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Assessing Risk Mitigation Preference Effect on Supplier Commitment and Procurement Performance in the Public Health Industry in South-Africa

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Abstract

The lack of a well-stated risk mitigation strategy has caused several challenges within the South African Public Health sector. Additionally, setting a risk mitigation strategy around mitigation preferences can be challenging for procurement personnel. As such, risk mitigation penalty clauses in the case of failure of the selected supplier are not agreed upon from the onset of the contract agreement. This research proposes risk-sharing versus risk-shifting contracts as risk mitigation/reduction strategies within the supplier relationship of the public health sector. We evaluate the effect of risk shifting and sharing mitigation preference on supplier commitment and supplier performance in the public health industry in South Africa using structural equation modelling. The results show that there is a significant relationship between supplier selection and risk sharing, risk sharing and supplier commitment, risk shifting and supplier commitment, and risk sharing and procurement performance. However, there was no significant relationship between supplier selection and risk shifting and risk shifting and procurement performance, which may be due the need to constantly evaluate supplier and manage risk collaboratively. These results imply that to build a win-win supply chain, public health sector procurement managers should balance risk sharing and shifting mitigation strategy in procurement instances where appropriate to improve on a higher level of procurement performance.

Keywords: risk sharing, risk shifting, supplier commitment, procurement performance, public health industry, preference effect

1. Introduction and problem statement

The preference for risk management during supplier selection is necessary to determine the level of commitment among supply chain and procurement personnel. Risk-associated challenges are inevitable in any contractual agreement, especially when selecting a supplier to manage a strategic function within a supply chain or an organisation [15]. Mitigating risk-associated challenges during the supplier selection and procurement process may require agreeing on whether the risk should be shared or transferred to the supplier or buyer. The risk mitigation preference may determine the level of supplier commitment and overall procurement performance [4]. Setting a risk mitigation strategy around mitigation preferences may be challenging for procurement personnel but will certainly help the buyer-supplier better prepare against the occurrence of environmental and market disruptive factors such as global economic risk factors, competitive factors, internet and information technology, and dynamic market environment that drives changes and decision-making capabilities of an organisation. Risk management is a process that mitigates risk, reduces costs, and effectively improves customer and consumer service within a supply chain. Supply chain

management integrates, collaborates and coordinates all activities involved in material flows, sourcing, conversion, and physical distribution of the final product or service [22].

Within the public health sector of South Africa, the objective of supplier selection is to improve overall procurement performance. Public procurement in South Africa is defined as a 'function by which public sector organisations acquire goods, services, development, and construction projects from suppliers in the local and international market [7]. The supplier selection process follows a competitive bidding process, consisting of a request for an invitation to tender, actual tender calling, submission and receiving of tenders, opening of tenders, assessing tenders, and finally, awarding of tenders. The suitability of the selected supplier is rated against the supplier's price, quality, capabilities, and financial standing. However, risk mitigation preferences are not well emphasised during selection [32]. As such, risk mitigation penalty clauses in the event of failure on the part of the selected supplier are not agreed upon from the onset of the contract agreement. The lack of a well-stated risk mitigation strategy has caused several challenges within the South African Public Health sector. Examples include non-compliance with procurement legislation, policies and processes; a lack of accountability and transparency; a lack of procurement knowledge and skill, embedded ethical practises, fraud, and corruption, which further impact negatively on supplier commitment and overall procurement performance [7]. Therefore, the public sector goals of providing reliable and quality health services might be jeopardised [43]. Based on these challenges, this research proposed risk sharing versus risk shifting contracts as risk mitigation/reduction strategies within the supplier relationship of the public health sector. Therefore, the question is: What is the effect of risk mitigation preferences on supplier commitment and procurement performance in the public health industry in South Africa? The article aims to evaluate the effect of risk shifting and sharing mitigation preference on supplier commitment and procurement performance in the public health industry in South Africa [28]; [47]; [48]). The research is one of its kind because it aimed to model risk sharing and risk shifting mitigation preferences during supplier selection.

2. Literature review

2.1 Risk management and risk mitigation

Risk management aims to forecast potential threats to an organisation and devise strategies to deal with them. It involves identifying potential threats, weighing their likelihood and impact, and developing plans to deal with them. New risks must be constantly evaluated and accounted for, making risk management an ever-evolving process [35]. Possibilities and risks to a project are categorised by their likelihood of occurring and their potential impact [31]. The term "risk mitigation" refers to procedures designed to reduce the negative effects of potential dangers on a business. Risk mitigation, which includes risk reduction, is an effort to reduce the likelihood of unfavourable results from hazards to business continuity (BC).

Risk mitigation and risk management are related. One facet of risk management is "risk mitigation," and its implementation differs from business to business. This means consistently addressing the most pressing threats and concerns to keep a business safe. Common types of mitigation include controls, processes, and procedures that guide and direct an organization [24]. Again, they are linked, as one function of risk management is to seek out dangers and devise ways to minimise their impact. One of these tactics is known as "risk mitigation." As defined by [38], risk management is the process of recognising and responding to possible threats to an organisation, whereas risk mitigation is eliminating or significantly lowering those threats. The probability of a risk and the effort put towards reducing it are directly related. When implemented, risk mitigation plans reduce the likelihood of many risks occurring, especially those that originate within an organization [31]. The likelihood of severe losses is reduced when an organisation takes precautions against potential dangers.

2.2 Supplier selection and risk sharing

Supplier selection and risk management are two important aspects of supply chain management [3]. Supplier selection identifies suppliers that can provide the best value for a business [41]. Since the inception of supply chain theory, the idea that careful supplier selection is essential to building a formidable supply chain has been widely held. The significance stems from the gravity of the decision to purchase or make a procurement. The cost of procuring raw materials can account for up to 90% of an industrial company's revenue [20]. Quality, delivery timeliness, processing speed, and cost have traditionally been the primary metrics considered in selecting suppliers [35]. This demonstrates how supplier selection is based on several factors.

However, the original work on supplier selection has been extended by significant and recent research to include risk sharing [21] as an important consideration, especially for public private partnerships (PPP). To reduce exposure to risk, businesses and individuals can use risk sharing as a risk management method. Shared risks can reduce supply chain risks, which is why it is an integral part of supplier management.

Procurement entities are comfortable with suppliers willing to share risks to mitigate risks [45]. This protects them from quality problems, monetary losses, and interruptions in supply chain activities. By dividing risks with their suppliers, companies can ensure that manufacturing and shipping go smoothly and avoid costly loss of profits due to early risk detection. We posit that a procurement entity will select a supplier willing to share risks to minimise risk mutually. Therefore, we state the hypothesis that:

H1: There is a direct association between supplier selection and risk sharing.

2.3 Supplier selection and risk shifting

Choosing reliable suppliers is a crucial part of effective purchasing management because it impacts a company's ability to differentiate itself in the market. Typically, businesses choose their suppliers based on how well they are expected to perform with respect to product quality, cost, service, and reliability. Researchers [29] took a more nuanced approach and advocated communication skills and commitment to continuous improvement as essential supplier selection criteria. The selection of suppliers based on their technological and financial skills has become increasingly vital. The potential for variations in supplier selection criteria across industries was the subject of another line of enquiry. Supplier selection, according to proponents of the transaction cost economics theoretical perspective [51], is motivated by operational goals of minimising expenses and optimising profits through cost shifting. Therefore, if a company can shift some of the risks to its vendors, it can save money.

Risk shifting refers to the practise of transferring danger to another entity. Buying an insurance policy or hedging investment holdings are two examples of transferring risk. Risk shifting aims to mitigate the negative effects of a risk by placing that obligation on another party. The return on assets (RoA), a proxy for a company's profitability, has been proven to be correlated with its propensity to take risks in the future by [18]. Mutual funds that take on more risk underperform those that maintain a steady level of risk, according to research by [26], who conclude that agency problems may lead to risk shifting by fund managers. Outsourcing, buying insurance, hedging investment positions, forming partnerships with key suppliers to manage risk and ensure supply, testing supplier business continuity plans with information reviews, informal walk-throughs and joint exercises, and conducting risk analysis and scenario planning of disruptive events are some of the ways buyers can shift risk in procurement [6]. To reduce their exposure, purchasers should create a risk registry and continuously thoroughly monitor its contents, mapping and evaluating the value chains of all important items. Therefore, we hypothesise that:

H2: There is a significant relationship between supplier selection and risk shifting.

2.4 Risk sharing and supplier commitment

A critical decision for suppliers engaged in business-to-business (B2B) interactions is what contract terms offer buyers. The most common hands-off approach lists products at a set wholesale price. From the

supplier's perspective, this is a simple contract to administer, requiring only setting one contract parameter and no monitoring of buyers' behaviour following the purchase, which shows weak commitment [6]. This is one of the early lessons in supply chain contracting and is a motivator for why "risk-sharing" contracts may be a useful alternative to supplier commitment. Risk-sharing contracts allow suppliers to absorb some of the cost of demand uncertainty facing buyers. Examples include buyback, revenue sharing, quantity flexibility, option contracts, and sales rebates.

However, risk sharing becomes more effective when there is a high level of supplier commitment [20]. The relationship between risk sharing and supplier commitment is that when suppliers are committed to a buyer, they are more likely to share risks with them. This is because they have something to gain from the project's or transaction's success and will be more willing to collaborate with the buyer to make it happen. Researcher [9] looked at how the risk and absorptive ability of a global supply chain partner affected an organisation's decision to commit to and share risk with that partner. For the study, the researchers polled 207 businesses to learn how they rated their offshore outsourcing and supply chain partners according to four criteria: risk sharing, absorptive capacity, commitment, and information sharing. They confirmed the hypothesised connections between an organisation's dedication and transparency in the supply chain and the perceived risk-sharing of its partners.

Many fields of study, from organisational psychology to strategic management and marketing to the study of social interaction, have focused on supplier commitment. Research shows that dedication improves results, whether the system is a group, an organisation, or a supply chain. Assuming that interactions can be measured, the social exchange theory (SET) states that cooperation between group members will result in net gains for the group as a whole (benefits minus costs). Researchers have adopted SET to study the supply chain, primarily emphasising the creation of connections between parties. According to [34], the antecedents of information sharing are trust, commitment, reciprocity, and power, and these relationships in the supply chain are developed because of the mutual advantages shared by its participants. Within these perspectives, we state the hypothesis that;

H3: There is a significant positive relationship between risk sharing and supplier commitment, such that risk sharing enhances suppliers' commitment

2.5 Risk shifting and supplier commitment

Risk shifting refers to transferring risk from one party to another. In a supply chain context, risk shifting can occur when a supplier shifts risk to a buyer by increasing prices or reducing quality. Supplier commitment refers to the extent to which a supplier is willing to invest in a relationship with a buyer [19]. Suppliers, such as price commitment and inventory commitment, can use several commitment strategies. Researchers [6] state that committing to a price reduces the incentive to stockpile and shift inventory responsibility to the manufacturer by reducing the quantity of orders. Buying an insurance policy, hedging financial positions, or a company switching from a defined-benefit pension to a defined-contribution plan such as a 401(k) are all examples of risk shifting. The hiring of a janitorial service to maintain a safe and clean workplace is another example of change in risk. These cleaning companies may be asked to sign a contract that shifts some of the responsibility and liability to them. In commercial real estate, the landlord may look for ways to shift some risks to renters. For example, many commercial space landlords insist that upscale boutique tenants sign leases and contracts. In addition to risk shifting, [25] discovered that audit liability insurance could help reduce risk by easing the dissemination of risk management expertise among audit firms. Therefore, we state the hypothesis that:

H4: There is a positive relationship between risk change and supplier commitment.

2.6 Risk sharing and procurement performance

Procurement performance refers to the degree to which buyers consistently achieve conformance to specifications and fitness for use. It illustrates how well and efficiently a company sources its goods and

services. Metrics such as procurement cycle time, cost savings, supplier performance, and quality can be used to evaluate the effectiveness of a company's purchasing department [11]. Several companies use procurement performance management (PPM) to determine the value of procurement to the business.

When suppliers do not put in as much effort as possible to increase procurement performance, a phenomenon known as moral hazard exists in the supply chain connection [37]. Supply chain managers must overcome the formidable obstacle posed by moral hazard to ensure effective procurement. We believe that shared knowledge of the potential implications of procurement failure can be achieved through risk sharing between supply chain parties. Making informed decisions depends on having a common awareness of the risks associated with procurement. Implementing measures to mitigate the negative effects of procurement risk requires a common understanding of performance challenges. The possibility of moral hazard can be reduced and procurement performance can be improved if the supplier understands the costs and repercussions of procurement failure. Previous studies [2] have shown that the risk sharing mechanism can significantly contribute to the procurement performance of a firm by helping to resolve the competing goals of buyers and suppliers, improving the ability to predict and coordinate supply and demand, and more fairly allocating the costs associated with procurement risks. Social exchange academics have collected a body of work that, in contrast to the economic justification of transaction cost economics, gives a variety of social rationales for why exchange partners might continue to preserve a connection ([16]; [33]). From this theoretical vantage point, risk sharing between trading partners is attractive if it improves both parties' procurement results. We hypothesise that:

H5: The risk-sharing practise positively affects procurement performance.

2.7 Risk shifting and procurement performance.

Procurement entities transfer risks to reduce their exposure to potential losses and ensure that they are not solely responsible for negative outcomes [18]. This improves procurement performance. Supply chain management is highly dependent on the efficiency with which risks are transferred and purchased. It is widely agreed that risk transfer is essential to effectively managing PPP projects. Proper and responsible use of resources, improved service, strengthened supplier and client relationships, greater appetite for innovation, greater customer service, and a data-driven culture that brings game-changing insights within reach of the firm can all result from the transfer of risks. However, there is a limit to how much risk the private sector can take on, and the government must keep some risk internal. The more powerful party typically bears the risk in a given situation [44].

Risk sharing in UK construction projects was the subject of a questionnaire study by [5]. They claim that the supplier is the best choice for managing project-specific risks and that the buyer should bear some risks while the two parties share others. Some evidence suggests that PFI deals provide better VFM for the private sector than for the taxpayer, and [49] are sceptical about the actual level of risk transfer in PPPs and believe that the private sector benefits. Therefore, we state the hypothesis that:

H6: There is a significant relationship between risk shifting and procurement performance.

3. Research methodology

Following the research onion [40], the research methodology takes the positivism-deductive approach. The approach is chosen because the study is quantitative and based on the proposition that trends, procedures, and cause-and-effect issues are relevant to the execution of scientific research methods. Furthermore, research is based on a known knowledge of a given theory, practise, and sphere that aids in the deduction of hypotheses and is subjected to further empirical examination to allow a conclusion [30]. A non-probability-convenience sampling strategy is adopted because subjective decisions based on geographical proximity, respondent availability, easy accessibility, or willingness to participate are considered to decide which elements are included in the sample [23]. The sample frame of the public health industries located in Gauteng

province was collected from the South African National Health Research Database (NHRD). Before anticipating the right sample size, a pilot study is carried out to predict an appropriate or exact sample size for the full-scale project and to improve various aspects of the study design. The target population consist of employees in the procurement department in public health industries located in the Gauteng province. The determination of the sample size is a scientific judgment made by the researcher, based on past studies [53]. Researchers [14] and [17] have examined the procurement performance in public health care sectors using sample sizes ranging between 150 and 300 elements. The sample size is also suitable for Smart PLS 3.0 data analysis. Of the 150 questionnaires distributed, 100 were valid and useful for research. A historical decision based on previous research in related fields and the suitability of the statistical package was used to determine the sample size for the investigation. The questionnaire comprises sections A to F, where section A contains the respondents' background, section B, supplier selection adapted from [46], sections C and D, detailed questions on risk mitigation strategies, which were adapted from [42], section E explains questions related to supplier commitment [1], and section F will comprise questions on procurement performance [46]. All sections except section A were measured on a 5-point Likert scale questions, anchored with 1= strongly disagree to 5= strongly agree. The Likert scaled type is useful because they are easy to construct and administer and participants find it easier to use [12]. Research ethics such as informed consent, voluntary participation, right to personal privacy and confidentiality, and protection from harm were considered essential during data collection.

4. Data analysis and discussions

The Social Sciences Statistical Package 25.0 (SPSS) enabled the descriptive statistics of the demographic data of the respondents. SMART-PLS version 3.0 for the structural equation modelling procedure was used to determine the relationship strengths of the research variables, as well as to assess the reliability and validity. For example, Cronbach's Alpha, rho A, and composite reliability were used to determine reliability, while extracted average variance (AVE) was used to assess the validity of the measurement variables. The T statistics and the P-value were used to test the significant level of the research variables.

4.1 Demographic information

There were more women (62%) than men (38%) in public health sector procurement functions, of which (64%) were between the ages of 26 and 37. About (98%) of the respondents were black, only (2%) were white and none were coloured or Indian. Of the 100 procurement personnel who participated in the research, (32%) percent were holders of senior certificates, while (38%) percent had diploma qualifications and (29%) percent had degrees.

Table 1: Descriptive and Internal consistency of constructs

Research constructs	Indicators	Descriptive statistics		Reliability statistics			Validity statistics			
		Mean (\bar{x})	SD	Alpha (α)	<i>Rho</i>	CR	AVE	\sqrt{AVE}	Factor loadings	Item-total correlation
	SS1	3.717	0.779						0.795	0.738
	SS2	3.909	0.877						0.771	0.685
	SS3	3.788	0.913						0.845	0.801
	SS4	4.071	0.856						0.824	0.723
	SS5	3.848	0.869						0.827	0.764

Supplier selection	SS6	3.949	0.783	0.951	0.957	0.957	0.672	0.820	0.798	0.703
	SS7	3.980	0.910						0.857	0.801
	SS8	4.051	0.869						0.860	0.787
	SS9	4.040	0.875						0.854	0.770
	SS10	4.101	0.772						0.800	0.727
	SS11	4.182	0.796						0.787	0.702
Risk sharing	RH1	3.960	0.803	0.898	0.916	0.919	0.618	0.786	0.721	0.679
	RH2	3.919	0.720						0.749	0.676
	RH3	4.000	0.765						0.767	0.677
	RH4	3.909	0.854						0.843	0.722
	RH5	3.990	0.772						0.830	0.728
	RH6	3.737	0.871						0.827	0.710
	RH7	3.990	0.732						0.757	0.690
Risk shifting	RS1	3.848	0.821	0.871	0.892	0.903	0.609	0.780	0.835	0.690
	RS2	3.859	0.739						0.737	0.569
	RS3	3.909	0.793						0.828	0.733
	RS4	3.828	0.682						0.703	0.619
	RS5	3.980	0.710						0.813	0.684
	RS6	3.960	0.724						0.641	0.576
	RS7	4.061	0.789						0.755	0.677
Supplier commitment	SC1	3.879	0.782	0.906	0.920	0.927	0.680	0.824	0.876	0.734
	SC2	4.162	0.598						0.804	0.668
	SC3	3.970	0.745						0.883	0.804
	SC4	4.111	0.584						0.794	0.704
	SC5	4.071	0.655						0.832	0.716
	SC6	4.131	0.580						0.751	0.698
Procurement performance	PP1	3.747	0.730	0.874	0.879	0.908	0.665	0.815	0.803	0.680
	PP2	3.869	0.774						0.850	0.677
	PP3	3.970	0.771						0.759	0.646
	PP4	3.838	0.735						0.827	0.632
	PP5	3.687	0.774						0.834	0.689

Note: Alpha (α) = Cronbach's alpha; Rho= Dillon-Goldstein's *rho*; CR=Composite reliability; AVE=Average variance extracted; 1= strongly disagree to 5= strongly agree.

In Table 1, Cronbach's alpha value (α), spearman's Rho-A, composite reliability value (CR), and item-to-total correlation value indicate internal consistency of the measurement variables for this research. This is because the above stated reliability coefficients are above the stipulated threshold of 0.7 and 0.5 respectively [40]. For example, Cronbach's alpha coefficient ranges from 0.871 to 0.951; spearman's Rho-A coefficient ranges from 0.879 to 0.957; Composite reliability coefficient ranges from 0.903 to 0.95 and item-to-total

correlation coefficient ranges from 0.569 to 0.804 respectively. The results indicate that all measurement items adapted for this research are reliable.

As indicated in the descriptive statistics,

Table 2: Discriminant validity

Constructs	Procurement performance	Risk sharing	Risk shifting	Supplier selection	Supplier commitment
Procurement performance	0,815				
Risk sharing	0.497	0.786			
Risk shifting	0.119	0.119	0,780		
Supplier selection	0.378	0.547	0.069	0.820	
Supplier commitment	0.186	0.310	0.459	0.201	0.824

Note: Alpha (α) = Cronbach's alpha; Rho= Dillon-Goldstein's rho; CR=Composite reliability; AVE=Average variance extracted; 1= strongly disagree to 5= strongly agree.

Factor loadings were used to assess whether the measurement items are highly loaded on their respective variable and should be at least greater than 0.5 (Martino et al., 2018). As shown in Table 1, all items were loaded highly with values ranging from (0.703 to 0.883). This stipulates an acceptable individual item convergent in the validity of all scale items. Discriminant validity was determined using the AVE and \sqrt{AVE} values. The value of AVE value should be greater than 0.5 and the intercorrelation matrix among the research variables should be less than the square root of the AVE ([27]; [30]). Table 2 shows that the inter-correlation values for all paired latent variables are less than \sqrt{AVE} (ranging from 0.780 to 0.824) and therefore assures the presence of discriminant validity for each construct.

4.2 Path model results

The proposed model for the research describes the relationship between the research variables. In addition to assessing the strength of the relationship among the research variables, the significance of the path coefficients was determined by bootstrapping analysis in addition to t-statistics for each of the path estimates. Figure 1 and Table 3 explain the statistical results of the Smart PLS for structural equation modelling.

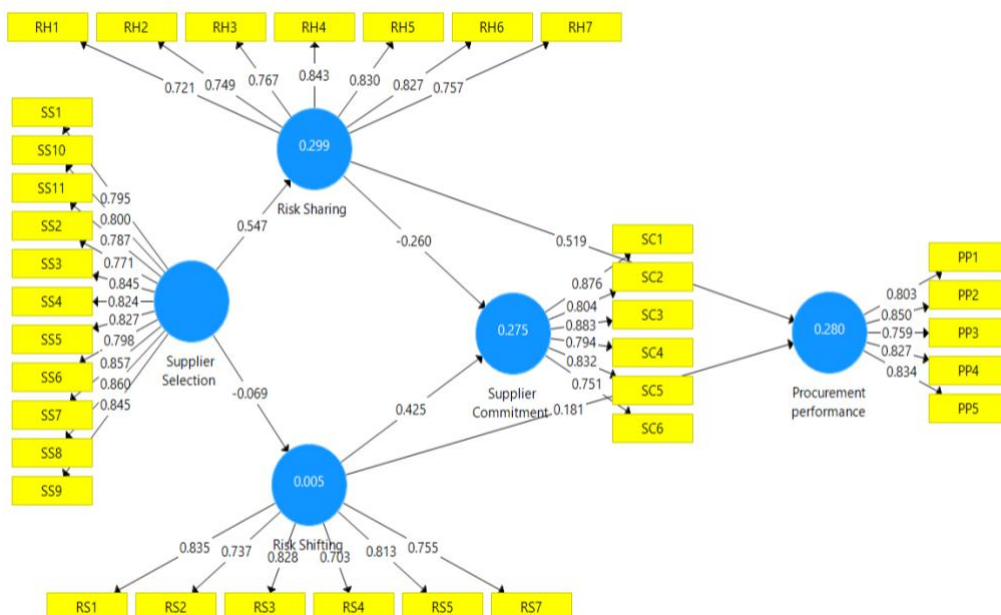


Figure 1: Path model relationship strength

Table 3: Results of structural equation model analysis and significant level

Proposed relationship	path	Hypothesis	Path coefficient	T-statistics	P-value	Outcome
Supplier selection and risk sharing		H ₁	0.547	6.060	0.000	Supported
Supplier selection and risk shifting		H ₂	0.069	0.299	0.765	Rejected
Risk sharing and supplier commitment		H ₃	0.260	3.461	0.000	Supported
Risk shifting and supplier commitment.		H ₄	0.425	4.559	0.000	Supported
Risk sharing and procurement performance		H ₅	0.519	6.210	0.000	Supported
Risk shifting and procurement performance		H ₆	0.181	1.305	0.190	Rejected

Figure 1 and Table 3 present the six hypothesised relationships, the path coefficients, the t-statistics, and the accepted level. The value of the t-statistic indicates whether the relationship is significant or not. A significant relationship is expected to have a t statistic greater than 1.96 and a p-value of ≤ 0.05 to indicate whether the hypothesis is rejected and supported [27]. According to the statistical analysis, four of the six proposed hypotheses were statistically significant and accepted. Two hypotheses are rejected with a t-statistics of >0.5 .

5. Discussion and Findings

The question that the research seeks to answer is: What is the effect of risk mitigation preferences on supplier commitment and procurement performance? The purpose of the article is to evaluate the effect of risk shifting and sharing mitigation preference on supplier commitment and supplier performance in the public health industry in South Africa. The measurement items for each variable presented in the proposed model have been statistically proven to be valid and reliable.

The proposed relationship between supplier selection and risk sharing (H1), is significant at (path estimate=0.547; $p=0.000 < 0.05$ and the relationship effect of supplier selection and risk shifting (H2), is rejected at (path estimate=0.069; $p=0.765 > 0.05$). The results indicate that procurement personnel in the public health industry in South Africa prefer the risk-sharing migration strategy to the risk shifting strategy in supplier selection. The risk sharing strategy is relational in the sense that it involves joint problem solving in a supply chain [52]. To build a win-win supply chain, risk sharing as a mitigation strategy is preferred than outsourcing or purchasing product liability insurance. The risk sharing mitigation strategy improves product quality in the long run through supplier development programmes, accurate / timely information sharing, participation of key suppliers in key decision making for effective cross-functional decision making, which ultimately mitigate risk and improve buyer-supplier commitment. The next section will discuss the risk mitigation strategy and the level of commitment among the supply chain members in determining the overall performance of the procurement.

The proposed relationship between risk sharing and supplier commitment (H3) is significant at (path estimate=0.260; $p=0.000 < 0.05$). The proposed relationship effect of risk shift and supplier commitment (H4) is acceptable and significant at (path estimate=0.425; $p=0.000 < 0.05$). These results indicate that although public health sector procurement personnel prefer risk sharing as appropriate risk mitigation strategy and management, they also embrace the fact that risk shifting further enhances supplier commitment [50]. This may be in the case where managing the quality of certain materials primarily becomes the

responsibility of suppliers. In this sense, the public health sector may propose a high penalty resulting from defective supplies through a detailed description of suppliers' responsibilities to mitigate risk, reduce cost, and higher level of supplier commitment.

Procurement performance is one of the main reasons for supply chain collaboration. The proposed relationship between risk sharing and procurement performance (H5) is significant and supported in (path estimate=0.519; $p=0.000 < 0.05$). The effect of the relationship between risk shift and procurement performance (H6) is rejected and insignificant in (path estimate=0.181; $p=0.19 > 0.05$). Despite embracing risk shifting as a risk mitigation strategy to improve and manage supplier commitment, the South Africa's public health procurement personnel believe that a long-term coordinated relationship with their supplier is important to effectively manage risk. The result indicates that the public sector intends to maintain supplier relationship through the maximum effort of risk sharing mitigation strategy, and as such risk sharing influence on procurement performance statistically is highly significant.

6. Conclusion

The aim of the research, which is to evaluate the effect of risk shifting and sharing mitigation preference on supplier commitment and supplier performance in the public health industry in South Africa, has been scientifically proven. The risk mitigation strategy has become even more important in the business-relational environment, especially after the Covid-19 pandemic. The two important risk mitigation strategies presented in the research are important and their preference effect on supplier commitment and procurement performance and have been analysed and discussed.

7. Recommendation for future research

From the findings, it can be seen that the South African public health sector procurement gradually neglects the importance of risk shifting. This is because from the statistical results, more attention is focused on risk sharing as a better option to mitigate risk in the buyer-supplier relationship of the public health sector. Therefore, it is recommended that the public health sector procurement balances risk sharing and shifting mitigation strategy in procurement instances, where appropriate, to improve on a higher level of procurement performance.

The research did not investigate the level of impact of supplier commitment on procurement performance, but only focused on the effect of preference for risk mitigation on supply commitment and procurement performance. It is recommended that future researchers investigate to what extent the supplier's level of commitment enhances procurement performance within the public sector. In other words, the commitment of a supplier does not guarantee the procurement performance to the purchasing organisation and the overall supply chain performance. Other factors such as quality, delivery, flexibility, and social and environmental sustainability may play a significant role.

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