

RESEARCH ARTICLE:

## Internal Management Systems and Supply Chain Relationship Commitment in State-Owned Enterprise in Gauteng Province

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### Abstract

*Internal management systems (IMS) are a set of techniques that drive enterprises to remain competitive throughout their existence. For state-owned enterprises (SOEs) to discover their constraints, the impact of IMS on supply chain relationship commitment must be investigated. The paper aims to examine the influence of IMS on supply chain relationship commitment in SOEs in Gauteng Province. A quantitative method was adopted for the study and a questionnaire was distributed physically and electronically to 863 respondents drawn from SOEs in Gauteng Province. Information was analysed through two software packages, namely SPSS (version 27.0) and Smart PLS 3.0. A confirmatory factor analysis was applied in examining and testing the relationships between innovation, knowledge management, behaviour integration, total quality management, safety management on supply chain relationship commitment and their causal latent constructs while structural equation modelling helped in testing the hypothesised relationships among variables. The investigation concludes that to achieve efficient supply chain relationship commitments, SOEs should examine the levels of innovation, knowledge management, behaviour integration, total quality management and safety management.*

**Keywords:** state-owned enterprises; innovation; knowledge management; total quality management; supply chain

### Introduction

In South Africa, SOEs are seen as crucial in providing products and services that might not be adequately covered by privately-owned enterprises (Madumi, 2018). The government intervenes through the creation of SOEs to ensure that essential goods and services reach all segments of the population. In other words, the state serves the interest of the public by providing scarce products and service delivery to society (Lei and Xu, 2019). However, there have been challenges with mismanagement in some SOEs in South Africa, leading to financial difficulties and the need for government bailouts (Mafukata and Musitha, 2018). These issues can stem from a lack of proper governance, misallocation of resources and other managerial problems (Dash *et al.*, 2018). The enormous debts that SOEs have incurred are a serious threat to the economy and most are not delivering products and services they are mandated to provide (Mutize and Tefera, 2020). Enhancing supply chain relationship commitment calls for the strengthening of SOEs innovation, knowledge management, behaviour integration, total quality management and safety management (Feng, 2020). The dynamics of change in these areas can impact the overall performance of SOEs' supply chain management, both in the short and long term (Sari *et al.*, 2018). Therefore, understanding and effectively managing these elements are crucial for the sustainable operation of SOEs and their contributions to the economy and society.

The failure of SOEs has had a negative impact on the way of life of South Africans by increasing the cost of the services they provide (Nkosi, 2020). The majority of South Africans bear the brunt of constraints and breakdowns in service

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delivery and increased risk to citizen safety because of their failures (Coetzee and Bezuidenhout, 2019). Furthermore, the increase in value-added tax (VAT) that has negatively affected South African citizens would have not been implemented if SOEs were not financially drained. Government bailouts and support to the balance sheets of failing SOEs may break South Africa's financial position, which it has maintained with increasing difficulty over the past years (Carlson and Bussing, 2020). The funds used to bailout failing SOEs could have been used to address precarious community services (health, housing and education), instead these funds are channelled at maintaining failures led by their mismanagement (Madumi, 2018). If drastic reforms are not taken, SOEs debt can force the country to seek bailout from the World Bank and International Monetary fund. Gross debt for the 2018/2019 financial year revised by the South African National Treasury pushed upward to 55 percent of growth domestic product (GDP) caused mostly by mismanagement, corruption and inefficiencies at SOEs (Gumede, 2018). The failure of South African SOEs has a combined debt of about R2 trillion. Eskom on its own has a debt amounting to 8 percent of South African GDP (Wandrag, 2019). Thus, the study aims to investigate the influence of internal management systems and supply chain relationship commitment SOEs in Gauteng province.

Across the globe, SOEs are referred to by diverse names, such as state-owned entities, government corporations, public companies, government-linked companies, public sector enterprises, parastatals and state enterprises, among others (Siringo-Ringo *et al.*, 2020). In the context of the study, the term SOEs pertains to state-owned enterprises. The term "enterprise" itself denotes an organised process of strategic decision-making primarily aimed at generating profit (Levytskyi, 2020), signifying that the state is involved in profit-making ventures. The nomenclature for SOEs encompasses an array of legal classifications determined by factors including the entity's primary purpose, founding, position within the public administration hierarchy, nature especially during privatisation and the level of government ownership (Gliniecki and Zaleska-Korziuk, 2017: 100). The diversity in SOEs forms governments flexibility but can also complicate ownership policies, leading to reduced transparency and insulation from legal terms applicable to other enterprises, which including securities, competition and bankruptcy laws (Daiser *et al.*, 2017). SOEs today are faced with a market environment characterised by rapid technological change, short production life cycles and competition on a global scale (Du and Wei, 2021; Okumura *et al.*, 2021). It is important for SOEs that are technologically driven to be more creative and innovative to survive, grow and to become competitive (Van Veldhoven and Vanthienen, 2021). Innovation (IN) is essential for the success of SOEs to acquire competitive advantage in a vital market economy (Qiu *et al.*, 2020). Hence, there is a high price for an innovative product/service (Sazonov, 2020). IN is implemented everywhere today. SOEs are including the term IN in their mission, vision, goal and objective statement (Purwanto *et al.*, 2021). However, for SOEs to be successful, it must be understood that IN is part of a continuum that ranges from minor incremental changes to major radical transformation of product/service offered (Ramlogan *et al.*, 2021).

The study is rooted in Henri Fayol's Administrative Management Theory, a seminal management approach developed in 1916 based on Fayol's personal managerial insights (Yadav, 2020). The theory delineates five pivotal management functions, including planning, organizing, commanding, coordinating, and monitoring, along with fourteen fundamental management principles that underpin effective organizational management (Greve *et al.*, 2019). In the context of South African SOEs, the study recognizes the enduring applicability of five pivotal management functions and posits that synergizing these principles with innovation, knowledge management, behaviour integration, total quality management, safety management and supply chain relationship commitment. Thus, the Implementation of five pivotal management functions in SOEs can bolster performance in the dynamic and competitive business environment (Huang *et al.*, 2019; Greve *et al.*, 2019). The administrative management theory provides valuable insights and principles that contribute to the supply chain relationship effectiveness (Yadav, 2020). Through effective corporate management functions, which are planning, leading, organising and controlling, SOEs can optimise their supply chain relationship commitment, improve customer satisfaction, and gain a competitive edge (Godwin *et al.*, 2017). Supply chain relationship commitment (SCRC) enables SOEs to establish a lasting relationship with their partners and improve the level of competency (Usui *et al.*, 2017). SOEs SCRC consists of two types; first, normative SCRC, which is a mutual ongoing relationship over a certain period based on mutual commitment and sharing (Kaplan and Kaplan, 2018). Trust plays a vital role in a normative SCRC, in that SOEs trusts that a partner will not act opportunistically (Wang *et al.*, 2018). Second, instrumental SCRC, which is based on compliance (Saridakis *et al.*, 2020). SOEs can enter in a relationship with another enterprise in the belief of receiving favourable reactions (Tekleab *et al.*, 2020). However, the behaviour of SOEs cannot be explained solely on economic factors but should also consist of social factors, including repeated

exchange, present or future obligations and trust that has involved parties who will fulfil their agreed obligations (Archimi *et al.*, 2018).

Knowledge management (KM) is important to SOEs because it enhances an employee's skills and experience needed to perform the work, although it may not have to exist in physical form (Akram *et al.*, 2020). Therefore, it is important for SOEs to find ways to acquire knowledge to expand and reserve their key competencies. SOEs also view KM as a driving force in a modern economy (Dong *et al.*, 2017). It is important for SOEs to find ways to gain access to available knowledge and construct new knowledge (Muthuveloo *et al.*, 2017). Certainly, obtaining KM will mostly enables SOEs to provide better customer services (Manesh *et al.*, 2020). When knowledge is shared within the SOEs, it becomes cumulative and embedded with processes, services and productions (Barley *et al.*, 2018). The goal should not be to store one employee's experiences, but to combine a variety of knowledge to create new SOEs awareness (Dweiri and Shatat, 2021). Behaviour integration (BI) is defined by multiple studies as the degree to which employees participate in collective and mutual collaboration (Rosenkranz and Wulf, 2019; Luo *et al.*, 2018; Araujo-Cabrera *et al.*, 2017). SOEs team development builds the team's collective behaviour, quality and quantity of information exchanged while focusing on collaborative decision-making (Halevi *et al.*, 2015). Poor-quality decisions are made by employees who are stressed and unable to interact effectively and efficiently with other employees (Edmondson and Harvey, 2018). Utilising human resources professionally can in turn lead towards a better SOEs performance (Omoregbe and Umemezia 2017). For SOEs to enhance professionally, it must pay attention to factors influencing an employee's performance such as job satisfaction, change and culture (Rozanna *et al.*, 2019). Job satisfaction is viewed from an emotional angle. Thus, SOEs with more satisfied employees tends to be more effective and productive (Eliyana and Ma'arif, 2019).

By embracing the principles of administrative management theory, SOEs in South Africa can establish efficient and responsive supply chain relationships capable of meeting customer demands while reducing costs and enhancing overall performance (Voxted, 2017). It should also be noted that total quality management (TQM) has the potential to improve individual as well as SOEs performance (Zwain *et al.*, 2017). However, for TQM to work, SOEs need to introduce it (Campbell *et al.*, 2021). TQM should not be based on inspection, but on doing the right things at the right time and every time and regularly checking if they have gone wrong (Liao *et al.*, 2021). It should not be implemented for someone's agenda except when SOEs customers and clients have specified their agenda (Martin *et al.*, 2021). TQM should not only be applied by senior managers, but it can be passed down to all SOEs employees (Sadeghi-Moghadam *et al.*, 2021). The total in TQM indicates that everyone and everything in SOEs is involved in the continuous improvement (Marchiori and Mendes, 2020). The management in TQM means everyone in SOEs, respective of their status, position or role are responsible to manage their own responsibilities (Apornak and Hezaveh, 2019). In a different vein, safety management (SM) in SOEs prevent risk that could greatly impact a worker's safety and health (Martinez-Aires *et al.*, 2018). Safety performance can be identified through specific SM practices that have a pertinent role of shaping a safe environment (Salguero-Caparrós *et al.*, 2020). SOEs with lower accident rates are normally based on safety measures, which involve: management in safety activities; training of new employees; refresher training for existing employees; well defined procedures for job placement and promotion; daily safety communication between workers and supervisors; frequent safety inspections; investigation of accidents; higher importance for meetings and decisions concerning safety work practice; and a display of safety posters for identifying hazards (Buchanan *et al.*, 2020).

### **Conceptual Framework and Hypotheses Development**

The model consists of five predictor variables, which are innovation, knowledge management, behaviour integration, total quality management and safety management, with supply chain relationship commitment as the outcome variable.

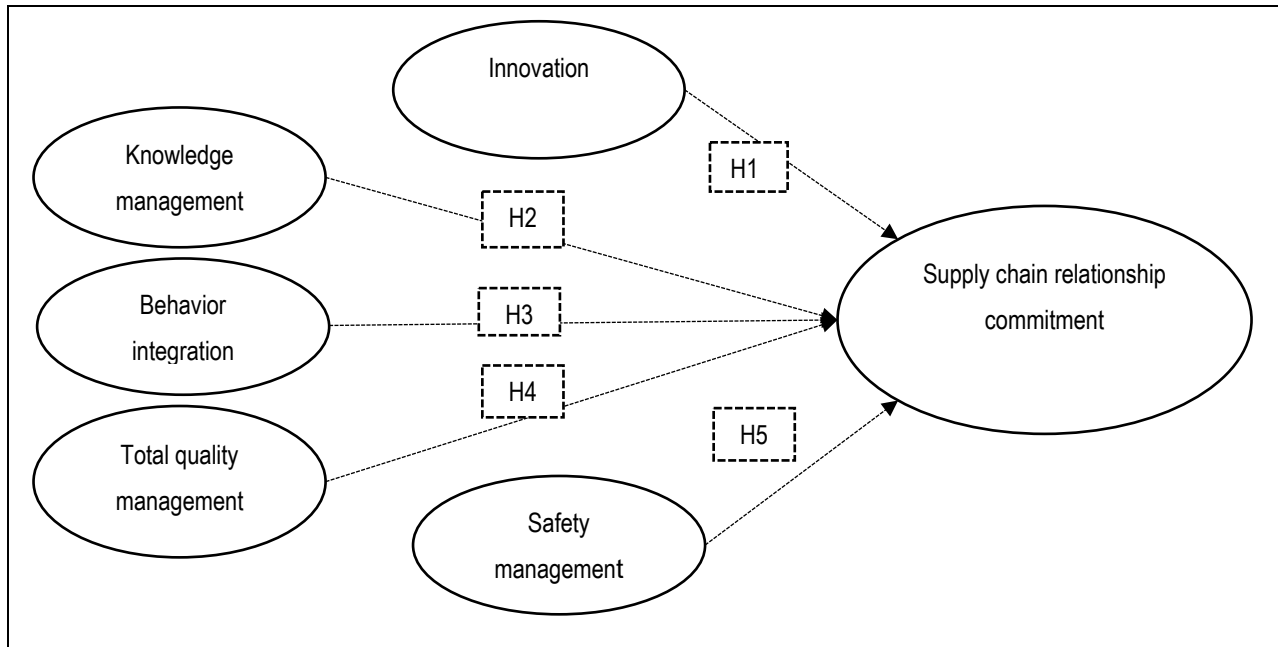


Figure 1: Conceptual framework

### ***Innovation and supply chain relationship commitment***

Innovation is an incremental or radical change in a product, service, process, and value activities (Meissner *et al.*, 2021). A study done by Sellitto *et al.* (2020) found that SOEs adoption of innovation contributes to operational performance and openness to new ideas can promote supply chain relationship commitment. As a result, SOEs innovation performance enhances productivity, while supply chain relationship commitments improve their competitive position (Mokhtarzadeh *et al.*, 2020). In support, Kristinae *et al.* (2020) propose that innovation can also be used to improve marketing, ethics and motivation, which accelerate supply chain relationship commitment. Based on the evidence, it can be concluded that innovation significantly influence supply chain relationship commitment positively. Thus, the study hypothesises that:

**H1:** Innovation has a significant positive influence on supply chain relationship commitment in South African SOEs.

### ***Knowledge management and supply chain relationship commitment***

The main objective of SOEs is to improve its competitive advantage, but it can never be possible without efficient knowledge management (Choi *et al.*, 2020). Al-Nawafah *et al.* (2019) suggest that SOEs should generate knowledge within themselves by establishing a supporting environment that fosters employees to generate new integrated knowledge. In support, a study by Iranban (2017) initiates that if SOEs can analyse a knowledge deficiency of information towards supply chain relationship commitment, then the enterprise can be sustainable. Thus, SOEs should be able to enter effective supply chain relationship commitment to compete with their competitors (Asada *et al.*, 2020). Abbas and Sağsan (2019) stress that knowledge acquisition is beneficial not just for individual employees but also for SOEs entering new supply chain relationship. Thus, inferring from the literature and empirical evidence, the study proposed that:

**H2:** Knowledge management exercises a positive influence on supply chain relationship commitment in South African SOEs.

### ***Behaviour integration and supply chain relationship commitment***

Behaviour integration aims to uplift collaboration among SOEs managers and employees, which can result in a well-functioning team, good decision making and clarity on what needs to be established (Choi *et al.*, 2020). However,

through supply chain relationship commitment, SOEs employees could be able to notice each other's emotions, which can create a wide experience of positive feelings and emotional stimulation, both of which could improve performance (Popperwi, 2018). SOEs positive behaviour integration between managers and employees can improve performance related outcomes, which include strategic relationship commitment, decision quality, economic performance and human resource performance (Yáñez-Morales *et al.*, 2020). In view of that, the following hypothesis is postulated:

**H3:** There is a significant relationship between behavioural integration and supply chain relationship commitment in South African SOEs.

#### **Total quality management and supply chain relationship commitment**

Top management at SOEs and all employees should be dedicated to advancing total quality management in all facets of their supply chain (Chen *et al.*, 2020). Therefore, there should be concrete supply chain relationship commitment that defines the roles and responsibilities of a long-term quality-oriented vision of SOEs (Dehghani *et al.*, 2020). In support, Jimoh *et al.* (2019) suggested that SOEs should implement a supply chain relationship commitment plan of action that inspires and motivates employees towards the fulfilment of this vision. To sustain a supply chain relationship, the development of a system in which employees can participate in quality decision-making is a key component of the total quality philosophy (Carvalho *et al.*, 2019). Therefore, drawing from this deliberation, the hypothesis is proposed as follows:

**H4:** There is a significant relationship between total quality management and supply chain relationship commitment in South African SOEs.

#### **Safety management and supply chain relationship commitment**

Safety management in SOEs has become increasingly important since it not only cuts accident rates but can also improve productivity, economic and financial results (Kerdpitak and Jermsittiparsert, 2020). In addition, Lindhout and Reniers (2017) propose that SOEs supply chain relationship commitment is most effective when it comes to exploring the effectiveness of various interventions for safety management. Thus, Li and Guldenmund (2018) suggest that SOEs should regard the development of safety management as a way of creating supply chain relationship commitment. Suhanyiova *et al.* (2020) also suggested that a safety climate can enable a positive SOEs supply chain relationship commitment. Based on the foregoing discussion, the study therefore, posits the following hypothesis:

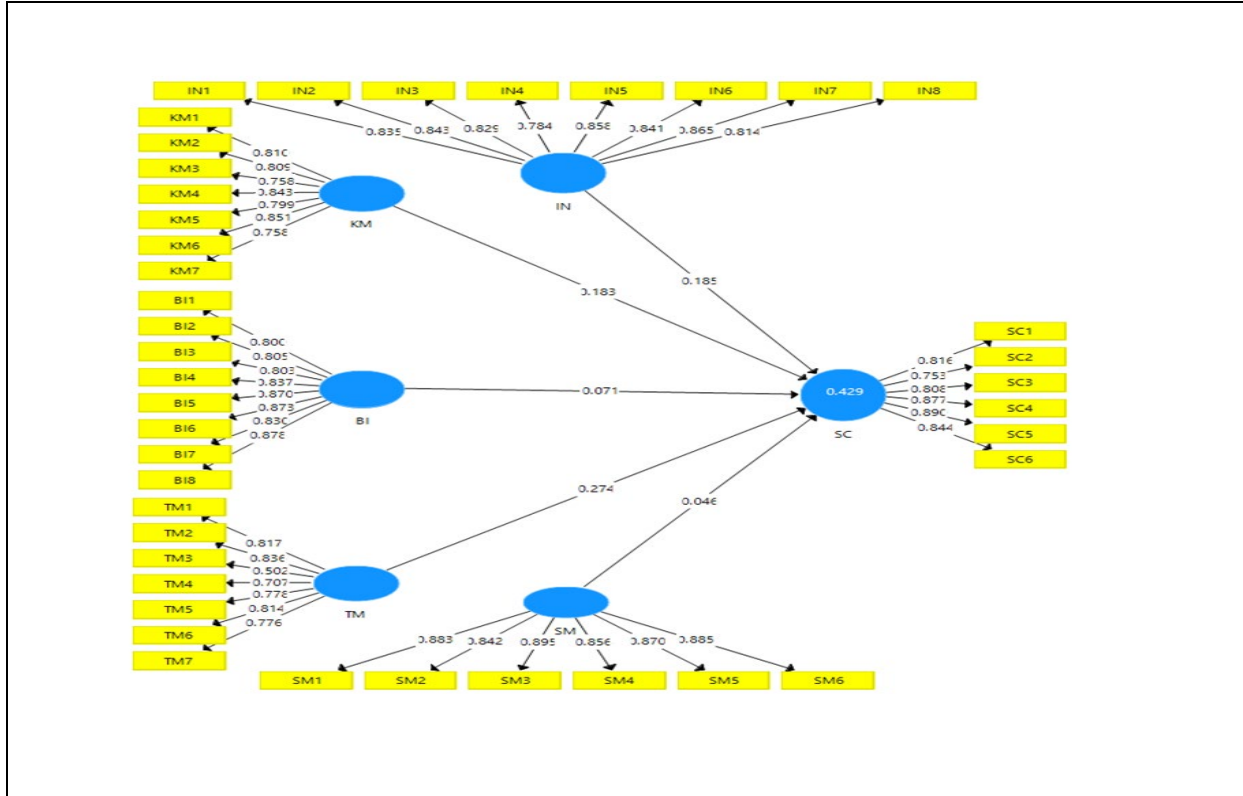
**H5:** There is a significant relationship between safety management and supply chain relationship commitment in South African SOEs.

## **Methodology**

The study used a quantitative approach with a cross-sectional design to test the relationships between the constructs using numerical data. A survey questionnaire consisted of eight Sections, numbered A to H, with Section A containing information about the overall profile of SOEs, Section B containing respondent demographic information and Section C to H highlighting six literature questions adapted from previous studies. In addition, questions from Section C to H were measured using a five-item Likert scale, with 1 indicating strongly disagree and 5 indicating strongly agree. Method used to distribute questionnaires was both physical and online survey, which involves creating a web-site link that directs supply chain practitioners to the questionnaires in order to complete the questionnaires and also physically distributing the questionnaires by hand. A total of 1000 questionnaires were distributed to South African SOEs which are based in Gauteng. From the questionnaires distributed, 863 were returned, depicting a response rate of 86.3 percent. A total of 137 questionnaires were not returned and were found to be not valid used in the study. Measurement items on innovation were adapted and used from previous research projects by Zhang *et al.* (2007), safety management adapted from Zohar and Luria (2005), knowledge management adapted from Gold *et al.* (2001), behaviour integration adapted from Ling *et al.* (2008) and total quality management adapted from Talib *et al.* (2013). The data was analysed using SMART PLS technique.

### Path Analysis

Path analysis aids in the evaluation of relationships between variables based on their causal relationship and tests the structural path of the research model (Cheah *et al.*, 2018). Figure 2 depicts the path coefficients generated by the SMART PLS software in the study.



**Figure 2:** Path coefficients generated by the SMART PLS software

Source: AMOS (27.0)

For the study variables in Figure 2, factor loadings are greater than 0.5, which suggests that the items reliably measure the latent factor, contributing to the construct validity of the measurement model (Cheah *et al.*, 2018).

### Data Analysis

The study tested for scale accuracy using the confirmatory factor analysis (CFA) procedure. This included testing for validity and reliability.

Table 1 reports on the psychometric properties of the measurement scale. The table shows the research constructs, descriptive statistics, Cronbach alpha test, composite reliability (CR), average variance extracted (AVE) and item loadings, the latter as shown in Figure 2 on Path analysis.

**Table 1:** Accuracy analysis statistics

Research constructs	Cronbach's alpha test	C.R.	AVE	Item loading
	α Value			
<b>Innovation (IN)</b>	0.937	0.948	0.696	0.835
IN1				0.843
IN2				0.829

IN4				0.784
IN5				0.858
IN6				0.841
IN7				0.865
IN8				0.814
<b>Knowledge management (KM)</b>				
KM1	0.909			0.810
KM2				0.809
KM3		0.928	0.648	0.758
KM4				0.843
KM5				0.799
KM6				0.851
KM7				0.758
<b>Behaviour integration (BI)</b>				
BI1	0.949			0.800
BI2				0.805
BI3		0.949	0.702	0.803
BI4				0.837
BI5				0.870
BI6				0.873
BI7				0.830
BI8				0.878
<b>Total quality management (TM)</b>				
TM1	0.883			0.817
TM2				0.836
TM3		0.911	0.632	0.502
TM4				0.707
TM5				0.778
TM6				0.814
TM7				0.776
<b>Safety management (SM)</b>				
SM1	0.937			0.883
SM2				0.842
SM3		0.950	0.761	0.895
SM4				0.856
SM5				0.870
SM6				0.885
<b>Supply chain relationship commitment (SC)</b>				
SC1	0.912			0.816
SC2				0.753
SC3		0.914	0.783	0.808
SC4				0.877
SC5				0.890
SC6				0.844
Significant Level <0.05 *; significant level <0.01 ***; significant level <0.001 **, IN= Innovation; KM= Knowledge management; BI= Behaviour integration; TM = Total quality management; SM= Safety management; SC=Supply Chain Relationship Commitment				

Source: Own compilation

Cronbach's alpha was used in the study to measure the reliability of all constructs and the reliability of the constructs is determined by a higher level of Cronbach's coefficient alpha. Bujang *et al.* (2018) stated that the alpha value of a construct must be above 0.3 to enhance the scale's internal consistency. Items were both reliable and valid because their item to total correlations are higher than 0.3 and meet the threshold. A composite reliability (CR) index value that

is higher than 0.7 prove the adequacy of the internal consistency of the research construct (Alhadi *et al.*, 2018). The CR values of all research scales are above 0.7, which affirms the internal consistency of all constructs. The average value extracted (AVE) should be greater than 0.5 (Elliott *et al.*, 2020). All AVE values ranged between 0.6 and 0.7, which adheres to the required acceptability value. Thus, all constructs met the necessary degree of acceptability (Higgins *et al.*, 2019)

**Discriminant validity**

Discriminant validity refers to the extent to which scores from a measure are distinct and do not correlate other measures (Alhadi *et al.*, 2018). Construct correlations were used to assess discriminant validity. Table 2 displays the correlation matrix.

**Table 2:** Correlation matrix

Construct	BI	IN	KM	SC	SM	TM
BI	1.000					
IN	0.707	1.000				
KM	0.708	0.739	1.000			
SC	0.526	0.591	0.558	1.000		
SM	0.627	0.606	0.538	0.451	1.000	
TM	0.604	0.702	0.596	0.581	0.544	1.000

IN= Innovation; KM= Knowledge management; BI= Behaviour integration; TM = Total quality management; SM= Safety management, SC= supply chain relationship commitment

Source: Own compilation

As indicated in Table 2, there are positive correlations across all constructs and they are all below the required level of 1.0, which proves the adequacy of discriminant validity in the measurement scale (McFarland, 2020). This streamlined presentation not only reinforces the argument with clear, empirical evidence but also enhances readability and facilitates a quicker understanding of the scale's adequacy for discriminant validity.

**Hypothesis testing results**

To test and validate the hypothesis, structural equation modeling with the partial least square's technique was used. The results are shown in Table 3.

**Table 3:** Results of Hypothesis Testing

Path	Hypothesis	Path Coefficient	P-value	T-Statistic	Decision
IN -> SC	H1	0.185	0.001	3.366	Supported and significant
KM -> SC	H2	0.183	0.000	4.307	Supported and significant
BI -> SC	H3	0.071	<b>0.149</b>	1.446	Not supported but significant
TM -> SC	H4	0.274	0.000	6.052	Supported and significant
SM -> SC	H5	0.046	<b>0.296</b>	1.046	Not supported but significant

IN= Innovation; KM= Knowledge management; BI= Behaviour integration; TM = Total quality management; SM= Safety management, SC= supply chain relationship commitment

Source: Own compilation

Table 3 shows that there is a negative relationship between behaviour integration (0.149) and supply chain relationship commitment, as well as safety management (0.296) and supply chain relationship commitment. P-values should be below 0.01 for the relationship to be supported (Jafari and Ansari-Pour, 2018). This illustrates that behaviour integration and safety management in the South African SOEs does not influence supply chain relationship commitment. However, T-statistics should be above 1 for a relationship to be deemed significant (Winship and Zhuo, 2020). All recommended T-statistics were met, which shows a significant association between all the constructs. In this view, although there is no relationship between behaviour integration, safety management and supply chain relationship commitment, the results were significant based on the significant T-statistics, meaning they can be considered accurate.



## Discussion of Results

The results of hypothesis H1 testing confirm the relationship between innovation and supply chain relationship commitment. The results confirm that this relationship exists ( $t=3.366$ ;  $p=0.001$ ). The hypothesis supports the existence of a significant relationship between innovation and supply chain relationship commitment. A study conducted by Bicen *et al.* (2021) suggested that SOEs that influence supply chain relationship commitment with innovative partners can also serve as a surrogate measure for perceived service performance. Based on the results, it is possible to conclude that when enterprises align innovation with supply chain relationship commitment, it is highly likely that SOE performance will improve.

The results obtained from testing hypothesis H2 show a positive relationship between knowledge management and supply chain relationship commitment. The results confirm that this relationship exists ( $t=4.307$ ;  $p=0.000$ ). This means that supply chain relationship commitment would not be met without implementing knowledge management. Based on the results, it can be confirmed that knowledge management directly impacts supply chain relationship commitment. Di Vaio *et al.* (2021) stressed that SOEs should familiarise themselves on how to create, distribute and utilise knowledge through their processes and procedures to attain supply chain relationship commitment from suitable suppliers. Therefore, it can be confirmed that knowledge management function directly impacts the required supply chain relationship commitment.

The study proves that the relationship tested through H3 is not supported but significant. While the P-value (0.149) is more than 0.001 required to be supported, the T-Statistic is 1.446, indicating significance. This illustrates that behaviour integration does not influence supply chain relationship commitment in South African SOEs. Authors like Yáñez *et al.*, (2020) noted that behaviour integration can improve performance related outcomes through strategic decision, quality, economic performance and human resource performance. Based on the results, it is possible to conclude that when enterprises align behaviour integration with supply chain relationship commitment, it is highly likely that SOE performance will improve. In this view, although there is relationship between the variables are not supported, the results were significant, meaning they can be considered accurate based on a significant T-Statistic.

Hypothesis H4 expressed the positive relationship between total quality management and supply chain relationship commitment. The results confirm that this relationship exists ( $t=6.052$ ;  $p=0.000$ ). The hypothesis supports the existence of a significant relationship between total quality management and supply chain relationship commitment. A study by Barauskaite and Streimikiene (2021) revealed that the quality of goods manufactured, or services provided by SOEs today are comparable to those provided in the past, making total quality management a crucial driving force for effective supply chain relationship commitment. Therefore, it can be confirmed that total quality management can influence supply chain relationship commitment within SOEs.

Lastly, Hypothesis H5 result exposed that safety management and supply chain relationship commitment was also not supported but significant. The P-value (0.296) is more than 0.001 required to be supported. This exemplifies that safety management does not influence supply chain relationship commitment in South African SOEs. However, the T-Statistic is 1.046 making the factor significant. A study by Shi and Mohamed (2021) suggests that safety management ensure the effective running of SOEs' supply chain relationships that enhance operational performance. As a result, even though their relationship between the two variables is not supported, the results were significant based on the significant T-statistics, meaning they can be considered precise.

## Conclusion

The purpose of the current study was to explore the role of internal management systems and supply chain relationship commitment in SOEs in Gauteng province. In order to empirically validate the relationships proposed, a sample of 863 form supply chain practitioners working SOEs in Gauteng province was used. The study presented vital information relating to internal management systems that should be implemented in South African SOEs. The results confirm that factors such innovation, knowledge management, behavior integration, total quality management and safety management can positively improve supply chain relationship commitment of SOEs. The study also enlightens

managers in SOEs to identify areas of improvement in their internal management systems process and apply beneficial strategies for efficient supply chain relationship commitment.

The research results provide practical implications for managers in SOEs in developing and developed economy, South Africa in particular. The overall implication for managers is that they can utilize internal management systems to induce efficient supply chain relationship commitment in SOEs. Although this study makes significant contributions to both academia and practice, there are some limitations which open avenues for further research which may have, to some extent, negatively impacted on the results obtained. One of those is related to the limited scope of the study to one province, which is Gauteng province. However, future studies can also extend the current study conceptual framework by studying the effects of a larger set of variables. For instance, the influence of innovation on safety management, knowledge management on behavior integration and behavior integration on total quality management could be investigated. This will immensely contribute new knowledge to the existing body of supply chain relationship commitment literature in the African setting, a research context which happens to be neglected in academics. The study is not without implications for further research. When it comes to data availability and quality, supply chain research often relies on data collected from various organizations, which may not be readily available or easily accessible. Limited access to relevant and reliable data can restrict the scope and generalizability of research findings. Additionally, data quality issues, such as incomplete or inconsistent data, can impact the accuracy and reliability of research outcomes.

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