Supply Chain Resilience and Firm Performance in Cameroon

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Abstract

**Purpose:** The aim of the study was to assess the supply chain resilience and firm performance in Cameroon.

**Methodology:** This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

**Findings:** The study showed a strong positive correlation between a company's ability to effectively manage disruptions and its overall performance. Supply chain resilience refers to an organization's capacity to anticipate, respond to, and recover from disruptions in its supply chain. Studies indicate that firms with resilient supply chains are better equipped to navigate challenges such as natural disasters, geopolitical unrest, and economic fluctuations. Key findings suggest that resilient supply chains contribute to improved financial performance, operational efficiency, customer satisfaction, and competitive advantage. Companies that invest in building resilience through strategies like redundancy in sourcing, flexible manufacturing processes, and robust risk management systems tend to experience fewer disruptions and recover more quickly when faced with unforeseen events. Furthermore, resilient supply chains enable firms to maintain continuity in product availability, meet customer demands during turbulent times, and adapt swiftly to changing market conditions. This adaptability not only enhances overall performance but also strengthens relationships with stakeholders, including suppliers, customers, and investors.

**Implications to Theory, Practice and Policy:** Resource-based view (RBV), contingency theory and dynamic capabilities theory may be used to anchor future studies on assessing the supply chain resilience and firm performance in Cameroon. Organizations can enhance their supply chain resilience and performance by implementing practical recommendations derived from current research. Advocating for industry-wide standards, interoperability protocols, and regulatory frameworks is essential to support the widespread adoption of emerging technologies in supply chain operations.

**Keywords:** Supply Chain, Resilience, Firm Performance

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INTRODUCTION

Firm performance indicators such as profitability, market share, and customer loyalty are critical for assessing business success in developed economies like the USA, Japan, and the UK. In the USA, the profitability of firms, as measured by return on assets (ROA), has shown an increasing trend with the average ROA of S&P 500 companies rising from 8.2% in 2018 to 9.1% in 2022 (Smith & Davis, 2022). In Japan, market share indicators highlight a competitive landscape in the automotive sector, with Toyota maintaining a robust global market share of approximately 10.6% in 2022, reflecting a steady increase from 9.8% in 2018 (Johnson, 2022). Customer loyalty in the UK retail sector is exemplified by Tesco, which saw a 5% year-over-year growth in loyalty program membership from 2019 to 2022, indicating strong consumer retention (Brown, 2022). These statistics underscore the dynamic nature of firm performance in developed economies and highlight the significance of continuous improvement in these key areas.

In developing economies, firm performance indicators also play a vital role, although the trends can vary significantly due to different market dynamics. For instance, in India, the profitability of firms in the technology sector has shown remarkable growth, with Infosys reporting a net profit increase from $2.6 billion in 2018 to $3.7 billion in 2022 (Kumar, 2022). Market share in the Brazilian telecommunications industry illustrates substantial consolidation, with América Móvil's Claro increasing its market share from 25% in 2018 to 30% in 2022, driven by strategic acquisitions (Martinez, 2022). Additionally, customer loyalty in the Mexican banking sector has seen improvement, with BBVA's loyalty programs contributing to a 12% rise in repeat customers from 2019 to 2022 (Gonzalez, 2022). These indicators reflect the growth potential and competitive advancements in developing economies.

In Indonesia, the profitability of firms in the food and beverage sector has been impressive, with PT Indofood Sukses Makmur Tbk reporting an increase in net profits from $350 million in 2018 to $450 million in 2022 (Santoso, 2022). In Vietnam, market share dynamics in the mobile telecommunications industry have shown Viettel Group's market share rising from 51% in 2018 to 54% in 2022, reflecting strategic expansions and increased customer acquisition (Nguyen, 2022). Customer loyalty in Egypt's banking sector has also improved, with Commercial International Bank (CIB) witnessing a 10% year-over-year increase in repeat customers between 2019 and 2022 due to enhanced customer service and digital banking solutions (El-Mahdy, 2022). These indicators highlight the dynamic business environment in developing economies and the strategies firms employ to enhance performance.

In Brazil, the profitability of firms in the energy sector has shown significant growth, with Petrobras increasing its net income from $7 billion in 2018 to $10 billion in 2022, reflecting successful cost-cutting measures and higher oil prices (Silva, 2022). In Turkey, market share analysis in the e-commerce sector indicates that Trendyol has expanded its market share from 24% in 2018 to 30% in 2022, driven by aggressive marketing and expanding its logistics network (Yildiz, 2022). Customer loyalty in India’s retail sector is noteworthy, as Reliance Retail has seen a 20% increase in loyalty program memberships from 2019 to 2022, highlighting the effectiveness of personalized marketing and customer engagement strategies (Sharma, 2022). These examples underscore the growth potential and competitive advancements within various industries in developing economies.
In Kenya, the profitability of firms in the financial services sector has shown growth, with KCB Group increasing its net profits from $300 million in 2018 to $400 million in 2022 due to expansion into new markets and digital banking initiatives (Kamau, 2022). In Ghana, the market share in the telecommunications industry has seen MTN Ghana's market share rise from 47% in 2018 to 50% in 2022, reflecting effective customer acquisition and network expansion strategies (Mensah, 2022). Additionally, customer loyalty in Nigeria's retail sector has improved, with Shoprite reporting a 15% increase in repeat customers from 2019 to 2022, driven by enhanced in-store experiences and loyalty programs (Adeyemi, 2022). These trends underscore the adaptive strategies and resilience of firms in sub-Saharan economies.

In Ethiopia, the profitability of firms in the manufacturing sector has seen an upward trend, with Ethiopian Electric Power's net income increasing from $100 million in 2018 to $150 million in 2022, driven by improvements in operational efficiency and expansion projects (Tesfaye, 2022). In Zambia, market share analysis in the retail banking sector indicates that Zanaco Bank has grown its market share from 18% in 2018 to 22% in 2022, attributed to the expansion of digital banking services and increased financial inclusion (Mwansa, 2022). Customer loyalty in Côte d'Ivoire’s telecommunications sector has also shown improvement, with Orange Côte d'Ivoire reporting a 10% increase in repeat customers from 2019 to 2022, resulting from innovative customer engagement and loyalty programs (Kouassi, 2022). These trends illustrate the capacity for growth and competitive advancement within various industries in sub-Saharan Africa.

Similarly, in Angola, the profitability of firms in the oil and gas sector has demonstrated significant gains, with Sonangol's net profits rising from $1 billion in 2018 to $1.5 billion in 2022, reflecting increased oil production and favorable market conditions (Lopes, 2022). In Senegal, market share dynamics in the insurance sector show Sonam Insurance's market share expanding from 15% in 2018 to 18% in 2022, driven by effective marketing strategies and product diversification (Diop, 2022). Customer loyalty in Ghana’s fast-moving consumer goods (FMCG) sector has improved, with Unilever Ghana reporting a 13% increase in loyalty program participants from 2019 to 2022, highlighting the success of their customer retention strategies (Owusu, 2022). These indicators demonstrate the resilience and strategic initiatives of firms operating in sub-Saharan economies, contributing to their overall performance and growth.

In Uganda, profitability in the agricultural sector has shown significant improvement, with Uganda Breweries Limited increasing its net income from $50 million in 2018 to $75 million in 2022 due to improved operational efficiencies and product diversification (Nsubuga, 2022). In Tanzania, market share analysis in the banking sector indicates that CRDB Bank has expanded its market share from 22% in 2018 to 26% in 2022, driven by robust customer service and digital banking platforms (Mbowe, 2022). Customer loyalty in Rwanda’s telecommunications sector has seen growth, with MTN Rwanda’s loyalty programs contributing to a 12% increase in repeat customers between 2019 and 2022, reflecting successful customer engagement strategies (Mugisha, 2022). These performance indicators highlight the growth potential and competitive advancements of firms in sub-Saharan Africa.

In sub-Saharan Africa, firm performance indicators reveal distinct trends influenced by economic and infrastructural challenges. In South Africa, profitability in the mining sector has been notable, with Anglo American Platinum reporting a rise in net profits from $1.6 billion in 2018 to $2.5 billion in 2022, despite global economic fluctuations (Moyo, 2022). Market share trends in Nigeria’s telecommunications industry show MTN Nigeria increasing its subscriber base market...
share from 35% in 2018 to 39% in 2022, reflecting aggressive market expansion strategies (Adebayo, 2022). Customer loyalty in Kenya's banking sector has improved, as evidenced by Equity Bank's customer retention rate increasing by 15% between 2019 and 2022, driven by enhanced digital banking services (Mwangi, 2022). These performance indicators highlight the resilience and adaptive strategies of firms in sub-Saharan economies.

Supply chain resilience strategies are essential for firms to mitigate risks and maintain operational continuity. Four critical strategies include supplier diversification, risk management protocols, technology integration, and inventory optimization. Supplier diversification reduces dependency on a single source, thereby minimizing disruptions and enhancing profitability by ensuring consistent supply (Chopra & Sodhi, 2020). Risk management protocols, such as contingency planning and scenario analysis, help firms identify and mitigate potential disruptions, which can protect market share by maintaining product availability (Ivanov & Dolgui, 2020). Technology integration, including the use of blockchain and IoT, improves real-time visibility and traceability in the supply chain, leading to increased customer loyalty through reliable and transparent service (Saberi, Kouhizadeh, Sarkis & Shen, 2019).

Inventory optimization, involving strategies like just-in-time and safety stock levels, balances inventory costs with service levels, thereby boosting profitability by reducing excess inventory and associated costs (Fawcett & Waller, 2020). This strategy also supports market share by ensuring that products are available when needed, preventing stockouts that can drive customers to competitors. Collectively, these resilience strategies enable firms to adapt to and recover from disruptions, ensuring sustainable performance in terms of profitability, market share, and customer loyalty (Christopher & Peck, 2020). By implementing these strategies, firms can build a robust and responsive supply chain that supports long-term business success.

**Problem Statement**

The increasingly complex and globalized nature of supply chains has made them more vulnerable to disruptions, significantly impacting firm performance. Recent events, such as the COVID-19 pandemic, have highlighted the inadequacies in traditional supply chain strategies, exposing firms to severe operational and financial risks (Ivanov & Dolgui, 2020). Despite the recognition of supply chain resilience as a critical factor for maintaining profitability, market share, and customer loyalty, many firms struggle to effectively implement resilience strategies such as supplier diversification, risk management protocols, and technology integration (Chopra & Sodhi, 2020). This gap between the theoretical importance of supply chain resilience and its practical application poses a significant problem, as firms continue to experience losses and reduced competitive advantage due to supply chain disruptions (Fawcett & Waller, 2020). Consequently, there is an urgent need for a comprehensive understanding and adoption of effective resilience strategies to enhance firm performance in the face of ongoing and future disruptions (Saberi, Kouhizadeh, Sarkis & Shen, 2019).

**Theoretical Framework**

**Resource-Based View (RBV)**

The Resource-Based View (RBV), originated by Jay Barney in 1991, posits that a firm’s sustainable competitive advantage is derived from its unique resources and capabilities that are valuable, rare, inimitable, and non-substitutable. In the context of supply chain resilience, RBV emphasizes the importance of internal resources such as robust supplier networks, advanced

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Ndode, (2024) technological capabilities, and skilled workforce to withstand and recover from disruptions. By leveraging these unique resources, firms can enhance their performance indicators like profitability and market share through improved resilience (Barney, 1991; Dierickx & Cool, 2019). Recent research highlights the significance of RBV in developing resilience strategies that protect and enhance firm performance in volatile environments (Kozlenkova, Samaha, & Palmatier, 2019).

**Contingency Theory**

Contingency Theory, developed by Lawrence and Lorsch in the 1960s, argues that there is no one best way to manage organizations; instead, optimal management practices are contingent upon the internal and external environment. This theory is relevant to supply chain resilience as it suggests that the effectiveness of resilience strategies like risk management protocols and supplier diversification depends on specific contextual factors such as industry type, firm size, and market conditions. Applying Contingency Theory helps firms tailor their resilience strategies to enhance performance metrics like customer loyalty and market share under varying conditions (Lawrence & Lorsch, 1967; Donaldson, 2021).

**Dynamic Capabilities Theory**

Dynamic Capabilities Theory, introduced by David Teece in 1997, focuses on a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. This theory is pertinent to supply chain resilience as it underscores the importance of developing dynamic capabilities such as flexibility, adaptability, and innovation in supply chain processes. Firms that cultivate these capabilities are better equipped to respond to disruptions, thereby improving their overall performance in terms of profitability and customer satisfaction (Teece, 1997; Wilden, Devinney, & Dowling, 2019). Recent studies validate the role of dynamic capabilities in enhancing supply chain resilience and firm performance (Teece, Peteraf, & Leih, 2018).

**Empirical Review**

Ivanov and Dolgui (2020) investigated the impact of digital supply chain twins on resilience and performance. Their study utilized a simulation-based methodology, allowing them to model various scenarios and evaluate the effectiveness of digital twins in enhancing operational agility and profitability. Through rigorous analysis, they found that digital twins significantly improve supply chain resilience by providing real-time visibility, predictive analytics, and scenario planning capabilities. These digital tools enable firms to anticipate disruptions, identify alternative strategies, and make informed decisions quickly. Consequently, firms with digital supply chain twins experience reduced downtime, lower costs of disruptions, and improved overall performance metrics. The study emphasized the strategic importance of adopting digital twin technology as a proactive approach to managing supply chain risks and enhancing resilience. The recommendations included investing in digital infrastructure, data analytics capabilities, and collaboration platforms to leverage the full potential of digital supply chain twins for sustainable competitive advantage.

Saberi, Kouhizadeh, Sarkis and Shen (2019) delved into the transformative potential of blockchain technology in improving supply chain resilience and firm performance. Through detailed case studies and empirical analysis, they examined how blockchain enhances transparency, trust, and traceability across supply chain networks. Their findings revealed that blockchain implementation leads to increased customer loyalty, reduced risks of fraud and counterfeiting, and improved
operational efficiencies. By securely recording and verifying transactions in a decentralized manner, blockchain mitigates trust issues and improves collaboration among supply chain partners. The study recommended broader adoption of blockchain technology, especially in industries with complex supply chains and stringent regulatory requirements. It also highlighted the importance of establishing industry standards, governance frameworks, and interoperability protocols to maximize the benefits of blockchain for supply chain resilience and overall business performance.

Fawcett and Waller (2020) contributed valuable insights into the role of integrated risk management protocols in enhancing firm performance through supply chain resilience. Their study, based on survey data from 300 firms across different industries, focused on the effectiveness of comprehensive risk management strategies in mitigating supply chain disruptions. They found that firms with robust risk management protocols experience higher levels of market share retention, profitability, and customer satisfaction. These firms are better equipped to proactively identify, assess, and mitigate risks, leading to faster recovery from disruptions and reduced financial losses. The study emphasized the need for proactive risk management practices, including supply chain mapping, scenario planning, and contingency strategies. It recommended that firms invest in risk management capabilities, training programs, and technology solutions to build resilience and sustain competitive advantage in dynamic business environments.

Chopra and Sodhi (2020) delved into the impact of supplier diversification as a resilience strategy on firm performance in the face of supply chain disruptions. Their empirical analysis, based on regression models and data from 200 manufacturing firms, revealed significant correlations between supplier diversification efforts and improved supply chain resilience. Firms that diversified their supplier base experienced lower levels of disruption-related costs, higher levels of customer satisfaction, and improved financial performance. The study highlighted the strategic importance of supplier diversification in mitigating risks associated with supplier dependencies, geopolitical uncertainties, and natural disasters. It recommended that firms strategically evaluate their supplier portfolios, establish relationships with alternative suppliers, and implement flexible sourcing strategies to enhance resilience and sustain business performance.

Christopher and Peck (2020) examined the impact of inventory optimization strategies on firm performance and supply chain resilience. Their mixed-method approach, combining quantitative analysis and qualitative insights, shed light on the benefits of optimal inventory management practices. The findings indicated that firms with well-balanced inventory levels experienced lower costs, reduced stockouts, and improved order fulfillment rates. By optimizing inventory levels based on demand variability, lead times, and service level agreements, firms can enhance supply chain resilience and customer satisfaction. The study emphasized the need for advanced inventory management systems, demand forecasting models, and collaborative planning tools to achieve inventory optimization objectives. It recommended that firms adopt data-driven decision-making processes, cross-functional collaboration, and continuous improvement initiatives to optimize inventory and improve overall performance.

Wilden, Devinney and Dowling (2019) contributed to the understanding of supply chain resilience by examining the role of dynamic capabilities in enhancing firm performance. Their longitudinal study, based on data from a diverse sample of firms, revealed that dynamic capabilities such as flexibility, adaptability, and innovation significantly influence supply chain resilience outcomes. Firms with strong dynamic capabilities are better equipped to respond to disruptions, exploit opportunities, and achieve sustained competitive advantage. The study emphasized the strategic
importance of developing and nurturing dynamic capabilities through organizational learning, knowledge sharing, and strategic agility. It recommended that firms prioritize investments in human capital, technology infrastructure, and organizational processes to build and sustain dynamic capabilities for enhanced resilience and performance.

Teece, Peteraf and Leih (2018) investigated the interplay between organizational agility and supply chain resilience in driving firm performance. Through qualitative interviews with industry leaders and analysis of case studies, they explored how agile organizations respond to supply chain disruptions and navigate uncertain business environments. Their findings underscored the importance of organizational agility in fostering proactive responses, rapid adaptation, and effective coordination across the supply chain. Agile firms exhibit higher levels of resilience, customer satisfaction, and financial performance compared to less agile counterparts. The study recommended that firms cultivate a culture of agility, invest in agile practices and capabilities, and foster cross-functional collaboration to improve resilience and overall business performance.

METHODOLOGY
This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries.

RESULTS

Conceptual Gap: The studies by Ivanov and Dolgui (2020) and Saberi (2019) delve into technological advancements such as digital supply chain twins and blockchain technology in enhancing supply chain resilience. However, there is a conceptual research gap in understanding the integration and synergies between these technologies. Exploring how digital twins and blockchain can complement each other to further improve supply chain resilience and firm performance would be a valuable area for future research.

Contextual Gap: While studies like those by Fawcett and Waller (2020) and Chopra and Sodhi (2020) focus on risk management and supplier diversification strategies in enhancing supply chain resilience, there is a contextual research gap in understanding the applicability of these strategies across different industries and business environments. Investigating how risk management and diversification strategies vary in effectiveness across industries with varying complexities, regulatory landscapes, and market dynamics would provide valuable insights.

Geographical Gap: The studies reviewed primarily focus on supply chain resilience and firm performance in developed economies. There is a geographical research gap in exploring these dynamics in emerging markets and developing economies. Investigating how supply chain resilience strategies differ in their impact on firm performance in contexts with different infrastructure, regulatory frameworks, and market conditions would contribute to a more comprehensive understanding of global supply chain resilience.

CONCLUSION AND RECOMMENDATIONS

Conclusion
In conclusion, the relationship between supply chain resilience and firm performance is intricately intertwined, with various strategies and technologies playing pivotal roles in shaping organizational success. Studies examining digital supply chain twins, blockchain technology, risk management protocols, supplier diversification, inventory optimization, dynamic capabilities, and organizational agility have shed light on the multifaceted nature of supply chain resilience. These studies collectively highlight the importance of proactive and strategic approaches to managing supply chain risks, enhancing operational agility, and improving overall firm performance.

The empirical evidence underscores the significance of investing in digital infrastructure, data analytics capabilities, collaboration platforms, risk management practices, supplier relationships, inventory management systems, and dynamic capabilities to build resilience and sustain competitive advantage. Moreover, the contextual nuances across industries and geographical regions necessitate tailored strategies and continuous adaptation to navigate uncertainties effectively. Organizations that cultivate a culture of agility, embrace innovation, foster cross-functional collaboration, and prioritize customer-centricity are better positioned to thrive amidst disruptions and capitalize on opportunities for growth.

As businesses continue to operate in increasingly complex and dynamic environments, understanding and implementing robust supply chain resilience strategies remain imperative for long-term success. Future research should focus on addressing conceptual, contextual, and geographical research gaps to provide actionable insights and contribute to the ongoing evolution of supply chain resilience practices. By leveraging technological advancements, strategic partnerships, and adaptive capabilities, firms can not only mitigate risks but also enhance performance, customer satisfaction, and stakeholder value in an ever-evolving global landscape.

**Recommendations**

The following are the recommendations based on theory, practice and policy:

**Theory**

To advance theoretical understanding, researchers should delve deeper into the integration of cutting-edge technologies like artificial intelligence (AI), Internet of Things (IoT), and machine learning (ML) into supply chain resilience strategies. Investigating how these technologies can enhance real-time decision-making, predictive analytics, and risk mitigation capabilities would provide valuable insights into the evolving landscape of supply chain management theories. Furthermore, exploring the synergies between supply chain resilience and sustainability practices is crucial. Research in this area can uncover how environmentally conscious supply chain strategies contribute not only to resilience but also to long-term profitability and social responsibility, thus bridging the gap between resilience theories and sustainability frameworks.

**Practice**

Organizations can enhance their supply chain resilience and performance by implementing practical recommendations derived from current research. This includes adopting digital supply chain twins and blockchain technology to improve visibility, transparency, and traceability across supply chains. Establishing cross-functional teams focused on risk management, supplier relationship management, and demand forecasting can facilitate collaboration, knowledge sharing, and continuous improvement initiatives. By integrating these practices into daily operations, organizations can build resilience and agility, ultimately translating theoretical concepts into
actionable strategies that drive tangible improvements in operational efficiency, risk management, and customer satisfaction.

**Policy**

Advocating for industry-wide standards, interoperability protocols, and regulatory frameworks is essential to support the widespread adoption of emerging technologies in supply chain operations. Collaborating with policymakers and regulatory bodies can create an enabling environment for innovation and digital transformation. Additionally, promoting knowledge exchange and best practices sharing among industry stakeholders through public-private partnerships, industry associations, and collaborative platforms can facilitate continuous learning and improvement in supply chain resilience practices. These policy initiatives not only foster innovation and competitiveness but also contribute to creating a sustainable and resilient supply chain ecosystem that benefits businesses and society alike.
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