewis index; CFI, Comparative fit index; NFI, Normative fit Index; RMSEA, Root mean square error of approximation; CFA, confirmatory factor analysis; SEM, structural equation modelling.

TABLE 4: Discriminant validity.

Constructs	TC	CI	OL	IA	OA	BP
Technology capability	1.000	0.382*	-	-	-	-
Collaborative innovation	0.215*	1.000	-	-	-	-
Organisational learning	0.514*	0.297*	1.000	-	-	-
Internal alignment	0.570*	0.249*	0.762*	1.000	-	-
Organisational agility	0.455*	0.414*	0.512*	0.371*	1.000	-
Business performance	0.334*	0.324*	0.416*	0.473*	0.475*	1.000

TC, Technology capability; CI, Collaborative innovation; OL, Organisational learning; IA, Internal alignment; OA, Organisational agility; BP, Business performance

*, Correlation is significant at the 0.01 level (2-tailed).

As indicated in Table 3, model fit for both the CFA and the SEM reveals that all recommended thresholds were satisfied, which confirms the existence of an acceptable fit of both models to the underlying data structures.

Apart from confirming discriminant validity, the correlation analysis further served to confirm the association and direction of the association between constructs. Inter-factor correlations were positive and significant, ranging from $r = 0.215$ to $r = 0.762$. This result demonstrates that when the intensity of one construct increases, positive increases can be expected in the other constructs, and the reverse is also true. However, this result does not imply that the constructs predict each other, hence the need to test the hypotheses using the path analysis technique.

Hypotheses tests results

Hypotheses were tested using the path analysis procedure. Table 5 presents these results.

The results in Table 5 show that all five hypotheses were supported, which validated all hypothesised relationships between the research constructs.

TABLE 5: Structural equation modelling testing of hypotheses

Paths	Hypothesis	Path coefficients	Unstandardised estimates	Hypotheses results
TC→OA	H1	0.537*	0.65	Supported
CI→OA	H2	0.291*	0.32	Supported
OL→OA	H3	0.803*	0.78	Supported
IA→OA	H4	0.882*	0.92	Supported
OA→BP	H5	0.484*	0.61	Supported

TC, Technology capability; CI, collaborative innovation; OL, organisational learning; IA, internal alignment; OA, Organisational agility; BP, business performance; H, hypothesis.

*, $p < 0.001$.

Discussion of the results

This article examined the connection between OA, business best practices and performance in South African SMEs. This aim was achieved by formulating and testing five hypotheses, which linked the various constructs proposed in the conceptual research framework.

The first hypothesis (H1) suggests that there is a positive relationship between technology capability and OA. This hypothesis is accepted in this study since there is a positive and significant relationship between the two constructs ($\beta = 0.537$; $p < 0.001$). This result illustrates that SMEs with better capabilities to adopt relevant technologies have higher OA. Thus, the faster and more effective adoption and implementation of technology is an essential ingredient for generating greater agility capabilities, which enables SMEs in South Africa to control, manage and avert possible problems emanating from disruptions in the market.

The second hypothesis (H2) suggests that there is a positive relationship between collaborative innovation and OA. In this study, this hypothesis is supported since there is a positive and significant relationship between these two constructs ($\beta = 0.291$; $p < 0.001$). This result demonstrates that SMEs with better capacities to develop innovative and creative ways of collaborating and cooperating with their trading partners possess greater agility. Hence, the results of the study prove that improved collaborative innovation within South African SMEs facilitates the ability of businesses to adapt to changes within their environments, with prospects of yielding a broad spectrum of other benefits.

The third hypothesis (H3) suggests that there is a positive relationship between organisational learning and OA. This hypothesis is also supported because there is a positive and significant relationship between the two constructs ($\beta = 0.803$; $p < 0.001$). This result implies that SMEs that possess the ability to create, retain and transfer knowledge within their organisations also have greater agility. Hence, this study establishes a vital link between organisational learning and OA, which is essential for the ability of SMEs to cope with turbulent environments, leading to their survival and success.

The fourth hypothesis (H4) suggests that there is a positive relationship between internal alignment and OA. This hypothesis is supported as well because there is a positive and significant relationship between the two constructs ($\beta = 0.882$; $p < 0.001$). These results demonstrate that SMEs that have OA, jobs, skills and competencies all interact in such a way that they complement each other for the benefit of the organisation. This confirms that South African SMEs that have managed to nurture acceptable internal alignment of their various systems and processes are likely to possess the ability to adapt to any internal and external threats, which is more desirable for success.

The fifth hypothesis (H5) suggests that there is a positive relationship between OA and business performance. This

hypothesis is supported as well because there is a positive and significant relationship between OA and business performance ($\beta = 0.484$; $p < 0.001$). This result indicates then that through OA, SMEs in South Africa are likely to have superior business performance.

Overall, the above results depict the importance of the implementation of business best practices towards the improvement of OA as well as overall business performance in South African SMEs. From the results of the study, it is interesting to note that the strongest relationships occurred between internal alignment and OA ($\beta = 0.88$). This result signifies that internal alignment is the best business practice exerting the most considerable influence on OA when compared with the other factors considered in this study. Perhaps this result may be attributed to the view that the adoption or implementation of the other business best practices such as technology, collaboration and organisational learning depends on the effectiveness of the alignment between internal business factors such as policies, strategies, procedures, behaviours and systems, amongst others. It is the unity of effort amongst these internal factors that determines the successful accomplishment of the organisation's tasks (Corsaro & Snehota, 2011; Pardo, Ivens, & Wilson, 2013). Likewise, business performance is mainly dependent on the effectiveness of the same internal business factors (Puente-Palacios et al., 2015; Walter et al., 2013). This suggests that without effective internal alignment, it is difficult for a business enterprise to either implement other business best practices or to achieve excellent business performance. Hence, the impact of internal alignment on OA is the greatest in South African SMEs, and this is likely to be the factor determining both business performance as well as the successful implementation of other business best practices considered in this study.

Limitations and suggestions for further research

The study has several limitations that are worth noting. The first limitation is that the geographic scope of the study was restricted to SMEs that were based in the Gauteng province. The second limitation is that the study did not consider all OA factors, some of which are also important in influencing SME business performance. The third limitation is that the study, similar to all surveys, was susceptible to response bias. However, this bias was reduced by ensuring that the questionnaire was self-administered, which provided respondents with the freedom to complete the questionnaire without being pressured by the researchers. Also, the use of a Likert-type scale assisted in eliminating the development of response bias amongst the respondents.

Future studies could be conducted using larger samples composed of SMEs drawn from different South African provinces. It may be better to conduct the study using a mixed method approach, which ensures that the data collection is triangulated through the use of a combination of qualitative and quantitative approaches (Schoonenboom & Johnson, 2017). In that manner, an opportunity is provided to collect data using

face-to-face interviews, which ensures that the researcher can probe further into the responses provided by participants. Since this study elicited the views of owners and managers of SMEs exclusively, future studies could be conducted that include the views of professional employees in these enterprises as well. Future studies could also consider other business best practices that were excluded. Examples of such practices include information sharing, market development, quality management, human resource management and development, and customer services management, amongst others.

Conclusions and managerial implications

This study investigated the connection between OA, business best practices and performance in South African SMEs. The study concludes that business best practices contribute positively towards OA and the business performance of South African SMEs. The effectiveness of an SME in four areas of business best practices, namely technology capability, collaborative innovation, organisational learning and internal alignment is important for building the ability to respond and adapt to changes in the environment. Likewise, business performance can be optimised through the enhancement and refinement of agile abilities in an SME. It is thus concluded that SMEs should work for improving the effectiveness and efficiency of their technology capabilities, collaborative innovation, organisational learning and internal alignment to enhance both their agility and overall business performance.

In light of the results of this study, several managerial implications may be suggested to improve the implementation of business best practices and performance in SMEs. To improve their technology capabilities, SMEs should adopt technology-driven systems such as value analysis, modular design systems, concurrent engineering and just in time. Future technology investments should be directed to upgrading inventory management, information and production systems to meet international standards. Collaborative innovation could be increased through promoting partnerships between main functions from the planning stage within SMEs. Organisational learning may be improved by providing a conducive internal environment where employees can easily get access to information on best performance practices, teamwork and interdisciplinary training. To promote better internal alignment, strategies should be aligned across the different structural levels of the SME, which ensures that important decisions are communicated across all levels. Since internal alignment emerged as the most important business best practice, SMEs should direct greater emphasis to the alignment of their internal processes and systems, since this factor emerged as the most important predictor of OA in the study. It is further important for SMEs to create a culture of agility within their organisations, and to ensure that they are flexible in developing their product mix or variety and ensure short cycles in product design as well as maintaining innovation.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

S.G. conducted the literature review and collected the data. C.M. wrote the methodology and results sections of the article.

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Data availability statement

The data that support the findings of this study are available from the corresponding author, Chengedzai Mafini, upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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