

MITIGATING SUPPLY CHAIN DISRUPTIONS THROUGH ORGANIZATIONAL RESILIENCE IN NIGERIA'S FOOD AND CONSUMER INDUSTRY

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ABSTRACT

This study examines how supply chain disruptions affect organizational resilience in Nigeria's agricultural and consumer goods sector, focusing on three dimensions: supply chain orientation, risk management, and resource configuration capabilities. A cross-sectional survey design was adopted, and data were collected from 10,688 employees across production, procurement, logistics, marketing, and warehousing departments at Okomu Oil Plc and Presco Plc in Benin City. Using purposive sampling, 427 questionnaires were distributed, and 390 valid responses were analyzed. Data analysis combined descriptive statistics with inferential methods, including correlation, ANOVA, and Structural Equation Modeling (SEM), conducted using SPSS and AMOS. The findings indicate that supply chain orientation and risk management significantly enhance capital resilience by improving integration, coordination, and proactive risk mitigation. However, resource reconfiguration capabilities showed no significant impact, suggesting that flexibility alone is insufficient without broader strategic alignment. The study recommends strengthening supply chain collaboration, visibility, and redundancy to build resilience. Additionally, firms should invest in robust risk management frameworks, including regular assessments and contingency planning, to mitigate disruptions effectively. These insights highlight the importance of holistic supply chain strategies in Nigeria's consumer goods sector, emphasizing proactive measures over reactive resource adjustments. Future research could explore sector-specific resilience drivers and the role of external factors in shaping organizational adaptability.

KEYWORDS: Supply Chain Disruptions, Organizational Resilience, Risk Management, Strategic Resilience, Capital Resilience, Relationship Resilience

1. INTRODUCTION

Businesses operating within supply chains today face an increasingly turbulent and uncertain economic landscape (Shashi, Cerchione & Ertz, 2020). Consequently, understanding how organizations can effectively deal with supply chain disruptions has become a pressing concern for both scholars and industry practitioners (Butt, 2021; Shahid, Azeem, Ali & Moktadir, 2021). A supply chain disruption is any event that interrupts or impedes the normal flow of goods, services, information, or resources across a supply chain network (Ambulkar, Blackhurst & Grawe, 2015). Such disruptions can have severe negative effects on a company's financial performance, market position, and operational efficiency (Butt, 2021; Shashi et al., 2020). According to the World Economic Forum (Azadegan et al., 2020; Butt, 2021), 80% of organizations recognize the importance of strengthening resilience against supply chain disruptions. In response, firms are increasingly focusing on developing resilience solutions to limit the impact of such disruptions (Azadegan et al., 2020; Butt, 2021).

Both empirical and theoretical studies confirm that organizational resilience is the primary factor enabling companies to deal effectively with crises or disruptions (Scholten, Stevenson & van Donk, 2020). Highly resilient organizations have robust structures that help them navigate threats successfully (Holbeche, 2023). There is substantial evidence that resilient organizations possess the adaptive capacity to respond to market

dynamics, allowing them to remain relevant and responsive to evolving conditions (Chen et al., 2021; Karman, 2020). In essence, examining organizational resilience provides critical insights into the mechanisms that underpin an organization's ability to confront and endure disruption.

Several studies have been conducted on supply chain disruptions. For instance, the work of Ambulkar et al. (2015) highlights the need for supply chain disruption-oriented organizations to adapt and change resources for resilience. However, there remains a gap in understanding the industry-specific uniqueness and the factors within the Nigerian context that influence the precise techniques organizations adopt during disruptions. To address this gap, this study focuses on quoted companies on the Nigerian Stock Exchange in the agriculture and consumer goods sectors. A review of existing literature shows that while there are numerous studies on supply chain management in Nigeria, most have focused on how supply chain management impacts performance (Igudia, 2023; Omigie & Kubeyinje, 2022; Omigie & Oguns-Obasohan, 2023; Oshodin & Omoregbe, 2021; Osunsanmi et al., 2022). What sets this study apart is its focus on establishing the relationship between supply chain disruptions and organizational resilience in Nigeria. This study aims to enrich Nigerian-based literature on the subject and provide robust empirical evidence on organizational resilience for firms heavily involved in supply chain management. This study focuses on three elements that influence the development of organizational resilience in the face of supply chain disruptions. The first is supply chain orientation, which refers to a company's awareness of possible disruptions and its capacity to evaluate and learn from past disruptions (Azadegan et al., 2020; Butt, 2021). Bode et al. (Azadegan et al., 2020; Butt, 2021) explain that building a solid supply chain orientation helps improve a firm's responsiveness to disruptions. The other two dimensions are resource configuration capabilities and risk management. Resource configuration is the ability of a business to adapt, realign, and restructure its resources in response to changes in the external environment. Risk management refers to a company's collection of resources expressly tailored to managing risks in the supply chain (Ambulkar et al., 2015).

This study therefore seeks to answer three questions: What is the impact of supply chain orientation on organizational resilience? To what extent does resource configuration influence organizational resilience? How does risk management affect organizational resilience? Accordingly, the study aims to examine the impact of supply chain disruption on organizational resilience among selected quoted agriculture and consumer goods firms in Nigeria.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Organisational Resilience

Weick et al. (Azadegan et al., 2020; Butt, 2021) defined organizational resilience as "the capacity of organizations to cope with unanticipated dangers after they have become manifest," while Rice and Caniato (Azadegan et al., 2020; Butt, 2021) defined it as "the ability to respond to disruptions and restore normal operations." Pettit et al. (Azadegan et al., 2020; Butt, 2021) defined resilience as "the capability to anticipate and overcome supply chain disruptions." Drawing from these definitions, organizational resilience can be understood as a company's capacity to foresee, respond to, and recover from various internal and external disruptions, shocks, or difficulties while maintaining core activities, operations, and value delivery to stakeholders. It involves the ability to adapt, learn, and transform in the face of adversity, ensuring the organization's survival, viability, and long-term success (Chen, Xie & Liu, 2021).

Based on the work of Chen et al. (2021), organizational resilience can be categorized into five types: capital resilience, strategic resilience, cultural resilience, relationship resilience, and learning resilience. Capital resilience refers to a company's capacity to continue operating normally while also recapitalizing against risk in turbulent times (Acciarini, Boccardelli & Vitale, 2021). Strategic resilience involves companies retaining strategic consistency over time, allowing them to identify and eliminate disadvantages and adopt the best development model (Azadegan et al., 2020; Butt, 2021). Cultural resilience focuses on employees' entrepreneurial spirit and devotion to the firm as shaped by corporate culture (Denison & Mishra, 1995). Relationship resilience refers to mutually beneficial connections between the business and its stakeholders,

while learning resilience is a company's capacity to deal with learning stresses and challenges (Azadegan et al., 2020; Butt, 2021). In this study, three dimensions capital, strategic, and relationship resilience are selected for discussion and empirical validation. The choice of these dimensions is based on the several benefits they confer on firms. For instance, capital resilience helps organizations maintain financial stability even during economic downturns. It enables companies to meet their financial obligations, pay creditors on schedule, and continue operations without accumulating excessive debt or financial hardship. Other benefits include adaptation, sustained performance, competitive advantage, innovation, and collaborative advantage.

Hypothesis 1 (H_{01}): There are no significant differences in the organisational resilience of the selected companies in managing disruptions in their supply chains.

Capital Resilience

Organisations rely largely on capital resilience to secure their long-term existence and success. They play a significant role in the global economy, providing employment, stimulating innovation, and contributing to economic advancement (Urbano, Audretsch, Aparicio & Noguera, 2020). They do, however, typically face specific challenges, such as limited resources, unexpected market conditions, and the need to handle complex business situations. In this context, capital resilience refers to company's ability to efficiently manage their financial resources and adapt to changing conditions in order to survive economic shocks and achieve long-term sustainability. Financial management is an important component of capital resilience. It entails keeping a healthy mix of debt and equity, managing cash flow efficiently, and ensuring that working capital is sufficient to fulfill day-to-day operating demands (Azadegan et al., 2020; Butt, 2021). A well-planned financial strategy may assist organisations in weathering economic downturns and seizing development opportunities as they occur. Another essential feature of capital resilience is access to funding. Due to perceived risks or a lack of collateral, businesses sometimes struggle to get loans or investments. In times of need, cultivating ties with banks, venture capitalists, angel investors, or investigating other funding sources such as crowdfunding and peer-to-peer lending might be critical. Diversifying funding sources can help to lessen dependency on a single source while also increasing resilience.

Furthermore, to strengthen their capital resilience, organisations must embrace technology and innovation (Aldianto, Anggadwita, Permatasari, Mirzanti & Williamson, 2021). Modernising procedures, implementing digital technologies, and utilising data analytics may aid in the optimisation of operations, cost reduction, and overall efficiency. These technology improvements not only make companies more competitive, but also better prepared to adjust to unanticipated business challenges. Incorporating risk management techniques is also critical for capital resiliency. Organisations should identify possible dangers and prepare contingency plans to limit their effect (Obrenovic, Du, Godinic, Tsoy, Khan & Jakhongirov, 2020). Companies may better prepare for unforeseen issues such as supply chain outages, market volatility, or unexpected regulatory changes by performing extensive risk assessments and adopting risk mitigation techniques. Summarily, capital resilience is critical for long-term success. It entails excellent financial management, diversification of financing sources, technological adoption, risk mitigation, and human capital investment. Companies may position themselves to excel in a dynamic and often uncertain business environment by concentrating on these characteristics.

Strategic Resilience

Strategic resilience is defined as an organization's capacity to manage and adapt to internal and external disruptions, shocks, and uncertainties while retaining strategic objectives and long-term sustainability (Colberg, 2022). It entails anticipating, responding to, and recovering from challenges, changes, and crises to ensure long-term competitive advantage, value generation, and organizational success. Strategic resilience requires actively recognizing and predicting possible disruptions or risks and proactively modifying strategies, processes, and resources to lessen their impact (Shin & Park, 2021). It goes beyond reactive responses and encompasses a forward-thinking perspective. Strategically resilient organizations

are flexible and nimble in their decision-making and resource allocation. In response to shifting market conditions, customer requirements, or unexpected events, they can quickly adjust and realign their operations, capabilities, and objectives (Iborra, Safon & Dolz, 2020). Strategic resilience in organizations is an important area that emphasizes a business's ability to adapt, tolerate, and recover from numerous challenges and disruptions in a volatile economic environment.

In the face of challenges and disruptions, strategic resilience entails being proactive and flexible. Organizations must constantly examine their strategies, operations, and market positioning to remain competitive and adaptable. This might involve broadening product lines, accessing new markets, or investing in cutting-edge technology. Strategic resilience is critical for companies building harmonious relationships with customers and suppliers. Organizations should concentrate on building customer loyalty and trust. Satisfied and loyal customers can provide stability during difficult times. Furthermore, maintaining positive connections with suppliers ensures a dependable supply chain, lowering the chance of interruptions. A diverse supply base can also help with resilience by reducing reliance on a single source.

Relationship Resilience

Relationship resilience refers to an organization's capacity to preserve and enhance relationships with important stakeholders such as suppliers, customers, partners, and other business collaborators in the face of disruption, change, or uncertainty (Azadegan et al., 2020; Butt, 2021). It involves developing trust, open communication, mutual support, and teamwork to overcome obstacles and maintain excellent working relationships. Relationship resilience ensures that business activities continue throughout interruptions. Partners may rely on one another for assistance, keep products and services flowing, and limit the effect of interruptions on their joint activities. Trust is one of the most important factors influencing relationship resilience. The basis of effective business partnerships is trust. Organizations must create trust not only with their customers but also with their suppliers, workers, and business partners. This trust develops over time through consistent and honest exchanges. When trust is established, it acts as a buffer during times of crisis or disruptions, helping companies weather challenges more effectively. For example, during supply chain disruptions or economic downturns, trustworthy suppliers are more likely to collaborate with companies to develop solutions and provide support. Another critical aspect of relationship resilience is effective communication. Companies should maintain open and honest lines of communication with all stakeholders (Pfajfar, Shoham, Malecka & Zalaznik, 2022). This involves providing frequent updates on business operations, responding to concerns promptly, and incorporating relevant stakeholders in decision-making processes. Effective communication manages expectations and keeps everyone on the same page, eliminating misunderstandings and disagreements that can strain relationships. Collaboration is also an important component of relationship resilience. It involves seeking mutually beneficial collaborations and partnerships. Companies can share resources, ideas, and skills by collaborating with suppliers, customers, and other businesses in their ecosystem.

Supply Chain Disruption

Supply chain disruption is a multifaceted concept that has attracted significant scholarly and industrial attention, particularly in logistics, operations management, and continuity planning. It refers to unforeseen events such as natural disasters, political unrest, logistics failures, regulatory shifts, and health crises that interrupt the normal flow of goods, services, and information, often resulting in delays, rising costs, and customer dissatisfaction (Azadegan et al., 2020; Butt, 2021). Among the most impactful recent disruptions is the COVID-19 pandemic, which caused major disturbances to global supply chains. Governments enforced lockdowns and trade restrictions that paralyzed manufacturing activities, delayed raw material deliveries, and created labor shortages (Butt, 2021). These disruptions revealed structural vulnerabilities and contributed to price volatility. Ivanov (2020) described COVID-19 as the most severe health-related challenge in recent decades, highlighting its role in widespread supply network collapses. In Nigeria, industries like food, tourism, and retail were especially hard-hit. Lockdowns triggered significant declines

in demand and output, with the food sector experiencing an 80–100% drop in sales (Magzter, 2020). The pandemic emphasized the importance of resilience and flexibility in supply chain design to better anticipate and absorb future shocks.

Three dimensions of supply chain disruption and how they impact strategic resilience are discussed in this section: supply chain orientation, resource configuration capabilities, and risk management.

Supply chain orientation

Supply chain orientation refers to an organizational mindset focused on fostering cooperation, coordination, and integration among all participants in the supply chain. It involves aligning the goals and actions of suppliers, manufacturers, distributors, and customers to achieve overall efficiency and performance (Azadegan et al., 2020; Butt, 2021). This strategic approach acknowledges the interdependence of stakeholders and promotes synchronized efforts across the supply network. A supply chain-oriented organization adopts a holistic view of its operations, ensuring that information, materials, and resources flow seamlessly from end to end (Tukamuhabwa, 2023). This orientation enhances visibility, communication, and responsiveness—all critical when responding to disruptions. Strong collaboration allows firms to pool resources, access alternative supply options, and develop contingency plans, thereby improving agility and adaptability (Hussain et al., 2023). Moreover, supply chain orientation encourages resilience by embedding redundancy and flexibility into supply chain structures. This may include maintaining multiple sourcing arrangements, having backup production facilities, or designing versatile logistics systems. Such proactive design choices enable firms to continue operations despite unexpected disturbances, strengthening both operational continuity and competitive advantage. Thus, the hypothesis is developed as follows:

H₀₂: There is no significant relationship between supply chain orientation and organisational resilience

Resource configuration capabilities

Resource configuration capabilities refer to an organization's ability to adapt and reconfigure its internal resources in response to environmental volatility and disruption. Effective resource management is crucial for navigating high-uncertainty scenarios such as supply chain shocks, market entry, or innovation transitions (Ambulkar et al., 2015; Azadegan et al., 2020; Butt, 2021). Organizations that can reassess and realign their resource portfolios including personnel, processes, and technology are better positioned to respond to external challenges. This involves not only leveraging existing assets but also acquiring new resources, discarding obsolete ones, and rethinking operational models. Such flexibility fosters innovation and strengthens the organization's capacity to maintain continuity under adverse conditions (Vega, Arvidsson & Saiah, 2023). Thus, the hypothesis is developed as follows:

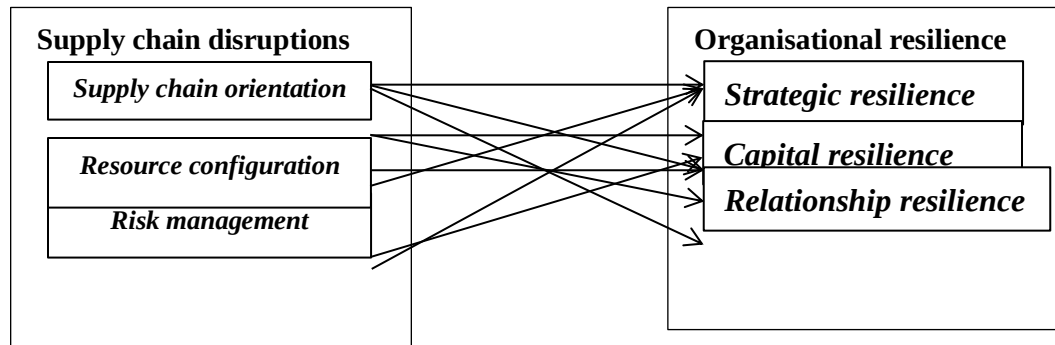
H₀₃: There is no significant relationship between resource configuration capabilities and organisational resilience

Risk management

Supply chain risk encompasses the uncertainty and variability of potential adverse events that may disrupt the flow of materials, information, or finances within a supply network (Ambulkar et al., 2015). These disruptions can affect both human and physical resources and impair operational efficiency. Sitkin and Pablo (Azadegan et al., 2020; Butt, 2021) describe risk as the degree of uncertainty surrounding the realization of potentially negative or disappointing outcomes. Zsidisin et al. (Azadegan et al., 2020; Butt, 2021), in their study of the aerospace industry, define supply risk more specifically as the likelihood of a disruption in inbound supply from a specific supplier or the broader supply market, which could hinder a firm's ability to meet customer demand or even pose risks to customer safety. The hypothesis is developed as thus:

H₀₄: There is no significant relationship between risk management and organisational resilience

Conceptual framework



(Researcher's construct, 2025)

The conceptual framework illustrates the hypothesized relationships between the independent variables supply chain orientation, risk management, and resource configuration capabilities and the dependent variable, organizational resilience, measured across three dimensions: capital resilience, strategic resilience, and relationship resilience. The framework posits that these three dimensions of supply chain disruption collectively influence an organization's capacity to develop and maintain resilience.

Theoretical foundations

This study is anchored on dynamic capabilities theory, a strategic management concept developed by scholars such as David Teece, Gary Pisano, and Constance Helfat. Teece (Azadegan et al., 2020; Butt, 2021), a key proponent of the theory, has been instrumental in advancing its development and application in understanding how firms sustain competitive advantage in dynamic environments. Dynamic capabilities theory posits that firms can intentionally develop, reconfigure, and leverage their internal competencies and resources to adapt to shifting environmental conditions and uncertainties (Kapoor & Aggarwal, 2020). These capabilities enable organizations to respond to emerging opportunities and threats, thereby enhancing resilience and long-term performance. Core elements of this theory include the ability to sense changes, seize opportunities, and reconfigure assets accordingly. According to the theory, strategic decision-making and organizational learning are critical to fostering dynamic capabilities. Firms must invest in acquiring new skills, restructuring operations, and reallocating resources to remain competitive. Learning processes enhance a firm's ability to integrate new knowledge, refine existing practices, and respond to environmental shifts (Azadegan et al., 2020; Butt, 2021). Despite its relevance, the theory faces criticism for being vague in definition and difficult to operationalize. Critics argue that it may overemphasize internal capabilities while underestimating the role of external factors such as industry structure, market dynamics, and institutional influences (Azadegan et al., 2020; Butt, 2021).

3. METHODOLOGY

This study employed a cross-sectional survey research design. The rationale for its usage in this study is that it is less expensive and provides important insights into the features of a population (Lee, Kang & You, 2021). The population consisted of employees working in production, procurement, warehouse, logistics, and marketing departments of three quoted firms in the agriculture and consumer goods sectors in Benin City. The complexity and interconnectedness of supply chain issues in these sectors informed the choice for empirical investigation. These firms source raw materials, intermediate goods, and distribute finished products to different regions, making their operations susceptible to disruptions. The selection of Guinness Nigeria Plc, Okomu Oil Palm Plc, and Presco Plc was driven by the desire to capture diversity in industry, supply chain complexity, market leadership, operational scale, and the regulatory environment. For instance, Guinness Nigeria Plc deals with raw materials for beverage production, while Okomu Oil Palm

Plc and Presco Plc are involved in the palm oil industry, comprising cultivation, processing, and distribution of palm products. The complexity of their supply chains provides an opportunity to explore diverse disruptions and resilience strategies. Table 1 presents an overview of the selected firms.

Table 1: Description of research population

S/N	Company	Sector	Nature of Business	Company Address	Date Incorporated	Date Listed	Staff Strength
1	Guinness Nig Plc	Consumer Goods	Brewing, packaging, marketing & selling of stout, malta guinness, larger, International Premium spirit and Mainstream Spirit (TBA)	13,Benin-Agbor Road,Ikpoba Hill Benin City, Edo State, Nigeria	29/04/1950	2/1/1965	589
2	Okomu Oil Palm Plc.	Agriculture	Development of Oil and Rubber Plantations. Palm oil Milling, Palm Kernel Processing and Sale of Wet Cup Lumps	The Okomu Oil Palm Company Plc, Okomu-Udo, Ovia South West L.G.A Edo State, Nigeria	3/12/1979	9/9/1997	4011
3	Presco Plc	Agriculture	Palm Plantation and Processing	Obaretin Estate, Km 22, Benin Sapele Road, Ikpoba/Okha LGA, Edo State, Nigeria	24/09/1991	10/10/2002	6079

Source: Nigeria Exchange Group (NGX) <https://ngxgroup.com/exchange/trade/equities/listed-companies/>

The total workforce of 10,688 constituted the study population. Sample size was determined using Yamane's (Azadegan et al., 2020; Butt, 2021) formula, which applies normal approximation with a 95% confidence level and 5% error tolerance. The formula is given as:

$$n = \frac{N}{1+N(e^2)}$$

Where: n = sample size; N= population = 10688; e = level of significance = 0.05

$$n = \frac{N}{1+N(e^2)} = \frac{10688}{1+10688(0.05^2)} = 385.569 \cong 386$$

The formula yielded a sample size of 386. However, the sample size was increased by 11% to arrive at a final sample size of 427. Purposive sampling, a non-probability sampling method, was used to administer questionnaires to employees in production, procurement, warehouse, logistics, and marketing departments.

This approach allows the researcher to deliberately select specific individuals based on particular criteria. The primary criterion for selecting respondents was their knowledge and familiarity with supply chain-related issues within their organizations. The model for this study adapts and modifies frameworks developed by Ambulkar et al. (2015) and Chen et al. (2021), which contain the fundamental constructs of supply chain disruption and organizational resilience. In this study, supply chain disruption consists of three variables serving as independent variables, while organizational resilience is measured across three dimensions as dependent variables. The models are stated functionally as:

$$CAR = (SCO, RMG, RCO) \dots\dots\dots (1)$$

$$STR = (SCO, RMG, RCO) \dots\dots\dots (2)$$

$$RER = (SCO, RMG, RCO) \dots\dots\dots (3)$$

Mathematically, the models are specified as follows:

$$CAR_i = \alpha_0 + \alpha_1 SCO_i + \alpha_2 RMG_i + \alpha_3 RCO_i + \varepsilon_i \dots\dots\dots (4)$$

$$STR_i = \beta_0 + \beta_1 SCO_i + \beta_2 RMG_i + \beta_3 RCO_i + \varepsilon_i \dots\dots\dots (5)$$

$$RER_i = \delta_0 + \delta_1 SCO_i + \delta_2 RMR_i + \delta_3 RCO_i + \varepsilon_i \dots\dots\dots (6)$$

Where:

- CAR = Capital Resilience
- STR = Strategic Resilience
- RER = Relationship Resilience
- SCO = Supply chain orientation
- RMG = Risk management
- RCO = Resource configuration capacities

α_0, β_0 , and δ_0 = Constant; ε = Error term;

And a priori expectations: $\alpha_1 \dots \alpha_3; \beta_1 \dots \beta_3; \delta_1 \dots \delta_3 > 0$

The items for operationalization and measurement were sub-sectionalized along the identified dimensions of dependent and independent variables. Variables were measured using Likert-type five-point scales. Table 2 shows the operational definitions and reliability scores of the constructs as reported in related previous studies.

Table 2: Operational definitions of variables, item source and reliability values

Variable	Operational definition	Item Source	Reliability values
Supply chain orientation	It connotes company's strategy that stresses the necessity of cooperation, coordination, and integration within the supply chain network	Ambulkar et al. (2015)	0.84
Resource configuration capabilities	It represents company's ability to efficiently manage and utilise available resources to optimise its supply chain operations.	Ambulkar et al. (2015)	0.83
Risk management	It represents the process a company uses in identifying, assessing, and mitigating potential risks and uncertainties that can disrupt the smooth flow of goods, services, and information across the supply chain network.	Ambulkar et al. (2015)	0.92
Capital resilience	This represents company's ability to withstand and recover from disruptions by efficiently managing available financial resources.	Chen et al. (2021)	0.86

Variable	Operational definition	Item Source	Reliability values
Strategic resilience	It involves the capacity of a company to adapt, respond, and maintain operations despite unforeseen events, such as natural disasters, economic downturns, geopolitical conflicts, or supply chain disruptions.	Chen <i>et al.</i> (2021)	0.79
Relationship resilience	It is the ability of a company to maintain strong and resilient relationships with their partners, customers, and other stakeholders within the supply chain network.	Chen <i>et al.</i> (2021)	0.90

Source: Researcher's compilation (2025)

3.2 Data presentation and analysis

Data were analyzed using descriptive statistics such as frequency distribution, mean, and standard deviation using SPSS version 24. Regression analysis was used to estimate the research model.

Table 3: Questionnaire distribution to sampled manufacturing firms

S/N	Company	Questionnaire		Response Rate
		Administered	Valid	
1	Guinness Nig Plc	28	25	89.3
2	Okomu Oil Palm Plc.	166	153	92.2
3	Presco Plc	233	212	91.0
Total		427	390	91.3

Source: Researcher's computation (2025)

A total of 427 questionnaires were administered, and 390 were found valid and usable. Response rates were 89.3% for Guinness Nigeria Plc, 92.2% for Okomu Oil Palm Plc, and 91.0% for Presco Plc, with an overall response rate of 91.3%.

Table 4: Demographic information of respondents

S/N	Items	Category	Frequency	Percent
1	Gender	Male	286	73.3
		Female	104	26.7
		Total	390	100.0
2	Age	20years and below	64	16.4
		21 - 30years	75	19.2
		31 - 40years	97	24.9
		41 - 50years	105	26.9
		Above 50years	49	12.6
		Total	390	100.0
3	Educational Qualification	SSCE/GCE	31	7.9
		NCE/Diploma/OND Equivalent or	169	43.3

S/N	Items	Category	Frequency	Percent
		HND/B.Sc or Equivalent	103	26.4
		Postgraduate	87	22.3
		Total	390	100.0
4	Length of Service	Below 1year	16	4.1
		1 - 3years	24	6.2
		4 - 6years	117	30.0
		7 - 10years	170	43.6
		Above 10years	63	16.2
		Total	390	100.0
5	Department	Production	143	36.7
		Procurement	38	9.7
		Warehouse	67	17.2
		Logistics	38	9.7
		Marketing	104	26.7
		Total	390	100.0

Source: Researcher's computation (2025)

Of the 390 respondents, 286 (73.3%) were male and 104 (26.7%) were female. Age distribution shows that 64 (16.4%) were 20 years or younger, 75 (19.2%) were between 21 and 30 years, 97 (24.9%) were between 31 and 40 years, 105 (26.9%) were between 41 and 50 years, and 49 (12.6%) were above 50 years. In terms of education, 31 (7.9%) had SSCE/GCE, 169 (43.3%) had NCE/Diploma/OND or equivalent, 103 (26.4%) had HND/B.Sc or equivalent, and 87 (22.3%) had postgraduate qualifications. Regarding length of service, 16 (4.1%) had worked for less than one year, 24 (6.2%) for 1–3 years, 117 (30.0%) for 4–6 years, 170 (43.6%) for 7–10 years, and 63 (16.2%) for over 10 years. By department, 143 (36.7%) were from production, 38 (9.7%) from procurement, 67 (17.2%) from warehouse, 38 (9.7%) from logistics, and 104 (26.7%) from marketing.

3.3 Normality Test

The preliminary analysis was conducted using normality test. Normality test was done using skewness and kurtosis as reported in Table 5 below:

Table 5: Normality test

Variables	N	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
SCO	390	3.729	1.054	-0.475	0.124	-0.914	0.247
RMG	390	3.683	1.104	-0.457	0.124	-0.906	0.247
RCO	390	3.323	1.168	-0.322	0.124	-1.017	0.247
CAR	390	3.253	0.921	-0.133	0.124	-0.899	0.247
STR	390	4.001	0.768	-0.673	0.124	0.108	0.247
RER	390	3.917	1.020	-1.066	0.124	0.487	0.247

Source: Researcher's computation (2025)

The mean scores were 3.729 (SCO), 3.683 (RMG), 3.323 (RCO), 3.253 (CAR), 4.001 (STR), and 3.917 (RER). Absolute skewness values ranged from 0.133 to 1.066, and absolute kurtosis values ranged from 0.487 to 1.017, falling within Kline's (Azadegan et al., 2020; Butt, 2021) benchmarks of 3.0 for skewness and 8.0 for kurtosis, confirming normal distribution.

3.4 Correlation Analyses

Bivariate Pearson correlation coefficients were conducted on the data for all the variables in the study. Table 6 shows the Pearson correlation coefficients among research variables.

Table 6: Pearson correlation coefficients among research variables

Variables	CAR	STR	RER	SCO	RMG	RCO
CAR	1.000					
STR	0.030	1.000				
RER	0.092	0.576**	1.000			
SCO	0.206**	0.639**	0.424**	1.000		
RMG	0.230**	0.602**	0.387**	0.478**	1.000	
RCO	0.222**	0.519**	0.360**	0.676**	0.586**	1.000

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

Source: Researcher's computation (2025)

According to Bryman and Cramer (Azadegan et al., 2020; Butt, 2021), correlation coefficients should not exceed 0.80 to avoid multicollinearity concerns. None of the coefficients reach this threshold. Capital resilience (CAR) is positively and significantly correlated with SCO ($r = 0.206$), RMG ($r = 0.230$), and RCO ($r = 0.222$). Strategic resilience (STR) is positively and significantly correlated with SCO ($r = 0.639$), RMG ($r = 0.602$), and RCO ($r = 0.519$). Relationship resilience (RER) is positively and significantly correlated with SCO ($r = 0.424$), RMG ($r = 0.387$), and RCO ($r = 0.360$).

3.5 Measurement Model

Table 7 presents item statistics, standardized estimates, validity, reliability scores, and confirmatory factor analysis (CFA) model fit.

Table 7: Measurement model

Variable	Indicator	Mean	Estimate	C.R.	AVE	Cronbach Alpha	Composite Reliability
Supply chain orientation (SCO)	SCO1	3.74	0.802	***	0.757	0.937	0.844
	SCO2	3.78	0.793	30.781			
	SCO3	3.65	0.779	29.156			
	SCO4	3.75	0.653	22.309			
Risk management (RMG)	RMG1	3.86	0.721	***	0.755	0.922	0.842
	RMG2	3.77	0.732	20.137			

Variable	Indicator	Mean	Estimate	C.R.	AVE	Cronbach Alpha	Composite Reliability
	RMG3	3.66	0.794	22.908			
	RMG4	3.45	0.775	22.453			
Strategic resilience (STR)	RCO1	3.33	0.737	***	0.721	0.926	0.764
	RCO2	3.39	0.725	28.047			
	RCO3	3.25	0.700	26.348			
Capital resilience (CAR)	CAR1	4.11	0.834	***	0.758	0.740	0.845
	CAR2	3.16	0.673	3.222			
	CAR3	2.71	0.769	3.237			
	CAR4	3.04	0.756	3.217			
strategic resilience (STR)	STR1	4.07	0.770	***	0.772	0.788	0.855
	STR2	3.86	0.719	6.135			
	STR3	4.01	0.807	7.819			
	STR4	4.07	0.791	7.795			
Relationship resilience (RER)	RER1	3.95	0.828	***	0.795	0.929	0.873
	RER2	3.89	0.766	23.419			
	RER3	3.99	0.827	25.463			
	RER4	3.84	0.757	22.891			
Model Fit Statistics							
CMIN (χ^2) = 542.864, df = 262, CMIN/df = 2.072, NFI = 0.872, RFI = 0.855, IFI = 0.935, TLI = 0.916, CFI = 0.935, RMSEA = 0.023							

Note: AVE = Average variance extracted; C.R. = Critical ratio; *** Items constrained for identification purposes.

Source: Researcher's computation (2025)

All factor loadings exceed 0.60. Average variance extracted (AVE) values range from 0.721 to 0.795, all exceeding 0.50, confirming convergent validity. Cronbach's alpha values (0.740–0.937) and composite reliability scores (0.764–0.873) indicate satisfactory internal consistency.

3.6 Structural Equation Model (SEM)

Table 8 presents the standardized estimates, standard errors (SE), critical ratios (CR), and p-values for the structural model.

Table 8: Estimated results of the structural model

Path	Standardized Estimate	SE	CR	p-value
H _{1a} : SCO → CAR	0.147	0.063	2.345	0.009.
H _{1b} : SCO → STR	0.563	0.100	5.652	0.000

Path	Standardized Estimate	SE	CR	p-value
H _{1c} : SCO → RER	0.184	0.047	3.902	0.000
H _{2a} : RCO → CAR	0.423	0.269	1.574	0.058
H _{2b} : RCO → STR	0.532	1.217	0.437	0.331
H _{2c} : RCO → RER	0.769	0.560	1.372	0.085
H _{3a} : RMG → CAR	0.368	0.048	7.671	0.000
H _{3b} : RMG → STR	0.664	0.051	13.115	0.000
H _{3c} : RMG → RER	0.688	0.127	5.418	0.000
Squared Multiple Correlation (R²) Capital Resilience (CAR) = 0.718; Strategic Resilience (STR) = 0.523; Relationship Resilience (RER) = 0.822				
Model Fit Statistics CMIN (χ^2) = 624.812, df = 271, CMIN/df = 2.306, NFI = 0.874, RFI = 0.864, IFI = 0.942, TLI = 0.921, CFI = 0.942, RMSEA = 0.065				

Source: Researcher's computation (2025)

The results show that supply chain orientation (SCO) has a positive and significant impact on capital resilience ($\beta = 0.147$, $t = 2.345$), strategic resilience ($\beta = 0.563$, $t = 5.652$), and relationship resilience ($\beta = 0.184$, $t = 3.902$). Resource configuration capabilities (RCO) show positive but non-significant impacts on capital resilience ($\beta = 0.423$, $t = 1.574$), strategic resilience ($\beta = 0.532$, $t = 0.437$), and relationship resilience ($\beta = 0.769$, $t = 1.372$). Risk management (RMG) shows positive and significant impacts on capital resilience ($\beta = 0.368$, $t = 7.671$), strategic resilience ($\beta = 0.664$, $t = 13.115$), and relationship resilience ($\beta = 0.688$, $t = 5.418$). The R² values for CAR, STR, and RER are 0.718, 0.523, and 0.822, respectively, indicating that the independent variables collectively account for 71.8%, 52.3%, and 82.2% of the variance in these resilience dimensions. The model fit indices (CMIN/df = 2.306, NFI = 0.874, RFI = 0.864, IFI = 0.942, TLI = 0.921, CFI = 0.942, RMSEA = 0.065) fall within acceptable ranges as suggested by Bagozzi and Yi (Azadegan et al., 2020; Butt, 2021) and Hooper et al. (Azadegan et al., 2020; Butt, 2021).

3.7 Differences in Organisational Resilience

To determine whether differences exist in the organizational resilience (CAR, STR, and RER) of the selected companies in managing supply chain disruptions, analysis of variance (ANOVA) was used. The results are shown in Table 9.

Table 9: ANOVA results of differences in organisational resilience

		Sum of Squares	Df	Mean Square	F	Sig.
CAR	Between Groups	9.928	2	4.964	5.997	0.003
	Within Groups	320.319	387	0.828		
	Total	330.247	389			
STR	Between Groups	.707	2	0.353	0.598	0.550
	Within Groups	228.668	387	0.591		
	Total	229.374	389			
RER	Between Groups	.757	2	0.378	0.363	0.696
	Within Groups	403.660	387	1.043		
	Total	404.417	389			

Source: Researcher's computation (2025)

The ANOVA results show a significant difference in capital resilience (CAR) across the selected companies [$F(2,387) = 5.997$; $p = 0.003$]. However, there is no significant difference in strategic resilience (STR) [$F(2,387) = 0.598$; $p = 0.550$] or relationship resilience (RER) [$F(2,387) = 0.363$; $p = 0.696$]. A post hoc test using the Student-Newman-Keuls approach was conducted to identify the source of the significant difference in capital resilience.

Table 10: Post Hoc Test using Student-Newman-Keuls^{a,b}

Company	N	Subset for alpha = 0.05	
		1	2
Okomu Oil Palm Plc	153	3.1944	
Presco Plc	212	3.2229	
Guinness Nig Plc	25		3.8600
Sig.		.866	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 58.533.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Source: Researcher's computation (2025)

Table 10 shows that the capital resilience (CAR) of Guinness Nigeria Plc ($\bar{X} = 3.8600$) is significantly higher than that of Okomu Oil Palm Plc ($\bar{X} = 3.1944$) and Presco Plc ($\bar{X} = 3.2229$).

3.8 Summary of test of hypotheses

The results in Table 11 were used to test hypotheses one to three while hypothesis four was tested using results in Table 11. The summary is shown in Table 4.15:

Table 11: Test of research hypotheses

S/N	Null Hypotheses	Outcome/Results	Decision
Hypothesis 1 (H_{01}): There is no significant relationship between supply chain orientation and organisational resilience			
H _{01a}	There is no significant relationship between supply chain orientation and capital resilience	$[\beta = 0.147, t = 2.345]$	Reject H _{01a}
H _{01b}	There is no significant relationship between supply chain orientation and strategic resilience	$[\beta = 0.563, t = 5.652]$	Reject H _{01b}
H _{01c}	There is no significant relationship between supply chain orientation and relationship resilience	$[\beta = 0.184, t = 3.902]$	Reject H _{01c}
Hypothesis 2 (H_{02}): Resource reconfiguration capabilities do not significantly impact organisational resilience			
H _{02a}	Resource reconfiguration capabilities do not significantly impact capital resilience	$[\beta = 0.423, t = 1.574]$	Do Not Reject H _{02a}
H _{02b}	Resource reconfiguration capabilities do not significantly impact strategic resilience	$[\beta = 0.769, t = 1.372]$	Do Not Reject H _{02b}
H _{02c}	Resource reconfiguration capabilities do not significantly impact relationship resilience	$[\beta = 0.532, t = 0.437]$	Do Not Reject H _{02c}
Hypothesis 3 (H_{03}): There is no significant relationship between risk management and organisational resilience			

S/N	Null Hypotheses	Outcome/Results	Decision
H _{03a}	There is no significant relationship between risk management and capital resilience	$[\beta = 0.368, t = 7.671]$	Reject H _{03a}
H _{03b}	There is no significant relationship between risk management and strategic resilience	$[\beta = 0.664, t = 13.115]$	Reject H _{03b}
H _{03c}	There is no significant relationship between risk management and relationship resilience	$[\beta = 0.688, t = 5.418]$	Reject H _{03c}
Hypothesis 4 (H ₀₄): There are no significant differences in the organisational resilience of the selected companies in managing disruptions in their supply chains.			
H _{04a}	There are no significant differences in the capital resilience of the selected companies in managing disruptions in their supply chains.	$\{F(2,387) = 5.997; p = 0.003\}$	Reject H _{04a}
H _{04b}	There are no significant differences in the strategic resilience of the selected companies in managing disruptions in their supply chains.	$\{F(2,387) = 0.598; p = 0.550\}$	Do Not Reject H _{04a}
H _{04c}	There are no significant differences in the relationship resilience of the selected companies in managing disruptions in their supply chains.	$\{F(2,387) = 0.363; p = 0.696\}$	Do Not Reject H _{04b}

Source: Researcher's compilation (2025)

4. Findings

The findings reveal that supply chain orientation plays a crucial role in enhancing organizational resilience across all three dimensions examined. This aligns with Christopher and Peck (Azadegan et al., 2020; Butt, 2021), who assert that organizations with a high supply chain orientation are better equipped to withstand disruptions. To effectively respond to and recover from disruptions, organizations need strategies and practices that enhance supply chain flexibility and adaptability. Kochan and Nowicki (Azadegan et al., 2020; Butt, 2021) further support this, highlighting that supply chain orientation serves as a proactive strategy for identifying and managing disruptions effectively. By recognizing potential disruptions and implementing resilience measures into supply chain plans, companies can mitigate the impact of disruptions effectively.

Furthermore, organizations that focus on managing supply chain disruptions are better prepared to deal with future disruptions successfully. Hussain et al. (2023) and Jadhav et al. (Azadegan et al., 2020; Butt, 2021) demonstrate that organizations that learn from previous disruptions and remain vigilant about their environment are better positioned to respond to future challenges. This underscores the importance of maintaining a supply chain orientation that enables organizations to anticipate and effectively manage disruptions. Specifically, supply chain orientation enhances capital resilience by enabling organizations to effectively manage their resources in the face of disruptions. By building robust supply chain networks and investing in resource diversification, organizations can minimize the impact of disruptions on their capital resources, allowing them to maintain financial stability and sustain operations during crises. Strategic resilience is also positively influenced by supply chain orientation, as organizations with strong supply chain orientation are better equipped to adapt their strategies in response to disruptions. Additionally, supply chain orientation enhances relationship resilience by fostering strong partnerships and collaborations within the supply chain network, providing a foundation of trust and cooperation during times of crisis. Contrary to the findings of Ambulkar et al. (2015), who concluded that resource configuration capabilities significantly impact firm resilience, this study found no significant impact of resource configuration capabilities on organizational resilience. Organizations with excellent resource configuration capabilities

can quickly rearrange their resources, reallocating them to areas that demand immediate attention. This flexibility enables organizations to maintain operations while mitigating the detrimental effects of disruption. However, the outcome of this study challenges the assertion that resource configuration capabilities alone enhance resilience.

This finding implies that while resources are necessary for organizational resilience, resource configuration capabilities alone do not guarantee resilience. Factors beyond resource configuration capabilities may also influence organizational resilience. The conflicting findings highlight the complexity of this relationship. From a practical perspective, organizations should not rely solely on resource configuration capabilities to enhance resilience. Instead, they should develop a comprehensive resilience strategy that encompasses a range of factors, including organizational culture and leadership. This may involve investing in training and development programs to enhance employees' ability to respond to and adapt to disruptions effectively. Risk management demonstrated a significant impact on all dimensions of organizational resilience capital, strategic, and relationship. This implies that risk management is a crucial aspect of organizational resilience. The significance of risk management is supported by Ambulkar et al. (2015), who found that firms that concentrate on managing supply chain disruptions tend to develop more robust risk management infrastructure, thus enhancing overall resilience. A well-designed supply chain risk management framework not only reduces the effects of disruptions but also clarifies roles and responsibilities within the organization, facilitating job specialization and minimizing operational uncertainty during supply chain interruptions. Ambulkar et al. (2015) observed a direct correlation between risk management practices and organizational resilience, noting that firms with a focus on supply chain disruption management tend to possess more sophisticated risk management architecture, enabling them to better withstand and recover from disruptions. One key advantage of a well-structured supply chain risk management framework is its ability to reduce operational uncertainty during disruptions. By clearly defining roles and responsibilities, the framework ensures that employees know what is expected of them, enabling swift decision-making and response. Moreover, a clear framework allows for job specialization, ensuring that employees have the necessary skills and resources to manage specific types of disruptions. A robust framework also enhances an organization's ability to respond quickly to disruptions, enabling proactive measures to mitigate risks before they escalate. Furthermore, such a framework can help organizations build stronger relationships with suppliers by clearly communicating risk management policies and procedures, building trust and confidence.

The study found a significant difference in capital resilience across the selected manufacturing companies, but no significant differences in strategic resilience or relationship resilience. The significant difference in capital resilience suggests varying levels of financial robustness. This could be attributed to differences in financial management practices, investment strategies, and overall financial health. Companies with higher capital resilience are better positioned to navigate financial crises, invest in innovation, and pursue growth opportunities. The post hoc test revealed that Guinness Nigeria Plc had significantly higher capital resilience than Okomu Oil Palm Plc and Presco Plc. The absence of significant differences in strategic resilience implies that, despite differences in capital resilience, the selected companies exhibit similar capabilities in strategic adaptation and responsiveness. This suggests comparable strategic planning processes, risk management frameworks, and mechanisms for monitoring strategic initiatives.

Conclusion

This study investigated the dimensions of supply chain disruption that influence organizational resilience in selected quoted agriculture and consumer goods sectors in Nigeria. Specifically, the study examined the impact of supply chain orientation, risk management, and resource configuration capabilities on capital resilience, strategic resilience, and relationship resilience. The findings indicate that supply chain orientation has a positive and significant impact on all three dimensions of organizational resilience. Companies with a strong focus on managing their supply chains are better equipped to withstand disruptions and maintain financial stability, strategic adaptability, and stakeholder relationships. Similarly, risk

management has a significant impact on all dimensions of organizational resilience. Effective risk management practices enable organizations to anticipate, mitigate, and respond to disruptions, thereby enhancing their ability to maintain financial stability, adapt strategies, and manage stakeholder relationships. Contrary to expectations, resource configuration capabilities did not have a significant impact on organizational resilience. While resource configuration capabilities are important for managing supply chain disruptions, they may not necessarily translate into improved organizational resilience across all dimensions. This suggests that factors beyond resource configuration such as organizational culture, leadership, and strategic alignment may also play critical roles. The study also found a significant difference in capital resilience among the selected companies, but no significant differences in strategic resilience or relationship resilience. This suggests that while these companies may differ in financial robustness, they demonstrate similar levels of strategic adaptability and relationship management capabilities. These findings highlight the critical importance of supply chain orientation and risk management in enhancing organizational resilience. Companies with strong supply chain management and effective risk management practices are better positioned to withstand disruptions. However, the study also underscores the need for further research to explore the factors influencing differences in capital resilience among manufacturing companies and to identify strategies for enhancing strategic and relationship resilience across sectors.

REFERENCES

- Acciarini, C., Boccadelli, P., & Vitale, M. (2021). Resilient companies in the time of Covid-19 pandemic: A case study approach. *Journal of Entrepreneurship and Public Policy*, 10(3), 336–351.
- Aldianto, L., Anggadwita, G., Permatasari, A., Mirzanti, I. R., & Williamson, I. O. (2021). Toward a business resilience framework for startups. *Sustainability*, 13(6), 3132.
- Ambulkar, S., Blackhurst, J., & Grawe, S. (2015). Firm's resilience to supply chain disruptions: Scale development and empirical examination. *Journal of Operations Management*, 33, 111–122.
- Azadegan, A., Mellat Parast, M., Lucianetti, L., Nishant, R., & Blackhurst, J. (2020). Supply chain disruptions and business continuity: An empirical assessment. *Decision Sciences*, 51(1), 38–73.
- Butt, A. S. (2021). Strategies to mitigate the impact of COVID-19 on supply chain disruptions: A multiple case analysis of buyers and distributors. *The International Journal of Logistics Management*.
- Chen, R., Xie, Y., & Liu, Y. (2021). Defining, conceptualizing, and measuring organizational resilience: A multiple case study. *Sustainability*, 13(5), 2517.
- Christopher, M., & Peck, H. (2004). Building the resilient supply chain. *International Journal of Logistics Management*, 15(2), 1–13.
- Colberg, T. (2022). Strategic resilience: A systematic review of leading literature. *Journal of Business Management*, 20, 1–22.
- Denison, D. R., & Mishra, A. K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science*, 6(2), 204–223.
- Gebhardt, M., Spieske, A., Kopyto, M., & Birkel, H. (2022). Increasing global supply chains' resilience after the COVID-19 pandemic: Empirical results from a Delphi study. *Journal of Business Research*, 150, 59–72. <https://doi.org/10.1016/j.jbusres.2022.06.008>
- Holbeche, L. (2023). *The agile organization: How to build an engaged, innovative and resilient business*. Kogan Page Publishers.
- Hussain, G., Nazir, M. S., Rashid, M. A., & Sattar, M. A. (2023). From supply chain resilience to supply chain disruption orientation: The moderating role of supply chain complexity. *Journal of Enterprise Information Management*, 36(1), 70–90.
- Ivanov, D. (2020). Predicting the impacts of epidemic outbreaks on global supply chains: A simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case. *Transportation Research Part E: Logistics and Transportation Review*, 136, 101922.
- Pettit, T. J., Croxton, K. L., & Fiksel, J. (2013). Ensuring supply chain resilience: Development and implementation of an assessment tool. *Journal of Business Logistics*, 34(1), 46–76.
- Rice, J. B., & Caniato, F. (2003). Building a secure and resilient supply network. *Supply Chain Management Review*, 7(5), 22–30.
- Scholten, K., Stevenson, M., & van Donk, D. P. (2020). Dealing with the unpredictable: Supply chain resilience. *International Journal of Operations & Production Management*, 40(1), 1–10.
- Shashi, Centobelli, P., Cerchione, R., & Ertz, M. (2020). Managing supply chain resilience to pursue business and environmental strategies. *Business Strategy and the Environment*, 29(3), 1215–1246.
- Sheffi, Y., & Rice Jr, J. B. (2005). A supply chain view of the resilient enterprise. *MIT Sloan Management Review*. Available at: sloanreview.mit.edu
- Spieske, A., & Birkel, H. (2021). Improving supply chain resilience through Industry 4.0: A systematic literature review under the impressions of the COVID-19 pandemic. *Computers & Industrial Engineering*, 158, 107452. <https://doi.org/10.1016/j.cie.2021.107452>
- Stadtfeld, G. M., & Gruchmann, T. (2024). Dynamic capabilities for supply chain resilience: A meta-review. *The International Journal of Logistics Management*, 35(2), 623–648. <https://doi.org/10.1108/IJLM-09-2022-0373>
- Teece, D. J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45(1), 8–37.

Tukamuhabwa, B. R. (2023). Supply chain orientation and supply chain risk management capabilities: Mechanisms for supply chain performance of agro-food processing firms in Uganda. *Journal of African Business*, 1–24.