The Southern African Journal of Entrepreneurship and Small Business Management
ISSN: (Online) 2071-3185, (Print) 2522-7343

Business size moderation and internal factors mediation impacts on SME business performance

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Dates:
Received: 10 Aug. 2024
Accepted: 28 Oct. 2024
Published: 30 Nov. 2024

How to cite this article:
Rampyapedi, K.P. & Adetunji, O., 2024, 'Business size moderation and internal factors mediation impacts on SME business performance', *Southern African Journal of Entrepreneurship and Small Business Management* 16(1), a958. https://doi.org/10.4102/sajesbm.v16i1.958

Background: Small businesses are important for the economy of any country, including South Africa. Small and medium enterprises (SMEs) serve as a valuable engine for growth, innovation, new product development and job creation in the economy.

Aim: This research examines business size as a moderator of the effects of the external business environment and the organisation of internal resources on the performance of SMEs in South Africa.

Setting: Data for this study were collected using a survey questionnaire from 465 enterprises in South Africa across various industries.

Methods: The study utilised a higher-order structural equation modelling and analysed data obtained from 465 complete responses using SmartPLS 4.

Results: Findings indicate that business size moderates the relationship between business resources and performance. The study further demonstrated that external factors directly impact the management, allocation and utilisation of internal business resources.

Conclusion: Both internal and external resources are found to influence business performance, with internal resources partially mediating the effect of external factors on business performance. The social capital construct suggests that for a better performance of business organisations, businesses must strive for diversification of their network channels and form meaningful associations within the industry they operate.

Contribution: The study emphasises the importance of the internal resource factors to the success of businesses, irrespective of their size. Structural reforms and policies should be strengthened in supporting and enabling SMEs to grow their businesses to gain continued economic growth.

Keywords: small and medium enterprises; structural equation modelling; contingency theory; business performance; resource-based theory.

Introduction

Small and medium enterprises (SMEs), like any other businesses, are not immune to the macroeconomic and other external pressures like high crime rates, dwindling opportunities, high inflation rates, interest rate hikes, lack of access to finance and market, high levels of government bureaucracy and limited internal resources (Breckon et al. 2019; Dobbs & Hamilton 2006; Esteve-Perez & Manez 2008).

In many countries, SMEs are the main drivers of the citizens' participation in the economy and sustained national performance (Zwane & Osuige 2024). Small businesses are important for the economy of any country, including South Africa. Small and medium enterprises serve as a valuable engine for growth, innovation, new product development and job creation in the economy (Petersen, Bruwer & Mason 2020). They play a critical role through their participation in the value-creation activities of any economy (Hong & Jeong 2006). South Africa is regarded as one of the strongest economies on the African continent with well-developed industries and sectors. The research estimated that in South Africa, 91% of formalised businesses are SMEs; this sector alone employs approximately 60% of the country's labour force and contributes approximately 34% towards the country's gross domestic product (GDP) (Banking 2024; Du Plessis 2023; Statistics SA 2023).

The external environment in which a business operates has a great impact on the survivability of the business. However, how the business itself is organised using its internal resources can significantly amplify or mitigate this external influence. This is a corollary of the contingency

theory which has provided a theoretical insight into the survivability of many businesses, and many authors have supported it (Chandler 1962; Luthans 1973; Woodward 1985).

What seems not to have been well understood is if the size of the business has a significant impact on how effective this internal organisation of the business is in mitigating the adversarial external impacts, or taking advantage of the external opportunities (Kitenga, Kilika & Muchemi 2020). This study seeks to fill this gap by treating business size as a moderator in a higher-order structural model implemented using SmartPLS 4. The article is structured as follows: Firstly, the problem and the rationale for conducting the study are introduced. Secondly, a comprehensive literature review is presented. Thirdly, the methodology employed in the study is outlined. Fourthly, the data analysis procedures are elaborated. Fifthly, the findings are discussed. Finally, the article concludes by summarising the key findings, acknowledging the limitations of the study and suggesting potential opportunities for future research.

Theoretical background and literature review

The sustainability of SMEs and other businesses is critical to the performance of any economy, and more so for emerging and developing economies that are grappling with the challenges of unemployment (Mahamotse & Msimango-Galawe 2024). While SMEs are said to be flexible, innovative and adaptable, they rely on their internal capability, government support and industry networks to navigate business challenges and deliver profitable and sustainable operations (Dobbs & Hamilton 2006; Esteve-Perez & Manez 2008). Not many SMEs do so successfully though, as 60% of SMEs fail in their first 3 years of operation when it is no longer profitable or sustainable. This can be because of limited access to domestic and global markets because of their localised nature (Petersen et al. 2020), or limited finance to boost their working capital and cash flow. Depending on the SMEs' power position, they may either accept the command-and-control imposition set by large firms or work towards better negotiation and engagement terms, based on their value proposition to the market (Dobbs & Hamilton 2006; Hong & Jeong 2006). The growth of SMEs may depend on how well they effectively allocate resources through their strategic focus and secure better negotiation terms in the market where they operate (Campbell & Park 2016; Ogundare & Van der Merwe 2024).

Contingency theory is a field of organisational theory that relies on the contingency approach (Mark & Erude 2023). The premise lies in diagnosing the key contingencies in the organisational design. It believes there is no single best way to design or manage an organisation. The management style that is effective in some situations may not be successful in others, and it is contingent upon various internal and external factors. The same is applicable to developing a linkage between strategy and organisation. There is no best way of linking strategy and organisational design. The theory believes that it is only through a contingency approach that organisations can achieve consistency between strategy and organisational design for effective performance (Luthans 1973). Drawing from this theory, SMEs can be regarded as contingent by nature, because of their inherent flexibility and adapting to strategies that better fit the circumstances presented by the external business environment. It is important to understand the nature of the available internal resources of SMEs, and how they are utilised to navigate their external market environment (Esteve-Perez & Manez 2008; Reid 2007). The resource-based theory and Porter's diamond model are used for the identification of internal and external factors on which the contingency theory framework for this study is developed for understanding the SME landscape (Dobbs & Hamilton 2006; Mark & Erude 2023).

In this study, resources are conceptualised as either internal (Cho & Mun 2013), referring to those directly influenced and controlled by the firm, or external, encompassing factors beyond the firm's control that impact its performances (Mahoney & Pandian 1992; Wilk & Fensterseifer 2003). External resources comprise the business environment factors that organisations cannot control, and in spite of this, they must manage and organise themselves to remain competitive and sustain growth. Internal resources are the constructs and resources directly controlled by the organisation, encompassing their acquisition, development, control, deployment and management. The resource-based view of the firm (Campbell & Park 2016; Mahoney & Pandian 1992; Wilk & Fensterseifer 2003; Wernerfelt 1984) highlights the internal characteristics and resources of the firm as explanations for the variations in strategic choices and resulting outcomes, thus serving as a source of competitive advantage. The firm's resources and capabilities are the outcomes of its strategic choices and resource commitments over time, ultimately influencing its performance (Penrose 1959; Rivard, Raymond & Verreault 2006). Table 1 shows the factors under the two theories integrated into the framework for this study.

Business performance relates to the ability of the business to harness its available resources (external and internal) to generate value and sustainably grow the business (Ismanu & Kusmintarti 2019; Reid 2007). Battistoni et al. (2013) state that it is a measure of how the business optimally deploys and executes its strategies through the utilisation of internal resource factors and leveraging the external resource factors to grow sustainably. In this study, relevant metrics for

TABLE 1: Tabulation of the factors covered in the respective theories.

Theory/approach	Resource-based theory (growth of the firm)	Porter's diamond model (competitiveness)
Factors	Social capital	Demand conditions
	Financial resources Human resources Intellectual capital	Factor conditions
	Learning and absorptive capacity	Related and supporting industries
	Strategy	Firm's strategy
	Entrepreneurial orientation	Firm structure

business performance were selected, namely, return on investment (ROI), sales volumes, profit margin, market share, net profit, operational flexibility, cost savings, operational dependability, product quality and the worth of the business (Battistoni et al. 2013).

The relation between Porter's diamond model and the resource-based theory lies in their shared focus on understanding and explaining competitive advantage and performance in business organisations. While they approach the topic from different perspectives, these theories can be integrated to provide a comprehensive framework for analysing the factors that influence the performance of organisations (Campbell & Park 2016). Porter's diamond model examines the external factors and national context in which firms operate. It identifies four interrelated determinants: factor conditions, demand conditions, related and supporting industries and firm strategy, structure and rivalry. These factors shape the competitive environment and influence an organisation's ability to gain and sustain a competitive advantage. On the other hand, the resource-based theory focusses on the internal resources and capabilities of an organisation as the primary sources of competitive advantage. It suggests that firms can achieve superior performance by leveraging their unique, valuable and difficult-to-imitate resources and capabilities.

These theories are integrated from the contingency theory perspective to gain a comprehensive understanding of the factors that contribute to a firm's competitive advantage and performance. It allows for a holistic assessment of both external and internal factors, enabling organisations to develop strategies that align their internal resources and capabilities with the opportunities and challenges present in the external environment (Rampyapedi & Adetunji 2023). By analysing the factor conditions, demand conditions, related and supporting industries, and firm strategy, structure and rivalry within a particular country or industry, organisations can identify external opportunities and leverage their internal resources and capabilities to achieve a competitive advantage and improve their performance.

Summarising, the competitive priorities of SMEs may vary significantly depending on their size, age and the industry they operate (Dobbs & Hamilton 2006; Garcia-Martinez et al. 2023). Many SMEs may not directly compete with large firms because of their limited access to resources. The competitive priority for SMEs is protecting their specialised niche market through which they generate enough profits regardless of the size of their market share (Hong & Jeong 2006). This is consistent with the contingency theory of management, which argues that there is no perfect structure for businesses, but they are best organised in response to their environmental challenges and opportunities (Ismanu & Kusmintarti 2019; Luthans 1973; Mark & Erude 2023).

Research objective and question

The study aims to assess the impact of the size of SME businesses as a moderating variable on how these businesses leverage their internal resources and capabilities to exploit external opportunities or withstand external pressures. Thus, internal factors act as mediators of external factors. The study also intends to understand whether the size of businesses plays a key role in how the mediatory role of the internal factors affects its performance, based on the external factors. Firstly, this study aims to establish how the interaction between external factors and internal factors affects the performance of businesses; and secondly, how size may influence this interaction, with particular interest in SMEs.

Thus, the questions that this study aims to answer are: What is the interrelationship between the external pressure and opportunity factors, and the internal organisation of the resource factors of a business? How does this relationship affect business performance? How does business size influence this interrelationship and its effect?

Hypotheses

H1: The external business environment has a direct influence on the performance of business organisations

The external environment refers to the broader context in which a business operates, encompassing factors outside the immediate control of the organisation. It provides opportunities, challenges and constraints that can impact the performance of organisations in various ways. A favourable market demand, which is characterised by an increasing customer demand and a growing target market, can lead to improved performance for organisations. Understanding and responding to market demand is crucial for organisations to align their offerings and strategies effectively. The influence of demand and supply-side factors on the growth and performance of business organisations has been widely recognised in the literature (Wiklund, Patzelt & Sherperd 2009). In the context of Porter's diamond model, the demand conditions construct refers to the domestic demand that drives competitive advantage, particularly, in industries with larger, dominant and sophisticated markets (Penttinen 2003; Porter 1991; Smith, Fainshmidt & Judge 2016). Another important construct in Porter's model is the industry forces, which pertain to the presence of competitive suppliers and supporting industries that form a cluster within the external business environment (Ozgen 2011). The effectiveness of these suppliers and industries in providing cost-effective inputs and shaping the external business ecosystem can lead to superior competitive advantage (Acs et al. 2009; Audretsch 1996; Audretsch & Keilbach 2006; Kharub & Sharma 2017). The resource-based theory highlights the significance of network resources, particularly external social capital resources, in achieving growth and organisational performance. Strategic alliances with universities, large corporations, financial institutions and other organisations are crucial for complementing a firm's resources to attain sustainable competitive advantage (Baum & Singh 1994). The structure of the network plays a pivotal role in shaping social actions,

influencing performance outcomes and determining the depth and diversity of accessible resources for network participants.

H2: The internal business factors have a direct influence on the performance of business organisations

The internal factors and resources of an organisation shape its capabilities, strategies, operations and overall performance. The development of advanced factors is contingent upon the presence of basic factor conditions, which contribute to superior competitive advantage (Barney 1991a; Grant 1991; Rangone 1999; Smith et al. 2016). Internal resources such as financial capital, human capital, physical assets, technology and intellectual property are critical for organisational performance. These resources provide the foundation for the organisation's activities and enable it to carry out its operations effectively (Campbell & Park 2016). The quality, availability and strategic utilisation of these resources directly impact performance outcomes (Battistoni et al. 2013). Human capital is a facet of factor conditions and comprises skilled labour and the ability to identify opportunities, develop robust processes and procedures tailored to the organisation and enhance industry competitiveness (Ozgen 2011).

Organisational capital, encompassing aspects such as structure, culture, management systems, processes and procedures, has a significant impact on organisational competitiveness, shaping how they are organised and managed by leveraging their internal resources (Porter 2003). Furthermore, it influences the dynamics of domestic competition. The internal structure of an organisation influences its efficiency, communication, decision-making processes and coordination (Campbell & Park 2016; Cho & Mun 2013). A well-designed organisational structure that aligns with the organisation's goals and strategies can enhance performance by enabling effective collaboration, clear roles and responsibilities, and streamlined workflows. Aligning the firm's characteristics with its external environment entails the consideration of factors such as the firm's size, age, and fit within the industry and market. Entrepreneurs tend to rely on firm-specific capabilities, such as strategy and structure, developed and refined over time. This increases their likelihood of identifying new venture opportunities (Ozgen 2011).

The resource-based view (Wernerfelt 1984) supports the strategy determinant within Porter's diamond model (Porter 1991; Smith et al. 2016), asserting that managerial resources available over time are vital for planning, managing growth and sustaining current operations to achieve competitive advantage. Empirical studies have explored the relationship between resource-based fit and small business performance, particularly, in terms of profitability (Slack & Lewis 2002). The resources required for business growth encompass financial, network, human capital and external or operational resources that can be strategically deployed to deliver value and drive business growth. Different organisations have distinct goals and approaches to goal setting (Porter 2003). The internal strategic planning process, supported by clear objectives and the ability to execute strategies effectively, is vital for organisational performance. Effective execution of strategies ensures that goals are achieved, and performance targets are met (Barney 1991b; Campbell & Park 2016; Penttinen 2003; Rangone 1999). The skills, knowledge and expertise of employees directly contribute to organisational performance.

The knowledge spillover theory of entrepreneurship discussed by Acs et al. (2009), Audretsch and Keilbach (2006) and Audretsch (1996) posits that entrepreneurs play a crucial role in commercialising new knowledge generated by research institutions or incumbent companies that are unable or unwilling to exploit their research findings. The unique nature of firms poses challenges for scholars in the knowledge-based school of thought, as it is through continuous learning that decision-makers acquire the critical knowledge resources that are necessary for the evolution and success of their businesses (Dobbs & Hamilton 2006). It is further asserted that entrepreneurial absorptive capacity significantly influences the effectiveness of knowledge spillover transmission by entrepreneurs (Penrose 1959). Absorptive capacity, defined by Cohen and Levinthal (1990) is the ability to recognise the value of new information, assimilate it and apply it to commercial ends, and is a driving force behind competitiveness and business performance (Qian & Acs 2013).

H3: The external business environment factors have a direct influence on the internal factors

The influence of external environmental factors on performance and internal organisational responses has been explored by George and Pillai (2019), Belaya and Hanf (2009) and Zhao, Xie and Wei (2002). The demand condition, as a component of the external business environment, plays a crucial role in shaping the contingent nature of how organisations structure themselves internally to effectively respond to market or industry demands, thus influencing their competitive positioning and sustainable growth (Mark & Erude 2023).

Furthermore, the survival and growth of entrepreneurial firms depend on their ability to cultivate and expand their network of inter-firm relationships (Lechner & Dowling 2003). These relationships facilitate knowledge exchange, resource sharing and collaborative opportunities while contributing to the overall competitiveness and sustainability of entrepreneurial ventures.

H4: Business size moderates the effects of external factors on the internal factors and the impact of external and internal factors on business performance

Business size impacts the level and size of operations (Garcia-Martinez et al. 2023). This translates to the revenue potential the business can attain. The external business factors and internal factors act as enablers for business

performance, and the level of internal factors is impacted by the size of the business and how it can respond to external environmental factors (Campbell & Park 2016; Mark & Erude 2023). Research indicates that business size has a positive impact on business performance as a result of the interaction between internal and external business factors (George & Pillai 2019; Qian & Acs 2013; Reid 2007). The aim of this study is to investigate if business size has a moderating impact on the relationship between the internal and external factors, and their effects on business performance.

To model the relationships between these factors, a hierarchical structural model is proposed as depicted in Figure 1. This model includes seven exogenous reflective first-order factors, which are categorised as two second-order factors, external and internal factors. These second-order factors serve as predictors of the response variable, business performance.

Research methodology

Design of the research instrument

Data for this study were collected using a survey questionnaire (Appendix 1). The questionnaire was developed based on an extensive review of the relevant literature and consisted of items designed to measure the external and internal factors, and business performance. It was structured into three sections. Section A contains demographic information from the respondents, including their roles in the organisation, years of experience with the organisation and the number of employees in their organisation. Section B.1 included consolidated items related to the internal and external factors. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used. The variables covered in this section included external factors such as demand conditions, related and supporting industries, and social capital, as well as internal factors such as factor conditions, firm structure, firm strategy and entrepreneurial orientation. Section B.2 was designed to measure the performance of the organisation, also using a five-point Likert scale. The variables were used to assess performance included ROI, sales volumes, profit margin, growth in sales volume, market share, growth in market share, return on own capital, net profit, operational flexibility, cost saving, dependability, product and service quality and the present value of the firm (Slack & Lewis 2002).

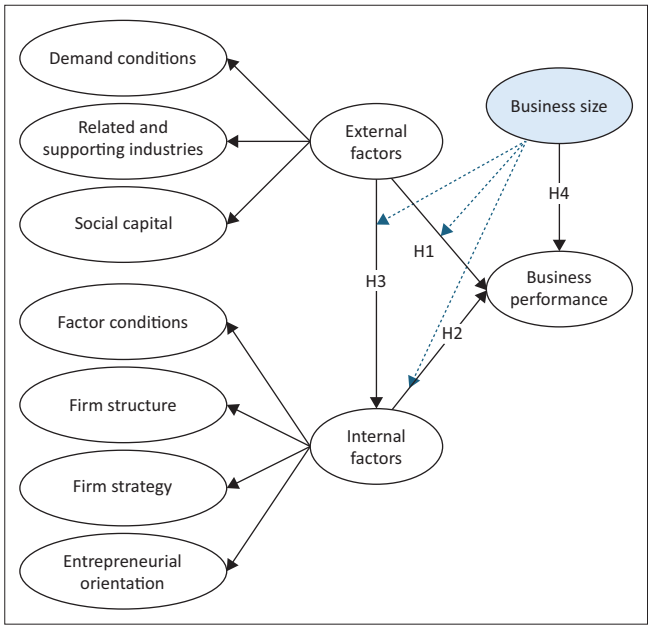


FIGURE 1: Higher-order structural model of factor relationships.

The survey was administered by emailing the questionnaire and providing a Google Form link to 650 business representatives in South Africa. A total of 465 complete responses were received, resulting in a response rate of 71.5%. A total of 42% of respondents were micro and small businesses, 41.2% were medium-sized businesses and 16.8% were large businesses. The respondents included firms from various industries such as manufacturing, financial services, e-commerce, agriculture, education and information technology.

Analysis and results

Data analysis was carried out using the multivariate statistical analysis software package, SmartPLS 4.1. The quality of the constructs is assessed based on the evaluation of the measurement model and their respective measurement items. The evaluation of the quality criteria begins with the assessment of factor loadings, subsequently followed by establishing construct validity.

Evaluation of the measurement model

In this study, a total of 50 measurement items that were finalised after pretesting and refining the questions were initially employed to measure the constructs in the model (Appendix 1). The number of measurement items was subsequently reduced to 32 as construct reliability and validity of the three latent variable factors were evaluated.

Items with factor loading of less than 0.5 (Hair, Babin & Krey 2017) were removed from the study. This poses no risk to the model as factors were reflectively measured, and there were still sufficient indicator variables for each factor. Table 2 shows the factor loadings for retained items. The factor loading results were all positive and above 0.7, with only RSI3 being slightly less at 0.632.

Each construct in the study has a Cronbach's alpha value greater than 0.70, indicating that the measurement items effectively captured the intended concepts consistently. Furthermore, the composite reliability of each construct exceeded 0.80, indicating the high reliability of the measurement scales employed. The average variance extracted (AVE) values for all constructs exceeded 0.50, demonstrating strong convergent validity of the factors. Notably, the AVE

value for the Related and Supporting Industry construct was 0.531, while the remaining constructs exhibited higher values. The results, presented in Table 3, confirm that all constructs possess discriminant validity as the HTMT values do not include 1, as outlined (Hair et al. 2021).

Discriminant validity was further assessed by Fornell and Larcker's criterion (Fornell & Larcker 1981) and confirmed with the square root of the AVE for each construct surpassing its correlation shown in bold (Table 4) with all other constructs (Table 4), further supporting the HTMT outcomes in Table 3.

Validating higher-order constructs

External factors and internal factors were modelled as higher-order constructs comprising three demand conditions (DC), related and supporting industries (RSI), and social capital (SC) and four entrepreneurial orientation (EO), factor conditions (FC), firm structure (FS) and firm strategy (FSTR) lower-order constructs, respectively.

The lower-order constructs exhibited statistically significant loadings on the higher constructs, as indicated by their values exceeding 0.5, and all their *p*-values being zero (Hair et al. 2021). The presence of collinearity among the constructs was assessed using the variance inflation factor (VIF) whose values were found to be below the threshold of 5 (Hair et al. 2017), indicating the absence of collinearity issues. Thus, all requirements were satisfied, confirming the validity of the higher-order construct (HOC) as presented in Table 5.

TABLE 2: Factor loadings.

Variable	BP	DC	EO	FC	FSTR	FS	RSI	SC
BP1	0.85	-	-	-	-	-	-	-
BP2	0.82	-	-	-	-	-	-	-
BP3	0.84	-	-	-	-	-	-	-
BP4	0.85	-	-	-	-	-	-	-
BP7	0.84	-	-	-	-	-	-	-
BP8	0.83	-	-	-	-	-	-	-
DC1	-	0.71	-	-	-	-	-	-
DC2	-	0.83	-	-	-	-	-	-
DC4	-	0.77	-	-	-	-	-	-
DC7	-	0.74	-	-	-	-	-	-
EO1	-	-	0.75	-	-	-	-	-
EO2	-	-	0.84	-	-	-	-	-
EO6	-	-	0.86	-	-	-	-	-
EO7	-	-	0.87	-	-	-	-	-
FC6	-	-	-	0.80	-	-	-	-
FC7	-	-	-	0.88	-	-	-	-
FC8	-	-	-	0.85	-	-	-	-
FSTR1	-	-	-	-	0.82	-	-	-
FSTR2	-	-	-	-	0.87	-	-	-
FSTR3	-	-	-	-	0.86	-	-	-
FS2	-	-	-	-	-	0.78	-	-
FS5	-	-	-	-	-	0.83	-	-
FS6	-	-	-	-	-	0.81	-	-
RSI1	-	-	-	-	-	-	0.75	-
RSI2	-	-	-	-	-	-	0.73	-
RSI3	-	-	-	-	-	-	0.63	-
RSI4	-	-	-	-	-	-	0.80	-
SC1	-	-	-	-	-	-	-	0.77
SC2	-	-	-	-	-	-	-	0.76
SC5	-	-	-	-	-	-	-	0.74
SC6	-	-	-	-	-	-	-	0.72
SC7	-	-	-	-	-	-	-	0.79

BP, business performance; DC, demand conditions; EO, entrepreneurial orientation; FS, firm structure; FC, factor conditions; FSTR, firm strategy; RSI, related and supporting industries; SC, social capital.

Evaluating the structural model

Structural equation modelling is the assessment of the hypothesised relationship to substantiate the proposed hypothesis. The results are shown in Table 6.

Business performance and internal factors had R^2 values of 0.221 and 0.647, respectively; therefore, they can be considered as weak and moderate influences, respectively. The coefficients of determination (R^2) explain the variance of the endogenous factors traced to the exogenous variable and determine the explanatory power of the relationship between the predictor and the endogenous variable in a path model (Henseler & Ringle 2009; Wong 2019). An endogenous

TABLE 3: Reliability and validity results.

Construct	Cronbach's α	Composite reliability	AVE	Discriminant validity (HTMT)
BP	0.92	0.94	0.70	Does not include 1
DC	0.76	0.77	0.58	Does not include 1
EO	0.85	0.86	0.70	Does not include 1
FC	0.80	0.82	0.71	Does not include 1
FS	0.73	0.73	0.65	Does not include 1
FSTR	0.80	0.81	0.72	Does not include 1
RSI	0.71	0.72	0.53	Does not include 1
SC	0.81	0.82	0.57	Does not include 1

AVE, Average variance extracted; BP, Business performance; DC, Demand conditions; EO, Entrepreneurial orientation; FC, Factor conditions; FS, Firm structure; FSTR, Firm strategy; HTMT, Heterotrait-monotrait; RSI, Related and supporting industries; SC, Social capital.

TABLE 4: Discriminant validity, Fornell–Larcker criterion results.

Construct	BP	DC	EO	FC	FS	FSTR	RSI	SC
BP	***0.84***	-	-	-	-	-	-	-
DC	0.19	***0.76***	-	-	-	-	-	-
EO	0.20	0.61	***0.83***	-	-	-	-	-
FC	0.38	0.40	0.47	***0.84***	-	-	-	-
FS	0.32	0.60	0.71	0.58	***0.80***	-	-	-
FSTR	0.24	0.62	0.68	0.42	0.74	***0.85***	-	-
RSI	0.31	0.67	0.58	0.51	0.63	0.59	***0.73***	-
SC	0.42	0.55	0.54	0.66	0.68	0.54	0.65	***0.76***

Note: Construct surpassing its correlation are shown in bold.

BP, business performance; DC, demand conditions; EO, entrepreneurial orientation; FS, firm structure; FC, factor conditions; FSTR, firm strategy; RSI, related and supporting industries; SC, social capital.

TABLE 5: Path coefficient, effects and loading results.

HOC	LOCs	Outer weight	*t*-statistics	*p*	Outer loadings	VIF
External Factors	DC	0.13	02.21	0.00	0.70	1.89
	SC	0.71	12.63	0.00	0.96	1.80
	RSI	0.28	04.66	0.00	0.82	2.27
Internal Factors	FC	0.49	07.73	0.00	0.85	1.52
	FS	0.43	05.23	0.00	0.90	3.11
	FSTR	0.16	02.62	0.00	0.75	2.52
	EO	0.09	11.10	0.00	0.74	2.28

HOC, higher-order construct; LOC, lower-order construct; VIF, variance inflation factor; DC, demand conditions; FC, factor conditions; FSTR, firm strategy; RSI, related and supporting industries; SC, social capital; EO, entrepreneurial orientation.

variable with an R^2 value of 0.75, 0.5 or 0.25 can be categorised as strong, moderate or weak, respectively (Hair et al. 2017). This indicates a moderate influence of external factors on internal factors and business performance.

The effect size, f^2, explains how the value of R^2 changes for the dependent variable when a certain exogenous variable is removed, and it was calculated using Cohen's f^2 formula (Hair et al. 2017; Wong 2019). The guidelines for assessing f^2 are values of 0.35, 0.15 and 0.02, respectively, representing high, medium and small effects of an exogenous variable on the endogenous variables. The effect of excluding external factors on the internal factors' endogenous variable, was high as they were higher than 0.35 at 1.728. The predictive relevance is explained by the Stone–Geisser value, Q^2. The Q^2 values of all the endogenous variables were higher than 0 at 0.205 and 0.635, respectively, indicating that the model has good predictive relevance.

Moderation analysis

Hypothesis 4 (H4) assessed the moderating effect of business size on the relationship between external environmental factors, internal business factors and business performance. The results supported H4. Table 7 presents the coefficients for the moderating effects of business size on the various paths. Positive moderation reinforces the relationship between the two interacting variables, whereas negative value suggests a weakening of the relationship between the two variables. The moderating effect of business size at negative 1 standard deviation (-1 SD) from the expected level is depicted by the red line; the effect at positive 1 standard deviation (+1 SD) is shown by the green line, while the slope at the expected value is shown in blue.

The moderating effect of business size on the relationship between external business factors and business performance

The path coefficient value is -0.117 and the *p*-value of 0.039, which is statistically significant. This supports the hypothesis that business size affects the relationship between external factors and business performance. Figure 2 depicts the slope analysis of the business size acting as a moderator for the relationship between these factors (Hart & Oulton 1996). The result indicates that when the business size is smaller, there is a stronger influence of the external environment on the business performance as indicated by the steeper slope of the red line. This may suggest that the vagaries of the external business environments have more impact on the performance of smaller businesses.

The moderating effect of business size on the relationship between internal business factors and business performance

The path coefficient value is 0.014 with a *p*-value of 0.426 which is statistically insignificant ($p > 0.05$) thus rendering the hypothesis unsupported, indicating that business size does not have a direct moderating effect on the relationship between internal factors and business performance.

The moderating effect of business size on the relationship between the external environmental factors and the internal business factors on business performance

The path coefficient value is 0.082 and the *p*-value of 0.000, which is statistically significant ($p < 0.05$), indicating that business size has a positive moderating effect on the relationship between external factors and internal factors on business performance.

Figure 3 depicts the effect of business size moderating the relationship between external and internal business factors. The impact of the positive moderation can be seen in the increased slope of the green line (1 SD above the typical size), and compared to the decrease for smaller businesses (-1 SD above the typical size); hence, the relationship strengthening as business size increases (Hart & Oulton 1996), suggesting that bigger businesses organise their resources more in response to the vagaries of the external factors (Geroski 1995).

Mediation analysis

Furthermore, an assessment was carried out on the mediating effect of the internal factors on the relationship between

TABLE 6: Path coefficient and effects results.

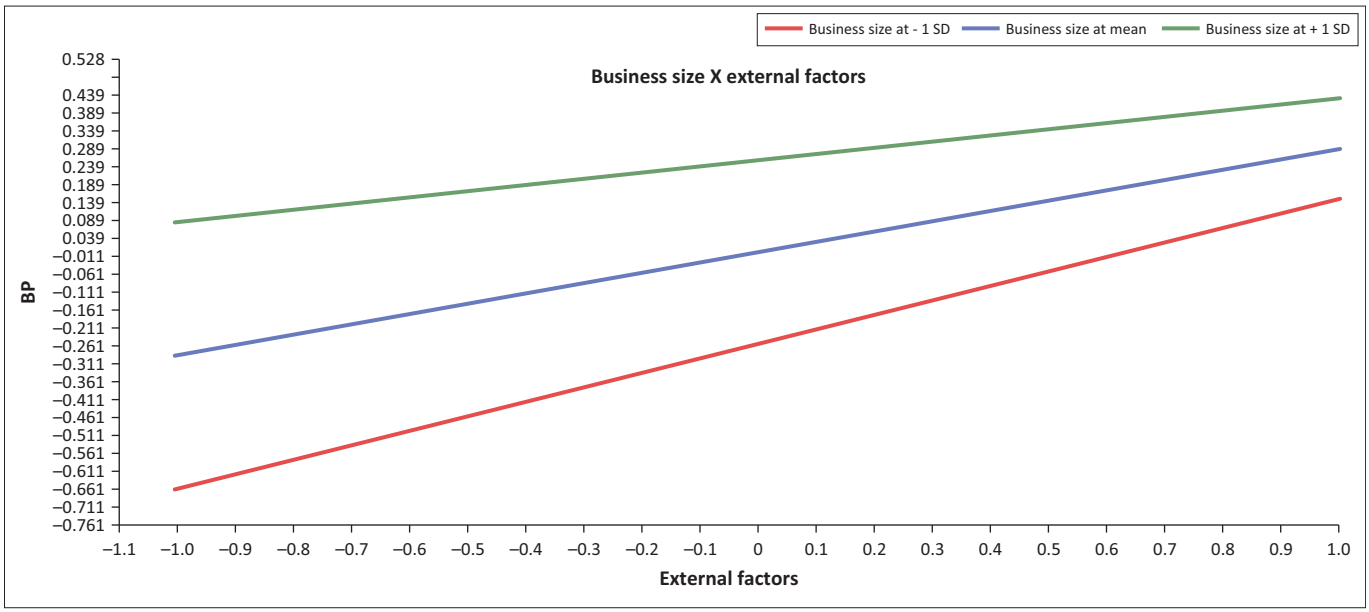
Hypotheses	Path coefficient	*t*-value	*p*	Result
H1: External business environment factors have a direct and positive influence on the performance of business organisations	0.26	3.59	0.000*	Supported
H2: Internal business factors and resources have a direct and positive influence on the performance of business organisations	0.14	2.35	0.009*	Supported
H3: The external business environment factors have a direct and positive influence on the internal factors	0.79	39.27	0.000*	Supported

*, Relationships are considered significant at $p < 0.05$.

TABLE 7: Path coefficient of the effect of the moderator on business performance.

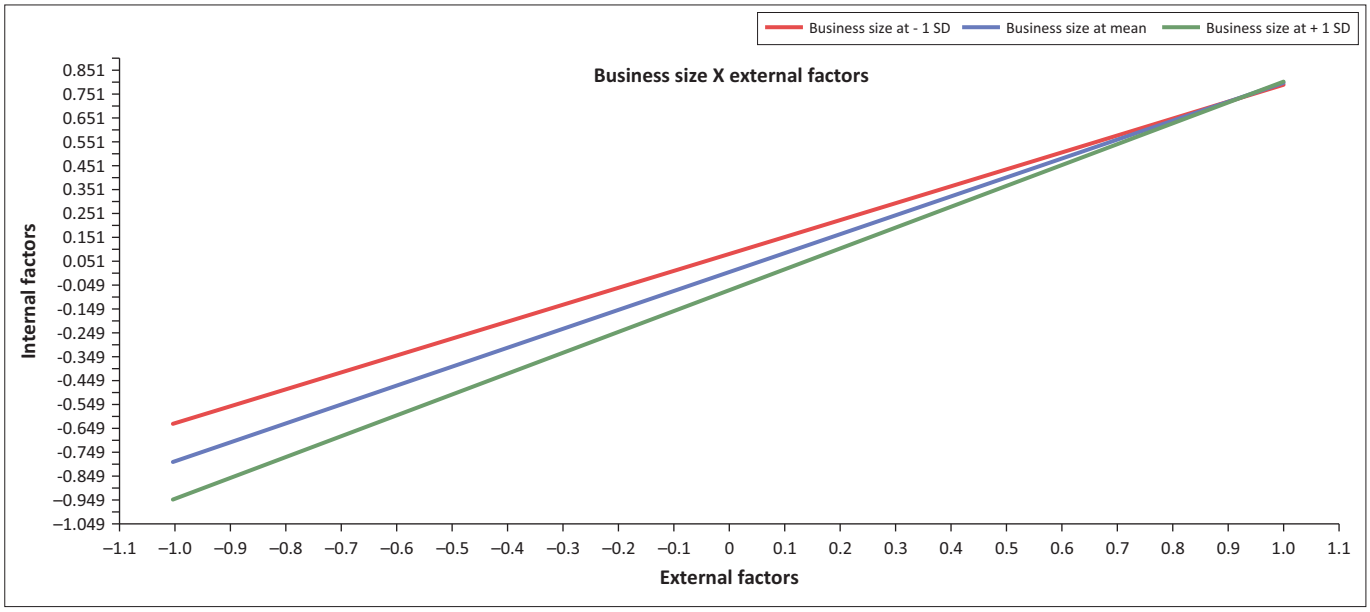
Hypothesis testing	Effect of	On (Moderator X Construct A>> Construct B)	Overall		
			Path coefficient	*t*-value	*p*
H4: Supported	Business size X	External factors >> BP	-0.12	1.77	0.039
		Internal factors >> BP	0.01	3.13	0.426
		External factors >> Internal factors	0.08	0.19	0.001

BP, business performance.



BP, business performance; SD, standard deviation.

FIGURE 2: Graphical representation of the moderating effect of business size on external factors and business performance.



SD, standard deviation.

FIGURE 3: Graphical representation of the moderating effect of business size on external factors and internal factors.

the external factors and the performance of business organisations. The first step was determining the significance of the indirect effect ($\beta = 0.113$ $t = 1.688$, $p = 0.034$), which was significant, followed by an assessment of the direct effect ($\beta = 0.288$, $t = 3.790$, $p = 0.000$), which was also significant. If the direct effect is insignificant, then full mediation is achieved if the indirect effect is significant. The results revealed that both indirect and direct effects were significant, rendering the mediation by internal factors as complementary partial mediation, with the total effect that is significant ($\beta = 0.406$, $t = 8.596$, $p = 0.000$). The product of all three path weights is also positive, as paths from internal factors to business performance, external factors to business performance and external factors to internal factors were all positive. Variance account factor (VAF) is used to calculate the magnitude of the mediation effect. It is calculated by dividing the indirect effect by the total effect. If the value exceeds 20%, it indicates partial mediation while values greater than 80% indicate full mediation (Wong 2019). The calculated VAF was 27.8% (0.113/0.406) indicating complementary partial mediation because both direct and indirect effects are positive.

Importance-performance map analysis

The Importance-Performance Matrix Analysis (IPMA) extends the standard PLS-SEM results reporting path coefficient estimates and other parameters by adding a procedure that considers the performance level of latent variables and manifest variables in a PLS-SEM analysis

(Hair et al. 2017). The application of IPMA provides insights into the importance of the predictor variables to the target construct in the study. The results of IPMA help to prioritise the variables to achieve progressive improvement in the target construct. The guidelines provided by Hair et al. (2021) were utilised in conducting the analysis. The results for the lower-order constructs reveal social capital (SC) as an important variable. The first-order importance-performance is presented in Table 8, and Figure 4 and Figure 5, showing the higher-order variables' performance effect.

The presence of business size as a moderating variable in the IPMA analysis for the model shows complementing results that indicate that social capital is the most important construct offering higher performance than other lower - (first-) order constructs (Figure 5).

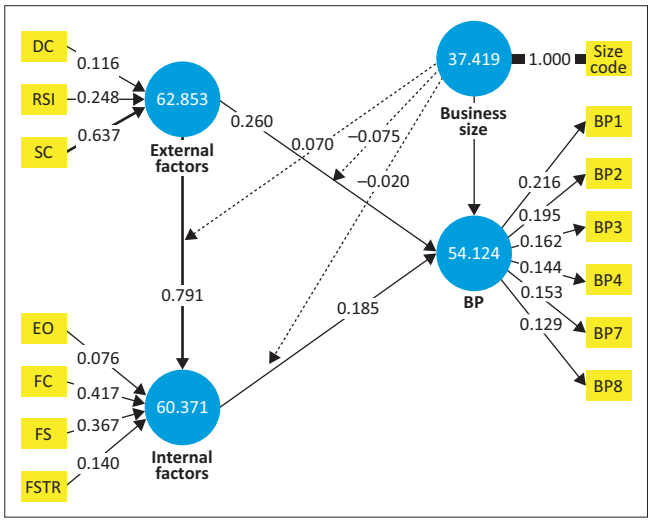
The higher-order constructs' importance-performance relationship was also analysed. The IPMA rescales the data to demonstrate performance scores on a scale from 0 to 100, and importance is measured by the total effects of the variables. The IPMA results indicate that the latent variable 'external factors' demonstrates large importance and a higher performance relative to the latent variable 'internal factors' (importance = 0.400, performance = 62.853). The internal factors variable exhibits a very low importance level at 0.185 while having relatively the same level of performance as the external factor variable at 60.371, thus indicating performance interrelatedness between the two latent variables.

TABLE 8: Importance-performance table for the first-order variables with the presence of business size as a moderating variable.

Construct	LV importance	LV performances
BP	-	51.12
DC	0.05	72.90
EO	0.02	67.80
FC	0.09	54.72
FS	0.08	62.14
RSI	0.11	61.20
SC	**0.29**	**61.67**
FStr	0.03	68.53

Note: Bold values demonstrate the construct that had the highest Importance factor of 0.29 with a corresponding high performance value of 61.67 compared to other constructs.

BP, Business performance; DC, Demand conditions; EO, Entrepreneurial orientation; FC, Factor conditions; FS, Firm structure; FSTR, Firm strategy; LV, Latent Variable; RSI, Related and supporting industries; SC, Social capital.



BP, business performance; DC, demand conditions; EO, entrepreneurial orientation; FS, firm structure; FC, factor conditions; FSTR, firm strategy; RSI, related and supporting industries; SC, social capital.

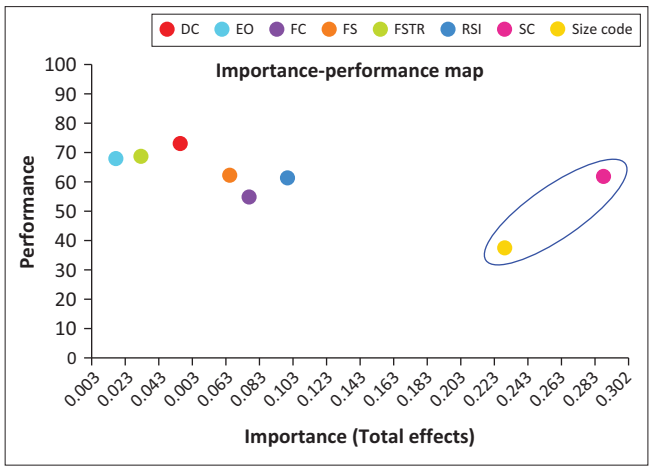
FIGURE 4: Importance-performance map showing the latent variables' performance effect.

Discussion

The objective of this study was to establish an understanding of the impact of business size as a moderator on the effects of the external market environment and internal business factors on the performance of micro, small and medium businesses in South Africa. The study also explored the role of internal factors as a mediator in the relationship between external factors and organisational performance. The findings revealed that internal factors serve as mediators in the relationship between external factors and the performance of business organisations. However, the results also demonstrated that external factors have a direct impact on organisational performance.

The study emphasises the significance of high-demand conditions, such as industry growth and maturity, in enhancing the survival, growth and performance of businesses. According to Porter (2003), domestic competition is considered the most influential construct in the model, as it stimulates other factors and drives companies to adopt flexibility, cost-effectiveness, quality improvement, innovation and evolution (Slack & Lewis 2002).

Hypothesis 1 posits that external factors have a direct positive impact on the performance of business organisations in South Africa. The findings of the study supported this hypothesis, as indicated by a significant structural coefficient. Notably, specific external factors such as demand conditions, which consider the market demand, particularly, the domestic market, exhibited a strong



DC, demand conditions; EO, entrepreneurial orientation; FS, firm structure; FC, factor conditions; FSTR, firm strategy; RSI, related and supporting industries; SC, social capital.

FIGURE 5: Importance-performance matrix for the first-order constructs.

influence on external factors and their impact on organisational performance. Robust domestic demand for a business' products or services is crucial for its growth, market expansion and improved performance (Penttinen 2003; Rangone 1999). Similarly, related and supporting industries, along with the social capital of the organisation, emerged as critical factors influencing business performance, ensuring the availability of competitive suppliers and supporting industries. These factors contribute to industry competitiveness, compelling businesses to forge stronger alliances and networks within their supply chain, thereby leveraging resources and gaining a competitive advantage. Consequently, organisations can deliver superior products and services, ultimately enhancing their performance. The results also highlighted the substantial influence of related and supporting industries and social capital on the higher-order construct and external factors, thereby directly and positively impacting business performance.

The study further demonstrated that external factors directly influence the management, allocation and utilisation of internal business resources. The results indicated a strong path coefficient between external factors and internal factors, providing support for the hypothesis that external factors exert a direct and positive influence on the organisation of internal resources. Internal factors, such as factor conditions, encompassing all production factors necessary for delivering products and services that meet market requirements, are crucial for attaining a positive business performance. Insufficient or absence of factor conditions could pose challenges in delivering value in line with market requirements, thereby impeding business performance. Moreover, firm structure, firm strategy and entrepreneurial orientation emerged as key internal factors facilitating effective utilisation and management of business resources, positioning the organisation to leverage external factors such as demand conditions to meet market requirements and achieve better performance, thus supporting the validity of hypothesis 2. Internal factors alone exhibited only a partial impact on organisational performance; however, the study results indicated that internal factors indeed mediate the relationship between external factors and business performance, further supporting hypotheses 3 and 4.

This article's key focus was on investigating the moderating impact of business size on the relationships between the three latent variables, namely: external and internal factors on business performance; the direct relationship between external factors and business performance; and the direct relationship between internal factors and business performance, as outlined in hypotheses 4. The hypothesis was supported, indicating that business size has a moderating effect on the relationship between external factors and internal factors on business performance.

Management and consultative implications

The study showed that business size plays a key role in the performance of businesses. The IPMA assessment results revealed the relative importance and performance of resource factors (external and internal) and their indicators to the target construct, which is the performance of businesses.

The presence of business size as a moderating variable in the IPMA analysis for the model shows complementing results that indicate that social capital is the most important construct, inducing higher performance than other lower-order constructs (Figure 5). The results also indicated that the external factors' latent variable demonstrates large importance and a higher performance relative to the internal factors' latent variable. It explains how important the environment in which businesses operate is towards the performance and survival of small businesses. Policymakers need to place sufficient emphasis on the creation of a conducive environment for businesses to thrive. Additionally, efforts made by policymakers in enabling businesses to acquire the competence to manage their internal resources (e.g. providing rebates on investment in learning and skills development) complements the efforts of the policymakers, thereby making the economy grow better and create jobs, as these SMMEs are able to harness the opportunities presented by their operating environment or mitigate their adversarial impact better during the economic downturn.

Conclusion

The researchers believe this is the first empirical study that analysed the moderating effect of business size on the relationship between external business environment factors, internal business factors and business performance in a developing country, where South Africa is used as a case study. The findings suggested that external factors such as market demand conditions, related and supporting industries and social capital, have a direct and positive impact on the performance of organisations. In addition, the study indicated that the internal business factors of an organisation have a direct effect on how the external factors are leveraged to drive business performance. The role of business size is key to the performance of business organisations, and for small businesses to perform better, they require adequate support as size may give bigger businesses some advantage. The result of the study extends the outcome of the study conducted on SME business in Indonesia, where the direct impact of business size on business performance was studied (Ismanu & Kusmintarti 2019).

Organising internal business factors is critical in the performance of any organisation, and it mediates the effects of external business environmental factors on business continuity and organisational performance. Small and medium enterprises have indicated several challenges they face, and among them is access to resources and funding (Esteve-Perez & Manez 2008). The study also emphasises the importance of internal resource factors to the success of businesses. Structural reforms and policies should be strengthened in supporting and enabling SMEs to grow their

businesses to gain continued economic growth. The social capital constructs outlined in Table 8 with bold values suggest that for better performance of business organisations, businesses must strive for better diversification of their network channels and form meaningful associations within the industry they operate in to enable higher business performance.

The limitation of the research was that the sample was limited to South African business organisations, howbeit from various industries. The study can be extended to business organisations in other developing countries.

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

K.P.R. and O.A. contributed equally to the manuscript and worked together on the article under the abovementioned capacities.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Pretoria, EBIT Ethics Committee (Ref. EBIT/40/2021).

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

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Appendix starts on the next page →

Appendix 1: Survey questionnaire items

Section A: Respondent demographics

1. What is your role or job title?
2. Number of years in the organisation?
3. Number of years in the current role?
4. What type of industry your organisation is in?
5. Number of employees in your organisation
6. Organisation's years of operation

Section B1: Please indicate the appropriate response that best describes your opinion with regards to the factors affecting your organisation: 1 – Strongly disagree, 2 – Disagree, 3 – Neither 4 -Agree, 5 – Strongly Agree

Demand conditions: -

1. Our industry's domestic market is large
2. Our industry's domestic demand has a positive growth pattern
3. Our industry has a periodical increase in domestic demand
4. There is advancement of our customer's product/service needs
5. Our industry has export potential
6. Our industry has plans to expand beyond our domestic market
7. There is a growing demand for our industry's products and services outside our domestic market

Related and supporting industries: -

8. Technology upgrading of our downstream industries is strong
9. R&D Investment by our service providers in their organisation is extensive
10. Concentration of the companies and other institutions within our geographical location is high
11. Product and service development of our downstream industries is strong
12. Quality of service delivery from our vendors is very high
13. Our downstream industries are very competitive
14. Private–Public Partnership within our related and supporting industries is strong

Social capital: -

15. Our organisation's network ties within our industry are strong
16. Our organisation's network connections are diverse
17. The size of our network connections is bigger relative to that of our competitors
18. Our organisation's social media presence is strong
19. Our organisation has a great association with our industry counterparts
20. Our organisation is regarded as an expert in our industry
21. Our organisation has a strong influence within our industry
22. Our organisation is a strong and regular participant in our industry seminars and conferences

Factor conditions: -

23. Our organisation has enough natural resources (land, water, etc.)
24. Our organisation has enough physical resources (building, facilities, equipment, plant, material, IT, security, etc.)
25. Our organisation has enough financial resources (internal funding, external funding, reserves, access to credit, etc.)
26. Our organisation has enough unskilled labour
27. Our organisation has enough skilled labour
28. Our organisation has enough production and process technology
29. Our organisation has enough Scientific and Technology information
30. Our organisation has enough communication infrastructure

Firm structure: -

31. Our organisation's quality management practices are up to standard
32. Our organisation's information flow within the firm is efficient
33. Our organisation's internal bureaucracy is high

34. Compared to our competitors, our organisation's relative firm size (number of staff) is large
35. Compared to our competitors, our organisation has internal coordination
36. Our organisation has standardisation of processes and procedures

Firm strategy: -

37. Our organisation's growth objectives are clear and achievable
38. Our organisation's strategic planning is well-thought through
39. Our organisation's strategic planning covers all our strategic goals
40. Our organisation has a clear market differentiation
41. Our organisation has better access to distribution channels relative to our competitors
42. Our organisation reviews and updates its strategic goals
43. Our organisation actively tracks its deliverables against its strategy

Entrepreneurial orientation: -

44. Compared to our competitors our organisation has a high speed of knowledge creation
45. Compared to our peers our organisation is highly proactive in innovative developments
46. Compared to our competitors, our organisation has a high tolerance for taking risks
47. Compared to our competitors, our organisation attracts better creative employees
48. Our organisation embraces failure and takes learnings from them
49. Our organisation supports learning and failing fast as an approach to being innovative
50. Our organisation always tries new ideas and see them through to completion

Section B2: Please indicate the appropriate response that best describes your opinion with regards to the competitiveness of your organisation: 1 – Much below average, 2 – Below average, 3 – Average, 4 – Above average, 5 – Much above average. How will you compare your organisational performance to the general industry average based on each of the following metrics: -

Return on Investment (ROI)
Sales Volumes
Profit Margin
Growth in Sales Volume
Market share
Growth in market share
Return on own capital
Net profit
Operational flexibility
Cost saving
Dependability
Product and service quality
Present value of the firm