

## Supply chain risk and performance of freight forwarders in South Africa

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### Keywords

Supply chain risk; financial performance; operational performance; resource dependency theory; freight forwarders; South Africa

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### Abstract

*Global trade exposes firms to heightened supply chain risks, including long lead times, diverse regulations, political instability, and currency fluctuations. Freight forwarders, as intermediaries in international trade, are particularly vulnerable. This study investigates the impact of supply chain risks on the performance of freight forwarders in South Africa. Data were collected from 156 freight forwarders using a structured questionnaire. Descriptive statistics, correlation analysis, and dimension reduction techniques were employed to analyse the data. The analysis identified key supply chain risks, including supplier reliability issues, currency fluctuations, and political instability. Currency fluctuations and political instability revealed a positive correlation with financial performance. These findings suggest that while freight forwarders should address the identified risks, prioritizing mitigation strategies for currency fluctuations and political instability is crucial for profitability. This study contributes to literature by applying resource dependency theory, thereby broadening its theoretical application especially in an emerging economy context.*

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### Introduction

Globalisation has made it possible for firms to broaden their supply sources to international markets in search of low cost of materials and labour. Global supply chains consist of multi-tiered and multifaceted aspects that enable lean production, just-in-time manufacturing and on time delivery of goods and services (Piya et al., 2021), at lower costs. However, the complexity and vulnerability of global supply chains intensify when there are various threats such as natural disasters, pandemics, cyberattacks and trade wars, thereby placing organizations at risk (Azadegan and Jayaram, 2018, Piya et al., 2022). According to Aqlan and Lam (2015), factors such as increasing complexity, global expansion of sales and manufacturing as well as the occurrence of risk both internal and external has made supply chain more susceptible to vulnerability and risk. Firms are attracted to the global source markets by the need to reduce costs and increase competitiveness, which results in overreliance on these supply networks which are usually complex in nature (Durowoju et al., 2012, Le et al., 2013). Thus, globalization increases the risk of exposure of these firms due to the likely disruption in the flow of materials caused by political instability, exchange rate volatility, delays or breakdowns of international logistics networks caused by unforeseen events such as severe weather. The disruption of the flow of goods and services can result in huge supply chain risks to local firms as previously witnessed during the pandemic and severe weather events. The supply chain risk resulting from global supply sources has the potential to disrupt the flow of goods and services, making it difficult for all role players within the supply chain including freight forwarders. Despite the well-documented challenges and risks associated with global supply sources – such as port delays and inefficiencies in South Africa – the freight forwarding industry continues to thrive, with a projected 6.4% CAGR market growth between 2025 and 2030 (Mordor Intelligence, 2025). This raises the question: To what extent are freight forwarders impacted by supply chain risks?

While supply chain risk factors have been extensively explored in literature, their direct impact on the performance of freight forwarders remains underexplored, particularly in emerging markets of the Global South. Understanding this relationship is crucial for assessing the resilience and adaptability of freight forwarders operating in these dynamic environments. Increasing production of commodities, together with the expansion of trade and transportation, resulted in the emergence of freight forwarders

(Skiba and Karaś, 2022). Considering the challenges pertaining to international trade, many global players collaborated with specialized freight forwarders (Petkevičiūtė–Stručko and Yauhen, 2018, Skiba and Karaś, 2022), who play a critical role in global trade, expediting the movement of goods between countries and across borders (Rajesh et al., 2023). The freight forwarding industry in South Africa facilitates over 80% of global trade (GlobeNewswire, 2024). The anticipated value added for 2025 is projected at US\$ 19.98bn, with volume of goods being transported by freight forwarders amounting to 299.50bn TKM (Statista, n.d.).

Much research has emerged regarding supply chain risk. For instance, Simba et al. (2017), stated that most research on supply chain risk management is based in countries such as Asia, America and Europe. Other research, such as that of Diabat et al. (2012), viewed supply chain risk within the food supply chain, while Chen et al. (2013) study was based on collaborative efforts to mitigate supply chain risk with focus on supply, demand and process risk. In South Africa, Mvubu and Naude (2020) established that Third-Party logistics firms engage in risk identification and mitigation strategies. Van Niekerk (2023) identified cybersecurity as one of the major risks in supply chains in South Africa. These studies did not investigate supply chain risk and its effect on freight forwarders performance, especially from a South African context.

Given the dependence on freight forwarding services for trade facilitation, understanding this supply chain risks and their effect on performance is crucial for ensuring efficient logistics operations. Thus, this study fills the gap by answering the following research questions:

1. What are the top supply chain risks affecting freight forwarders in South Africa?
2. What is the relationship between supply chain risk and the performance of freight forwarders?

The structure of this paper is as follows: the next section provides the literature review pertaining to supply chain risk, various risk affecting freight forwarders in south Africa, the underpinning theory. The next section deals with the methodology undertaken for this study. The section after provides the data analysis and discussion followed by managerial implications, future research study and conclusion.

## Literature Review

### Supply chain Risk

Supply chain risk relates to the disruption in the flow of products and information from the point of origin to the end users. It includes uncertainties related to outcomes and their impact on the performance of the overall supply chain (March and Shapira, 1987, Peck, 2006). It is noted that supply chain risk extends beyond unexpected problems but also includes anticipated fluctuations that may affect the flow of goods along the supply chain. As such, it becomes essential for freight forwarders to understand the risk to mitigate the impact of these risks on the operational performance, thereby making their supply chain resilient.

### Freight Forwarder

Growth in global trade together with the expansion of geographical markets has led to an increase in the flow of goods, resulting in a demand for freight forwarders (Poliak et al., 2022). The freight forwarder is regarded as an agent that connects the client and cargo carriers, undertaking numerous logistics functions along the supply chain, thereby adding value to products (Baluch, 2006, Poliak et al., 2022). Some of the tasks performed by freight forwarders includes consolidating shipments, loading and offloading goods, compiling customs documentation, labelling and packaging and arranging transportation of commodities by means of various modes such as road, air, rail and water transportation (Poliak et al., 2022). Acknowledging the multiple roles played by freight forwarders, organizations have a high dependency on them and consequently risk within the supply chain can have an adverse effect on their operations leading to customer dissatisfaction.

Within sub-Saharan Africa, the top five disruptions that have been identified are: 1) disruption in transportation network, 2) currency exchange rate volatility, 3) civil unrest, 4) loss of expertise and 5) outsourcing failure (Nel et al., 2018). In addition to the abovementioned risk, the South African freight forwarding industry face numerous other challenges that impedes delivery of products resulting in delays and escalating cost. Supply chain disruptions such as natural disasters and geopolitical conflict

exacerbate these challenges. For instance, the Covid-19 pandemic impacted transportation leading to disruptions in the global supply chain (Statista, 2025). Furthermore, the war in Ukraine had a substantial impact on the transportation market, resulting in delays, interrupting key trade routes and increasing costs for businesses who were reliant on the connection between Western and Eastern Europe (Statista, 2025).

Logistics infrastructure is regarded as a catalyst to positive economic transformation, making the economy stronger, sustainable and all-encompassing (van den Berg, 2024). South Africa faces ongoing infrastructure issues ensuing logistical problems which hampers the success of freight forwarders. Inefficiency at ports and Harbors are additional risk faced by freight forwarders (Simba et al., 2017). According to Dr Maree, CEO of the South African Association of Freight Forwarders (SAAFF), delays at ports, disruption of rail and bottleneck due to infrastructure has contributed to losses amounting to R1 billion each day due to missed opportunities in trade (Staff Reporter, 2025). Furthermore, Dr Maree added that major ports like Durban and Cape Town are experiencing ongoing congestion, there are constant interruption within the Transnet rail corridor and road conditions are deteriorating, worsening the issue and resulting in a systemic decline in logistics systems (Staff Reporter, 2025).

Complying with regulations (customs, safety and environmental regulation) is another challenge faced by the country as it can be a tedious and costly task impacting the businesses efficiency and profitability (Rajesh et al., 2023). South Africa's freight forwarders face numerous regulatory hurdles such as complicated custom procedure resulting in delays in clearance processes, vague documentation requirements, contradictory regulations, bureaucratic red tape resulting in barriers to efficient trade and corruption at border post (Olatunbosun, 2024). Labour issues have also been identified as a prominent disruption. Labour strikes in South Africa is common and can disrupt the supply chain (Nel et al., 2018). For instance, the recent strike at Grindrod Logistics regarding the retrenchment of employees disrupted the operation and affected the movement of goods (Comins, 2024).

The industry plays an integral role in South Africa, facilitating seamless global trade through its extensive network of ports, airports and logistics hub. However, the freight forwarding industry faces numerous challenges impacting their performance. Some of the key underlining factors that exacerbate these challenges include but are not limited to infrastructure issues, poor deteriorating roads, fluctuation in the exchange rate, port inefficiencies as well as economic slowdowns (Davis, 2024). As such, identifying and managing this risk becomes imperative, as it not only damages the local economy but also has an effect on global economy (Escaith et al., 2011).

Taking the above risks into consideration and knowing the negative impact it has on firms' operation and performance, it becomes vital for firms to ensure they have resilient abilities to mitigate the effects of disruptions (Johnson et al., 2013, Urciuoli et al., 2014).

### **Underpinning theory**

Studies on supply chain risk have used crisis management theory and risk management theory to address uncertainties (Wang, 2018). However, with the rising trend of outsourcing functions to external organisations, it has led to an increased dependency between role players making it difficult to absorb delays and disruptions within the supply chain. As such, the theory that best fits this research is the resource dependence theory (RDT). RDT is a framework for understanding how organizations manage their dependencies on external resources to reduce uncertainty and increase autonomy (Hillman et al., 2009). RDT is particularly relevant in the context of supply chain management, where firms often depend on external resources such as suppliers and customers for critical resources. This dependency can introduce risks and disruptions in the supply chain which can significantly impact a firm's operations and performance (M Kulkarni and Nayak, 2023). For instance, the COVID-19 pandemic highlighted how external disruptions can affect supply chain management, necessitating firms to adapt their strategies to mitigate risks. The theory suggests that firms can manage these risks by developing strategies such as localization, agility, and digitization to enhance supply chain resilience, which aligns with SDG 12 (Nandi et al., 2021).

### **Research Methodology**

The quantitative study was underpinned by the positivism paradigm, which emphasizes hypothesis testing, replication and generalizable inferences (Park et al., 2020). The objective reality of positivism helped to test the relationship between supply chain risks and performance of freight forwarders. A quantitative descriptive survey methodology was followed to establish the relationship between supply chain risk and performance of freight forwarders in South Africa. There is no existing comprehensive database of freight forwarders in South Africa although the South Africa Association of Freight Forwarders (SAAFF) has about 310 members (SAAFF, 2025), which formed a sample of this study. Quantitative data was collected from 156 practitioners using a structured questionnaire. The data was analyzed using descriptive statistics and relationships were tested using correlation analysis. The study received relevant ethical clearance from the university of Research Ethics Committee.

## Findings and results

### Demographics of respondents

The sample size had an equal gender split implying that as many males as females responded to the questionnaire as illustrated on Table 1. About 65% of the respondents had at least obtained a bachelor's degree, implying that they understood the questions and provided valid responses. Many of the respondents were working for medium and large enterprises based on the number of employees. Most of the respondents had working experience of less than five years, however, some had a lot of experience of having worked for 25 years.

Gender	Percent
Male	49.40
Female	50.60
Education	Percent
High School	4.50
Certificate/ Diploma	30.80
Bachelor's degree	46.80
Honour's degree	13.50
Master's degree	3.80
PHD	0.60
Size of organization	Percent
sole trader	1.30
less than 20 employees	6.40
21-50 employees	10.30
52-100 employees	19.90
101-200 employees	21.80
201-500 employees	14.10
500-1000 employees	10.90
more than 1000 employees	15.40
Working experience	Years
Mean	4.995
Median	3.000
Mode	1.000
Std. Deviation	4.921
Range	25.000

**Table 1: Demographic information**

The study sought to investigate the perceptions of practitioners regarding supply chain risk factors which were identified as supplier disruptions, transport delays, currency fluctuations, and political

instability. The mean of the indicators of each of these factors were calculated and presented in the following table. Table 2 presents the mean statistics of the supplier disruptions indicators, revealing that supplier delays and unforeseen events are likely to create high supply chain risks in South Africa. This finding aligns with prior findings which have reported unforeseen events such as protests, weather and attacks on truck drivers in South Africa cause supply delays (Wasserman et al., 2018). The mean of supply chain disruptions ranged from 3.54 to 3.94, implying that the respondents agreed with the statements.

Indicators of supplier disruptions	Mean	Std. Deviation
Supplier delays or failures to deliver goods have a significant impact on our ability to meet customer demands	3.94	1.17
Unforeseen events or circumstances often lead to disruptions in the supply chain from our suppliers	3.94	0.97
Supplier disruptions such as production shutdowns or quality issues result in delays or cancellation of shipments in our operations	3.87	1.11
Changes in the supplier availability or capacity affect our ability to maintain a consistent flow of goods for our freight forwarding services	3.76	1.15
Our freight forwarding operations are frequently impacted by disruptions in the supply of goods from our suppliers	3.54	1.01

**Table 2: Mean ranking of supply chain disruptions**

Transport delays caused by traffic congestion or road closures emerged top among the indicators. Terminal congestion also creates transport delays. The finding aligns well with recent findings which have reported port congestion in the Durban Port container terminal (Chinedum, 2018). As illustrated in Table 3

Indicators of transport delays	Mean	Std. Deviation
Transport delays such as traffic congestion or road closure frequently affect the timely delivery of goods	3.99	1.07
Port or terminal congestion frequently leads to delays in the transportation of goods in South Africa	3.94	1.02
Delays in transit times are a common occurrence in the transportation of goods	3.95	0.96
Delays in customs clearance processes significantly impact on the transportation of goods in our freight forwarding services	3.95	1.04
Adverse weather condition often led to delays in the transportation of goods in our freight forwarding operations	3.78	0.99

**Table 3: Mean ranking of transport delays**

Currency fluctuations affect pricing of imported goods and can cause a significant supply chain risk, especially when the volatility increases the cost of doing business. The highly ranked indicators have an effect on pricing, cause financial risk and can lead to financial uncertainties in financial performance as illustrated in Table 4.

Indicators of currency fluctuations	Mean	Std. Deviation
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Currency fluctuations frequently affect the pricing of imported goods and services	4.00	0.91
Changes in exchange rates pose a significant challenge in managing financial risk associated with international transactions in our operations	3.79	0.96
Volatility in currency exchange rates often leads to uncertainties and risks in our financial performance	3.78	0.93
Fluctuations in currency exchange rates often impact the costs and profitability of our freight forwarding operations	3.72	1.03
Currency fluctuations impact our ability to accurately forecast and plan for future costs and revenues in the freight forwarding business	3.48	1.10

**Table 4: Mean ranking of currency fluctuations**

Changes in government policies and decreased confidence from international partners were identified as the top indicators of political instability (Table 5) based on high mean statistics. This finding is aligned with prior study by Liu (2024), which established that political instability creates supply chain risk by forcing businesses to price in political factors and respond to political demands, leading to increased risk of interruption of supplies.

Indicators of political instability	Mean	Std. Deviation
Changes in government policies and regulations often disrupt the supply chain and logistics operations within the freight forwarding industry	3.91	0.92
Political instability affects the confidence of international partners and customers in our freight forwarding services	3.88	0.93
Political unrest or conflicts in the country result in disruptions and uncertainties in our freight forwarding operations	3.85	0.86
Political instability in South Africa poses challenges in managing business risks and maintaining a stable operating environment.	3.80	0.82
Political instability in South Africa has a significant impact on the operations of our freight forwarding business	3.58	1.01

**Table 5: Mean ranking of political instability**

The study sought to establish the opinions and attitudes of freight forwarders operational and financial performance. Many of the respondents agreed with the indicator statements as illustrated in Table 6. Effective systems and processes that track shipments was the top indicator of operational performance among freight forwarders in South Africa. Accuracy and reliability were also identified as top indicators of operational performance.

Indicators of operational performance	Mean	Std. Deviation
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We have effective systems and processes in place to track and monitor the progress of shipments throughout the supply chain	4.01	0.80
Our freight forwarding services in South Africa demonstrate a high level of accuracy and reliability in delivering shipments	3.66	0.91
We achieve high levels of efficiency and productivity in our day-to-day operations	3.65	1.00
Our operations consistently achieve on-time delivery of goods to customers	3.50	1.03
Our freight forwarding operations in South Africa consistently meet or exceed customer expectations	3.49	1.02

**Table 6: Mean ranking of operational performance**

The financial performance of freight forwarders was investigated using five indicators as illustrated in Table 7. Cost reduction, working capital management and revenue growth were identified as the top indicators of financial performance.

Indicators of financial performance	Mean	Std. Deviation
We effectively manage costs and expenses to maintain healthy financial performance	3.80	0.81
We have a positive cash flow and effectively manage working capital in our freight forwarding operations.	3.79	0.85
We experience steady revenue growth in our operations	3.67	0.84
Our freight forwarding business consistently achieves favorable financial results	3.60	0.94
Our profitability margins are above industry averages	3.44	0.84

**Table 7: Mean ranking of financial performance**

The relationships between supply chain risk factors and performance of freight forwarders were tested using correlation analysis. Partial correlation analysis was conducted, and results were presented in Table 8. The results reveal that operational performance had no significant relationship with any of the supply chain risk factors. However, it had a positive and significant relationship with financial performance. Financial performance had a positive and significant relationship with currency fluctuations and political instability. However, the positive correlation does not imply causation, implying that there might be other factors that influence the financial performance of firms. While we rule out causation, we argue that in situations where there is high currency fluctuations and increased cases of political instability there is a possibility firms reporting poor financial performance (Alagidede & Ibrahim, 2017) although this might vary from industry to industry.

Control Variables		Supply Disruption	Curre Fluctuation	Political Instability	Ops Perf	Financial Perf	Transport Delays
Gender	SupplyDisruption	1.000					
	CurreFluctuation	0.724*	1.000				
	PoliticalInstability	0.486*	0.522*	1.000			
	OpsPerf	-0.050	-0.043	0.062	1.000		
	FinancialPerf	0.040	0.172*	0.237*	0.469*	1.000	
	TransportDelays	0.762*	0.684*	0.481*	-0.030	0.108	1.000

**Table 8: Relationship between supply chain risk and performance**

The key factors of supply chain risk were established by conducting a factor analysis on all the supply chain risk factors. The 20 items of supply chain risk were subjected to principal components analysis (PCA) using SPSS version 30. The suitability of data for factor analysis was assessed and resulted in a KMO of 0.898, with a statistically significant Bartlett's Test of sphericity. Principal components

analysis revealed the presence of three components with eigenvalues exceeding 1, explaining 61.9% of the total variance. A varimax rotation was performed to assist in the interpretation of the three components. The supplier disruptions and transport delays factors loaded strongly on component 1 and were renamed supplier reliability issues, currency fluctuations and political instability factors loaded strongly on components 2 and 3, respectively.

Supply Chain Risk factors	Components		
	1	2	3
SD1	0.673		
SD2	0.654		
SD3	0.446		
SD4	0.731		
SD5	0.774		
TD1	0.810		
TD2	0.663		
TD3	0.581		
TD4	0.773		
TD5	0.742		
CF1		0.697	
CF2		0.742	
CF3		0.761	
CF4		0.636	
CF5		0.694	
PI1			0.630
PI2			0.836
PI3			0.620
PI4			0.733
PI5			0.713
KMO	0.898		
Tota variance	28.606	18.389	14.978
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.a			
Rotation converged in 6 iterations.			

**Table 9: Factor analysis of supply chain risk factors**

### Discussion and conclusions

In this study we highlight that supply chain risks among freight forwarding companies are identified as supplier reliability issues, currency fluctuations and political instability. Supplier reliability issues are related to delayed deliveries, disruptions by unforeseen events, traffic congestion, road closures as well as port terminal congestions and inefficiencies. The finding adds on to the studies of Mvubu and Naude (2020) who identified risk management strategies by classifying the specific risks that freight forwarders should focus on to minimise risk. While Van Niekerk (2023) identified cybersecurity as one of the risks, our study emphasises that cyber-attacks are likely to slow down port processes resulting in port congestion as a key supply chain risk factor that can affect supplier reliability in South Africa. Currency fluctuations is identified as key risk factor in supply chain due to its effect on pricing of goods and services and likely reduction of demand especially in developing countries who are always on the receiving end. This finding aligns with the study by Ogunranti et al. (2021) who advocated making payment in supplier currency. Political instability especially in Africa poses a huge supply chain risk on

freight forwarding firms in terms of changing of policies, limited confidence from international partners and general disruption of supply chains due to unrest and armed conflicts. The finding aligns with Meyer et al. (2019) who established that labour unrest and cyber-attacks can cause supply chain vulnerability.

While there was no causal link established between supply chain risk factors and performance of freight forwarders, we argue that proper management of supply chain risk can result in high performance in the public sector as established by Mhelembe and Mafini (2019). However, it is worth noting that currency fluctuations and political instability can influence financial performance of freight forwarding companies. While this study has established the key factors in supply chain risk that freight forwarding companies can seek to mitigate, we claim that continuing growth in the freight forwarding market value is an indicator that these firms have established risk mitigation strategies to manage the political and currency risks. The study extends the application of RDT to supply chain risk research by identifying that dependence on global suppliers and other external resources can pose huge risks to firms. Specifically, this study advocates for establishing local sources and application of advanced technologies such as big data analytics to sense supply disruptions to develop resilient supply chains in line with the tenets of the RDT.

#### *Managerial implications*

The findings imply that managers should diversify their supply base to avoid over-reliance on a few suppliers thus spreading the risk associated with delays or disruptions in supply chains. In some cases, supply disruptions are caused by port delays due to inadequate infrastructure causing congestion especially in Africa, thus it might add value if private firms can collaborate with port agencies to improve efficiency. In addition, freight forwarders can minimise the effect of currency fluctuations by pricing using stable currencies such as USD or embrace forward contracts to lock in stable rates. Managers are informed that political instability can result in border closures and proper scenario planning is required to establish flexible supply networks and have back suppliers to facilitate operations during disruptions. The findings encourage industry practitioners to develop resilience by encouraging intra-African sourcing to lessen dependence on global suppliers, modernisation of port infrastructure and advocating stable political climate.

#### **Limitations and direction for future research**

The current study is limited to the cross-sectional data collected from freight forwarding companies in South Africa. Future studies can collect longitudinal data to identify seasonal supply chain risk factors per industry. The findings reported in this study are based on the opinions and attitudes of the respondents and might be generalised with caution as they may not represent the views of all freight forwarders. The supply chain risk factors may vary from country to country, thus, a multiple country comparison might provide a sufficient information for decision makers involved in international trade.

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