

## Investigating the Influence of Sourcing Effectiveness and Dynamic Capabilities on Humanitarian Supply Chain Performance in Uganda

Caleb Tumusiime<sup>1</sup>, Bonny Bagenda<sup>2</sup>, Sumaya M. Kagoya<sup>3</sup> and Sheila Namagembe<sup>4</sup>

### Abstract

*The research investigated how sourcing effectiveness and dynamic capabilities influences the performance of supply chains within humanitarian organizations in northern Uganda. This research was prompted by the ongoing subpar performance of humanitarian supply chains. A quantitative, cross-sectional research design was employed, involving 60 humanitarian organizations in northern Uganda. From each organization, five participants were chosen to take part in the study. The findings indicated that both sourcing effectiveness and dynamic capabilities positively influence supply chain performance of humanitarian organizations. The study, therefore, recommended improving sourcing effectiveness by ensuring thorough supplier selection that identifies capable, competent suppliers. Humanitarian organisations should also shift from transactional procurement to strategic sourcing by strengthening supplier prequalification, framework agreements, and long-term partnerships, especially with local and regional suppliers. Since dynamic capabilities had more predictive power compared to sourcing effectiveness, there should be more investment in systems and practices that enhance sensing, seizing, and reconfiguration capabilities. Humanitarian organisations must continuously adapt their procurement and logistics strategies to shifting contexts, including refugee influxes, climate changes, donor requirements, and security dynamics.*

**Keywords:** Sourcing effectiveness, dynamic capabilities, supply chain performance.

### Introduction

The world in the 21<sup>st</sup> century continues to experience recurring cycles of disasters, resulting in countless instances of human suffering (Mishra, Bruno, & Zilberman., 2021). Notable events that have disrupted the world and increased human suffering include; “September 11, 2001 attacks, hurricane Katrina in 2005, the 2010 Arab Spring, 2011 floods in Thailand, the earthquake in Japan in 2011, COVID-19 pandemic” (Abeysekara et al., 2019; Kamalahmadi & Parast, 2016; Pereira, Christopher, & Lago Da Silva, 2014; Pettit, Croxton, & Fiksel, 2019) , Russia-Ukraine war, Isreal - Palestine War, Israel -Iran War, Sudan conflict, and conflicts in the Democratic Republic of Congo among others (Mawonde et al., 2023; Sarwar & Rye 2025, Sasidharan & Dhillon, 2022). These disasters have increased the need for efficient operations by humanitarian organisations. Therefore, humanitarian organisations play a critical role in delivering life-saving assistance to vulnerable populations, particularly in contexts characterised by conflict, displacement, poverty, and frequent natural disasters. The performance of these

---

<sup>1</sup> Makerere University Business School, Uganda  
Email: [Caleb.Tumusiime@lshtm.ac.uk](mailto:Caleb.Tumusiime@lshtm.ac.uk)<sup>1</sup>

<sup>2</sup> Makerere University Business School, Uganda

<sup>3</sup> Makerere University Business School, Uganda

<sup>4</sup> Makerere University Business School, Uganda

organisations has therefore attracted the attention of both academics and practitioners, who seek to improve their performance to reduce human suffering (Besiou & Van Wassenhove, 2020).

Supply chain performance is a critical determinant of effectiveness in humanitarian organisations, as it directly influences the timely, reliable, and cost-efficient delivery of life-saving assistance to vulnerable populations, such as food, medicines, shelter materials, and water. Humanitarian supply chains are responsible for sourcing, transporting, storing, and distributing essential relief items under conditions of extreme uncertainty, urgency, and resource constraints. Consequently, the performance of these supply chains directly impacts beneficiary welfare and organisational mission achievement (Van Wassenhove, 2006). Unlike commercial supply chains, humanitarian supply chains operate in volatile environments characterised by unpredictable demand, disrupted infrastructure, donor restrictions, and coordination challenges among multiple actors.

One critical factor influencing humanitarian supply chain performance is sourcing effectiveness. This is because procurement accounts for more than 65% of relief operations costs (Moshtari et al., [2021](#)). Sourcing in humanitarian organisations involves identifying, selecting, and managing suppliers capable of meeting urgent needs while complying with donor regulations, ethical standards, and cost constraints (Iakovou et al., 2014; Puik et al., 2017; Moshtari et al., [2021](#); Muhwezi et al., [2023](#); Musonye & Machoka, 2024). This is because disasters create a sudden, large demand spike for specific goods, and if humanitarian organisations fail to source effectively, the needs of affected people may not be met (Moshtari et al., [2021](#)). Ineffective sourcing practices, such as poor supplier selection, weak contract management, and overreliance on a narrow supplier base, can negatively affect supply chain performance, particularly lead times, supply quality, and reliability (Maghsoudi et al., 2018). In addition to sourcing effectiveness, dynamic capabilities have emerged as a key theoretical lens for understanding how organisations adapt and perform in turbulent environments (Polater, [2020](#)). “Humanitarian organizations function within an environment that is constantly shifting due to unforeseen circumstances, including compromised transportation systems, issues related to customs, delayed deliveries, and fluctuations in demand” (Fikar et al., 2018). To survive in such an environment, dynamic capabilities are required. Dynamic capabilities refer to an organisation’s ability to sense changes in its operating environment, seize emerging opportunities, and reconfigure resources and processes in response to uncertainty (Di Stefano et al., [2014](#); Kurtmollaiev, [2020](#)). For humanitarian organisations, dynamic capabilities may include the ability to rapidly adjust procurement strategies, reallocate logistics resources, integrate new partners, and redesign distribution networks in response to changing beneficiary needs or funding conditions (Polater, [2020](#)).

The study focuses on Uganda, whose humanitarian operations have expanded significantly over the past two decades due to the country’s position as one of the largest refugee-hosting nations in Africa and recurrent climate-related shocks and disease outbreaks (Mutebi et al., [2020](#)). Uganda shares borders with nations that face significant political turmoil in the area, such as South Sudan, the Democratic Republic of Congo, Burundi, Rwanda, Somalia, and Eritrea (Mutebi et al., [2020](#)). Uganda currently is a host to 1,961,518 refugees and asylum seekers, of which more than 50% are from South Sudan (Office of the Prime Minister, 2025). Specifically, the study focuses on humanitarian organisations in northern Uganda, where the scale and persistence of supply chain challenges are evident. Assessments of health facilities under

humanitarian care in Acholi and Lango sub-regions show that more than 80% of facilities have experienced stockouts of essential medicines and health supplies within a six-month period, with about 40% of stockouts attributed to delivery gaps and delayed deliveries and roughly 35% to discrepancies between orders and what is actually delivered (Lugada et al., 2022). At the national level, 84% of health facilities reported stockouts in the previous six months; only 42% had basic computer hardware, and just 6% used an electronic logistics management information system, limiting visibility and real-time control over orders, deliveries, and inventory (Lugada et al., 2022). Empirical work on humanitarian organisations shows that service delivery performance is significantly and positively associated with inventory management, strategic sourcing, and technology use, yet many organisations lack integrated systems and optimised transport and distribution, leading to recurrent delays and unmet demand (Komakech & Nanzekho, 2022). Broader Ugandan evidence confirms that frequent stockouts are particularly acute in lower-level and rural facilities, which are typical of northern Uganda, reflecting shortages of skilled supply chain staff, weak coordination, and underfunded logistics functions (Kalangwa et al., 2025; Lugada et al., 2022). Humanitarian NGOs in northern Uganda fail to select and manage suppliers effectively, experience high rates of failed or partial deliveries, and face chronic time lags and quality problems, pointing to deep-seated weaknesses in sourcing strategies and dynamic capabilities rather than isolated operational errors (Komakech & Nanzekho, 2022; Lugada et al., 2022).

One major issue that remains underexplored is how sourcing effectiveness and dynamic capabilities affect the performance of humanitarian supply chains in developing countries. Although prior studies acknowledge the importance of sourcing and organisational capabilities in humanitarian supply chains, much of the existing literature has focused on developed-country contexts and large international organisations. Empirical evidence on how sourcing effectiveness and dynamic capabilities jointly influence humanitarian supply chain performance in developing-country settings, particularly in Sub-Saharan Africa, remains limited. In Uganda, where humanitarian organisations operate under unique regulatory, infrastructural, and socio-economic conditions, there is a need for context-specific evidence to inform both theory and practice. Against this background, this study sought to investigate the influence of sourcing effectiveness and dynamic capabilities on humanitarian supply chain performance in Uganda. By examining these relationships within the Ugandan humanitarian sector, the study contributes to the growing body of humanitarian supply chain literature and provides practical insights for humanitarian managers, policymakers, and donors seeking to enhance the effectiveness and sustainability of relief operations.

### **Theoretical Review**

The dynamic capabilities theory (DCT) explains how organisations sustain performance in turbulent, fast-changing environments. Teece and Pisano first articulated the idea that, beyond owning valuable resources, firms need higher-order abilities to “sense opportunities and threats, seize them through investments and commitments, and reconfigure their asset base over time” (Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997). Dynamic capabilities are organisational processes that enable adaptation, learning, and renewal, distinguishing them from ordinary operational capabilities that support day-to-day efficiency (Barreto, 2010; Chowdhury & Quaddus, 2017). In supply chain contexts, dynamic capabilities have been used to explain how firms build agility, resilience, and integration to cope with supply chain disruptions as natural disasters, political conflicts and disease outbreaks (Altay et al., 2018; Junaid et al., 2023; Pu et

al., [2025](#); Ramos et al., [2021](#)). DCT posits that superior performance emerges when organisations repeatedly reconfigure their resources as conditions evolve (Barreto, [2010](#); Mathivathanan et al., [2017](#)). In humanitarian supply chains, this lens has been used to conceptualise capabilities such as supply chain agility, resilience, reconfiguration, integration, short-term collaboration, and knowledge access as dynamic capabilities that shape humanitarian operations in operation (Altay et al., [2018](#); Mazar et al., [2024](#); Polater, [2020](#); Tabaklar et al., [2021](#)). Similarly, Polater ([2020](#)) identifies agility, resilience, reconfiguration, integration, collaboration, sensing, seizing, sustaining, and knowledge access as the main dynamic capabilities examined in humanitarian supply chain management. These ideas are directly relevant to a study on sourcing effectiveness and humanitarian supply chain performance. From a DCT perspective, sourcing effectiveness is not only about having low prices or many suppliers; it depends on higher order capabilities to sense changes in needs and supply risks, to seize sourcing opportunities, and to reconfigure supplier portfolios and logistics networks as crises unfold (Altay et al., [2018](#); Mazar et al., [2024](#); Polater, [2020](#)).

DCT, however, faces some limitations. Conceptually, there is considerable ambiguity as different authors define and measure dynamic capabilities in diverse ways, leading to overlapping constructs and difficulties distinguishing them from ordinary capabilities (Barreto, [2010](#); Aslam et al., [2020](#); Stadtfeld & Gruchmann, [2023](#)). The theory also assumes a degree of managerial agency and discretion to orchestrate sensing, seizing, and reconfiguring, which may be constrained in humanitarian organisations by donor rules, mandates, and political conditions (Dubey et al., [2022](#); Mazar et al., [2024](#)). Furthermore, DCT was originally developed to explain competitive advantage in commercial firms, raising questions about its fit in non-profit, collaborative humanitarian networks where the goal is not to outperform rivals but to maximise humanitarian outcomes (Dubey et al., [2022](#); Polater, [2020](#)). Despite these limitations, DCT remains a powerful framework for this study because it offers a clear mechanism by which dynamic capabilities influence supply chain performance of humanitarian organisations. Capabilities such as agility, resilience, digital adaptability, and analytics enable organisations to design and implement more effective sourcing strategies in uncertain environments (Altay et al., [2018](#); Dubey et al., [2023](#); Junaid et al., [2023](#); Mazar et al., [2024](#)).

The study also used the strategic choice theory (SCT). In his seminal work, Child ([1972](#)) argued that organisational outcomes are shaped by strategic choices made by powerful actors, who actively interpret their environment, decide on goals, and design structures and processes. Child ([1997](#)) emphasised that these choices are embedded in power relations and political processes. At its core, SCT assumes that managers and other powerholders have meaningful discretion in choosing strategies, structures, and control systems, even though their choices are constrained by resources, regulations, and norms (Child, [1972](#), [1997](#)). In supply chains, this means that decisions such as centralisation versus decentralisation, supplier selection, and performance metrics are treated as strategic choices rather than automatic consequences of technology or demand (Uddin et al., [2023](#)). For humanitarian supply chains, SCT suggests that leaders and donors choose among different sourcing models, information systems, partnership arrangements, and performance priorities, and that these choices are influenced by donor accountability, internal politics, and ideological preferences, not just technical efficiency. SCT also highlights how governance and power structures condition the effectiveness of dynamic capabilities. Even if a humanitarian organisation develops strong sensing or analytics capabilities, strategic choices about information sharing, decision rights, and donor reporting

either enable or limit the use of these capabilities in sourcing decisions (Dubey et al., [2022](#); Mazar et al., [2024](#)). For example, if donors impose strict procurement rules or short-term funding cycles, managers may choose conservative sourcing strategies that underutilise their adaptive capabilities, focusing on compliance rather than innovation. Strategic choice theory, however, also has limitations. One main critique is that by emphasising agency and politics, SCT can under-specify the operational mechanisms by which strategic choices are translated into concrete process changes and performance outcomes. In complex supply chains, many outcomes emerge from interactions among multiple organisations and technologies, which may not be fully captured by focusing on managerial intent alone (Uddin et al., [2023](#)). SCT may also overestimate the degree of discretion available to managers, especially in humanitarian contexts where legal mandates, donor policies, and the urgency of crises impose strong constraints on what can realistically be chosen.

When integrated, dynamic capabilities theory and strategic choice theory offer a complementary explanation for sourcing effectiveness and humanitarian supply chain performance. DCT explains how organisations develop and deploy capabilities such as agility, resilience, integration, digital adaptability, and learning to sense changing needs, seize sourcing opportunities, and reconfigure supply networks under disaster conditions (Altay et al., [2018](#); Chowdhury & Quaddus, [2017](#); Dubey et al., [2023](#); Junaid et al., [2023](#); Mazar et al., [2024](#); Polater, [2020](#); Tabaklar et al., [2021](#)). SCT, in turn, explains how donors choose which sourcing structures and capability portfolios to prioritise, how governance rules are designed, and how trade-offs among cost, speed, coverage, and local development are resolved (Child, [1972](#), [1997](#); Uddin et al., [2023](#)). This integrated perspective allows a richer understanding of why some humanitarian organisations achieve high sourcing effectiveness and performance under crisis: not only because they possess strong dynamic capabilities, but also because they make strategic choices that enable those capabilities to be fully leveraged within the constraints of the humanitarian system.

## **Empirical Literature Review and Hypothesis Development**

### **Sourcing effectiveness and supply chain Performance**

Efficient supply chain strategies, including strategic alliances with suppliers, transparent information exchange, and management of customer relationships, strengthen dynamic supply chain capabilities, ultimately leading to enhanced supply chain performance (Zhang et al., [2023](#)). From this perspective, sourcing effectiveness is not a static cost-quality decision but a capability-driven process of continuously aligning suppliers, contracts, and information flows with environmental change to sustain performance. Previous studies demonstrate that sourcing-related practices significantly influence performance by enhancing agility, adaptability, and resilience. For example, Aslam et al. ([2018](#)) show that sourcing effectiveness allows firms to be both efficient and flexible. This finding implies that effective sourcing, guided by strong sensing and agility, supports superior performance under both stable and turbulent conditions. Similarly, Hong, Zhang, and Ding ([2018](#)) find that sustainable supply chain management practices, including sustainable sourcing, significantly enhance supply chain performance. These results align with the dynamic capabilities view, which holds that sourcing decisions matter most when embedded in higher-order capabilities that reconfigure supplier portfolios and practices. Because these resilience capabilities depend heavily on diversified, visible, and responsive sourcing structures, the study indicates that sourcing effectiveness, when enabled by digital dynamic capabilities, is a key path to higher performance in crises. Taken together, these

findings support a DCT-based argument that sourcing effectiveness improves performance primarily by enabling resilient, agile reconfiguration before, during, and after disruptions.

Firms actively choose sourcing and partnership strategies that align with their competitive priorities and performance goals. For example, Reklitis et al. (2021) show that strategic supplier partnerships and high-quality information sharing are associated with improved competitive advantage and, ultimately, higher profitability and market share. Although not labelled as “sourcing effectiveness,” these results indicate that managers’ strategic choices about supplier relationships and information flows are central levers linking sourcing to performance, consistent with strategic choice theory. Additionally, Li et al. (2022) find that sustainable sourcing has a significant positive effect on agility performance across 790 manufacturing firms. Their contingency-based model shows that this effect is amplified under higher supply chain disruption and stronger organisational ambidexterity, suggesting that the performance impact of sourcing effectiveness is context-dependent and shaped by strategic choices about balancing exploration and exploitation.

Across these studies, the main empirical pattern is that sourcing effectiveness improves supply chain performance indirectly, via dynamic capabilities such as agility, adaptability, resilience, and innovation, and is shaped by strategic choices about supplier relationships, digitalisation, and sustainability priorities (Aslam et al., 2018; Hong et al., 2018; Li et al., 2022; Reklitis et al., 2021; Zhang et al., 2023; Zhao et al., 2023). However, there is a notable gap: most current research examines sourcing practices and dynamic capabilities in commercial manufacturing or logistics contexts, with limited work explicitly linking sourcing effectiveness and humanitarian supply chain performance. Few empirical studies simultaneously measure sourcing effectiveness, dynamic capabilities, and performance in humanitarian settings, or analyse how strategic choices condition these relationships, leaving an opportunity for research to extend and contextualise these theories in humanitarian supply chains. It can therefore be hypothesised that:

*H1: Sourcing effectiveness influences supply chain performance of humanitarian organisations in Uganda.*

### **Dynamic capabilities and supply chain performance.**

Recent empirical work conceptualises supply chain dynamic capabilities as sensing, learning, integrating, and transforming across network partners to support performance under uncertainty (Hong, Zhang, & Ding, 2018; Junaid et al., 2023). Aslam et al. (2018) identify a cluster of dynamic supply chain capabilities comprising market-sensing, supply chain agility, and supply chain adaptability, and demonstrate that agility directly and adaptability indirectly enhance supply chain ambidexterity, a key performance-related outcome. Ramos, Patrucco, and Chávez (2021), using data from the Peruvian coffee supply chain, find that organisational flexibility and both internal and external integration drive agility, and that agility in turn improves supply chain performance, especially in highly uncertain agri-food environments. Dynamic capabilities are also increasingly linked to resilience and long-term performance. For example, Zhao, Hong, and Lau (2023) model supply chain digitalisation as an enabler of three resilience capabilities: “absorptive (before disruption), response (during), and recovery (after) and show that all three mediate the relationship between digitalisation and supply chain performance”. Junaid et al. (2023) similarly find in healthcare supply chains that supply chain dynamic capabilities significantly enhance integration, resilience, sustainable competitive advantage, and sustainable

supply chain performance. In a broader manufacturing context, Yan et al. (2022) demonstrate that supply chain dynamic capability positively affects firm long-term performance, both directly and through its moderating effect on operational capability, suggesting that dynamic capabilities help convert operational strengths into sustained performance benefits. Kumar et al. (2018) show that when sustainability-oriented collaboration is misaligned with an “ideal” profile, the dynamic capabilities of alliances become critical for mitigating negative effects and improving operational, environmental, and social performance. In logistics contexts, Ali Atieh and Abushaega (2025) discovered that internal dynamic capabilities like digital leadership, environmental consciousness, and organizational learning significantly propel green supply chain innovation, which in turn has a substantial positive impact on supply chain performance. Similarly, Hinele et al. (2024), while surveying Indonesian logistics firms, found out that dynamic capabilities have a positive and significant relationship with supply chain performance.

Despite this growing body of empirical evidence, notable gaps remain. First, most studies focus on the manufacturing, logistics, and agri-food sectors in emerging or single-country contexts (e.g., China, Pakistan, Peru, Indonesia), limiting generalisability across industries and global supply networks (Hong et al., 2018; Junaid et al., 2023; Ramos et al., 2021; Zhao et al., 2023). Second, while dynamic capabilities theory is the dominant lens, strategic choice theory is rarely integrated explicitly into empirical models, leaving the role of managerial discretion and governance choices in shaping the capability-performance relationship underexplored (Child, 1972, 1997).

*H2: Dynamic capabilities influence supply chain performance of humanitarian organisations in Uganda.*

### Conceptual Framework

The conceptual framework for this study is summarized as [Figure 1](#).

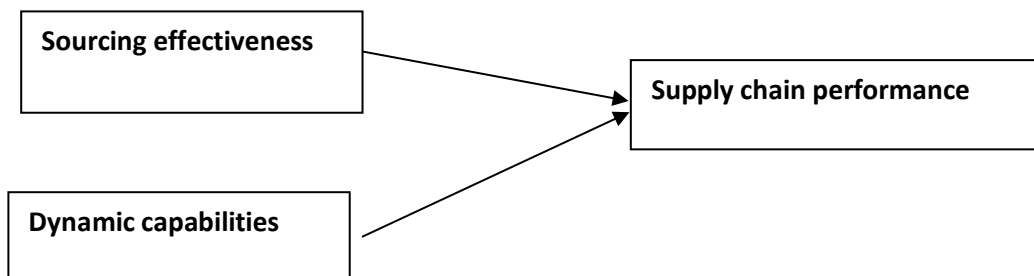


Figure 1: Conceptual Framework

**Source:** Mutebi et al. (2020), Monczka et al. (2016), Farrington and Lysons (2020), Teece (2007), Wilden et al. (2013), Mutebi et al. (2020), Dubey et al. (2022) and Lambert and Pohlen (2011).

### Methodology and Approaches

The time available for this study could not support an investigation over a long period, so the study adopted a cross-sectional research design (Creswell & Creswell, 2018; Saunders et al., 2016). The cross-sectional design enabled the researcher to collect data on supply chain performance, sourcing effectiveness and dynamic capabilities among humanitarian organisations in Northern Uganda. The cross-sectional research design was supported by a

quantitative approach, which uses numerical data to measure and analyse variables statistically (Saunders et al., 2019). A quantitative approach was used to establish relationships among the study variables. The study was carried out among 60 humanitarian NGOs based in Northern Uganda (Office of the Prime Minister, 2025). The study focused on humanitarian organisations involved in the delivery of logistics, health, Water, food, security, WASH, human rights and education (Mutebi et al., 2020). Humanitarian organisations in Northern Uganda were considered due to the supply chain performance challenges they were experiencing and the region's highest concentration of refugees (Mutebi et al., 2020; Office of the Prime Minister, 2025). A total of 52 humanitarian NGOs were sampled using simple random sampling and guided by the Krejcie and Morgan (1970) sample size determination table. The unit of analysis was a humanitarian organisation, as this was deemed to provide a detailed understanding of how sourcing effectiveness and dynamic capabilities influence these organisations' supply chain performance. The unit of inquiry comprised 5 respondents from each humanitarian organisation, including procurement officers, logistics officers, supply chain officers, transport & fleet managers, and supply chain coordinators or managers. These respondents were purposively sampled since they had knowledge of sourcing and dynamic capabilities in these organisations. The average response from the 5 respondents was considered during data analysis.

A structured questionnaire that respondents could complete independently was utilized to gather primary data, due to its effectiveness in collecting information from a sizable sample and its time-saving benefits (Saunders et al., 2019). Detailed instructions for completing the questionnaire were provided to respondents. The questionnaire items were closed-ended and administered by trained research assistants. Sourcing effectiveness was assessed utilizing constructs from Monczka et al. (2016) and Farrington and Lysons (2020), focusing on supplier selection, evaluation methods, purchasing techniques, and decision-making tools. Dynamic capabilities were measured using technological, sensing, learning and coordination capabilities as guided by Teece (2007), Wilden et al. (2013), Mutebi et al. (2020) and Dubey et al. (2022). The performance of the supply chain was gauged using Lambert and Pohlen's (2011) criteria for delivery efficiency, quality, cost, reliability, reject levels, and responsiveness. The Content Validity Index (CVI) was used to assess the validity of the research instrument. The instrument underwent evaluation by five seasoned experts in humanitarian logistics and three supply chain managers from humanitarian organizations. They were asked to assess the tool for its structure, clarity, potential ambiguity, and overall completeness. Based on their responses, a CVI was computed, and all the items had a CVI above 0.7, implying that the tool was valid. For reliability, the Cronbach alpha coefficient was used. An alpha coefficient above 0.7 is considered evidence that the instrument was valid, as recommended by Nunnally (1978). [Table 1](#) summarises the reliability tests.

**Table 1: Reliability and validity test**

Variable	Co-efficient	Content validity
Sourcing effectiveness	0.832	0.910
Dynamic capability	0.803	0.880
Supply chain performance	0.903	0.920

The gathered data was revised to ensure it was complete and consistent. Data entry and analysis were conducted using version 20 of the Statistical Package for the Social Sciences (SPSS). To determine the relationships among the variables, Pearson's correlation coefficient was

employed. Regression analysis was utilized to assess how sourcing effectiveness and dynamic capabilities influence supply chain performance.

## Findings

### Profile of the Respondents

The sample characteristics is summarized in [Table 2](#). The research indicated that 50.8% of the respondents were female, while male respondents made up 49.2%. This suggests that women constitute the majority (50.8%) of participants in humanitarian supply chains. It indicates that female professionals play a crucial role in the supply chain, contributing to sourcing effectiveness, dynamic capabilities, and supply chain performance within humanitarian organizations in Uganda. The findings revealed that among the participants, 34% were aged between 20 and 30 years, 44.1% were aged 31 to 40 years, 19.7% were aged 41 to 50 years, and 2.1% were over 50 years old. This suggests that most supply chain managers in humanitarian NGOs fall within the 31-40 age range. Consequently, individuals in this age bracket are still relatively young, possessing a great deal of energy and enthusiasm necessary for effective supply chain performance in humanitarian settings. The data also indicated that most participants (48.3%) possessed a bachelor's degree, while 21.4% held a master's degree, 14.7% had a diploma, 11.3% earned a certificate, and 4.2% had other types of qualifications. The preponderance of degree holders suggests that most staff members in humanitarian NGOs are equipped with a bachelor's degree, enabling them to grasp the essential elements that influence supply chain effectiveness in the humanitarian field. The research indicated that the largest portion of respondents (34.9%) has been employed in the humanitarian NGO sector for 7-10 years, while 30.3% have had 0-3 years of experience, 21.8% have worked in the sector for 4-6 years, 9.2% have 11-15 years of experience, and 3.8% have been in the humanitarian NGO sector for over 15 years. This suggests that most employees in the humanitarian NGO sector who participated in the study possess more than 3 years of experience, which likely enhances their knowledge in sourcing effectiveness, dynamic capabilities, supplier relationship management, and supply chain performance within humanitarian organizations in Uganda.

**Table 2: Profile of the respondents**

		Frequency	Percent
Gender	Male	117	49.2
	Female	121	50.8
	Total	238	100.0
Age	20-30	81	34.0
	31-40	105	44.1
	41-50	47	19.7
	above 50	5	2.1
Highest Level of Education	Certificate	27	11.3
	Diploma	35	14.7
	Bachelors Degree	115	48.3
	Masters Degree	51	21.4
	Other qualification	10	4.2
Period of work in this organization	0-3 years	72	30.3
	4-6 years	52	21.8
	7-10 years	83	34.9

11-15 years	22	9.2
More than 15 years	9	3.8

**Relationships between study Variables**

The findings suggest a significant and positive correlation between sourcing effectiveness and supply chain performance, highlighted by a Pearson correlation coefficient of ( $r = .538, p < .01$ ). This indicates that when rigorous and comprehensive supplier selection, which identifies capable suppliers, is paired with effective evaluation methods and suitable purchasing practices, the performance level of supply chains in humanitarian NGOs is positively affected to a considerable degree. Furthermore, the study reveals that there exists a positive relationship between dynamic capabilities and supply chain performance ( $r = .587, p < .01$ ). This suggests that enhancing dynamic capabilities such as technological, sensing, learning and coordination capabilities will positively influence supply chain performance in humanitarian organizations (Table 3).

**Table 3: Correlation results**

	Sourcing effectiveness	Dynamic capability	Supply chain performance
Sourcing effectiveness	1		
Dynamic capability	.583**	1	
Supply chain performance	.538**	.587**	1

**Regression Analysis of Variables**

Table 4, shows the influence of sourcing effectiveness and dynamic capabilities on supply chain performance in humanitarian organisations in Northern Uganda. Findings show the sourcing effectiveness and dynamic capabilities are significant predictors of supply chain performance of humanitarian organisations. It is also noted that 40.3% variance in supply chain performance is explained by these factors (adjusted R Square =.403). A comparison of the standardized coefficients indicates that dynamic capabilities ( $\beta = 0.375$ ) have a stronger influence on supply chain performance than sourcing effectiveness ( $\beta = 0.250$ ). This suggests that while effective sourcing is essential, its impact is amplified when humanitarian organisations possess the capability to adapt and reconfigure sourcing and logistics practices in response to changing conditions. This finding implies that sourcing effectiveness alone may be insufficient to sustain high performance in highly volatile humanitarian environments unless it is supported by strong dynamic capabilities.

**Table 4: Regression results**

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
Supply chain performance	.458	.339		1.352	.178
Sourcing effectiveness	.398	.107	.250	3.73	.000

				2	
Dynamic capabilities	.499	.087	.375	5.73	.000
				2	
R Square =.411; Adjusted R Square =.403					

### Discussion of study findings

The research indicates that the effectiveness of sourcing is a crucial determinant of supply chain performance. This suggests that when rigorous and comprehensive supplier selection processes that pinpoint qualified suppliers are paired with proper evaluation techniques and fitting purchasing strategies, the performance level of supply chains in humanitarian NGOs is significantly affected. Effective sourcing enables humanitarian organisations to identify reliable suppliers, shorten lead times, and reduce stock-outs. In Uganda where humanitarian operations often respond to refugee influxes, disease outbreaks, and climate-related disasters timely procurement of food, medical supplies, and shelter materials is critical. Additionally, humanitarian contexts demand sourcing systems that can rapidly adapt to sudden changes in demand. From a cost perspective, the results indicate that effective sourcing contributes to improved cost efficiency and optimal use of donor funds, which enhances overall supply chain performance. These results align with findings from other research. It requires specifying where to source materials, the quantities needed, and the timing (Loijas et al., 2026). The effectiveness of sourcing considers various elements, such as the number of suppliers to engage, the nature of the relationships to develop with them, and the types and terms of contracts to negotiate to enhance supply chain performance (Kuruneri et al., 2026). When an organization has a competent team that determines the most appropriate purchasing approach for each acquisition, the chosen methods will assist humanitarian organizations in fulfilling the value for money principle, as every decision aligns with this principle, thereby improving supply chain performance. Additionally, when the evaluation is conducted effectively through standardized procedures, along with a professionally executed evaluation process that fulfils all requirements to select the most qualified suppliers for the task, the supply chain performance in humanitarian organizations is further improved. Humanitarian organisations in Northern Uganda operate under severe budget constraints and donor scrutiny. This implies that sourcing effectiveness through competitive bidding, framework agreements, and local supplier engagement can help them reduce on total procurement costs and stretch limited donor funds.

The findings indicate that dynamic capabilities have a substantial impact on the supply chain performance of humanitarian organizations. This suggests that if there is a meaningful enhancement in dynamic capabilities related to supply chain processes, positioning, and pathways, then the performance of the supply chain will see improvements. These results imply that organisations with stronger abilities to sense environmental changes, seize emerging opportunities, and reconfigure operational resources achieve superior supply chain performance in terms of responsiveness, efficiency, reliability, and resilience. Dynamic capabilities can enable humanitarian organisations to rapidly detect emerging needs such as sudden refugee inflows, disease outbreaks, or climate-related disasters. They can then be able to anticipate demand changes and mobilise supplies quickly. Therefore, since the Ugandan humanitarian environment is associated with fluctuating refugee populations, disease outbreaks, climatic shocks, and funding uncertainties, makes dynamic capabilities very important. These findings align with those of Cristofaro, Helfat, and Teece (2025), who contend that dynamic capabilities allow an organization to integrate, develop, and reorganize both internal and external resources,

utilizing organizational processes to react to shifts in the competitive landscape and to formulate new value-generating strategies that facilitate effective relationship management. This fosters promptness, accelerates actions, and enhances the firm's ability to respond to its environment, ultimately improving its supply chain performance. These results are also in line with findings by Teece et al. (1997) who argues that sensing capabilities enable organisations to anticipate environmental shifts and align resources accordingly. In this scenario, the effectiveness of dynamic capabilities within the organizational environment greatly impacts supply chain performance. This is primarily attainable when employees within the organization possess extensive experience in executing the purchasing process efficiently. Furthermore, Prayag et al. (2026) and Cristofaro et al. (2025), argue that sourcing activities can also become dynamic capabilities. This is reflected in Khakdaman, Rezaei, and Tavasszy (2026), who discussed sourcing flexibility. Consequently, it can be argued that sourcing is critical to the success of buying firms (Pitri et al., 2026). According to evidence, there exists a connection between dynamic capabilities and the organization's capacity to generate value from the relationship between buyers and suppliers (Hoque & Sumi, 2026).

### **Conclusions, Implications and Recommendations**

This study provides strong empirical evidence that both sourcing effectiveness and dynamic capabilities significantly influence humanitarian supply chain performance. Therefore, the study underscores the central role that strategic sourcing practices and dynamic capabilities play in ensuring the timely, cost-effective, and reliable delivery of humanitarian assistance in complex and uncertain environments. The findings imply that sourcing effectiveness is not merely an administrative function but a strategic capability that directly enhances humanitarian supply chain performance in Uganda. By improving sourcing effectiveness through supplier development, framework agreements, local procurement, and flexible procurement procedures can significantly improve humanitarian response outcomes. Specifically, the study demonstrates that effective sourcing practices, such as strategic supplier selection, timely procurement, and strong supplier relationships, enhance responsiveness, cost efficiency, and service quality. Furthermore, the findings confirm the relevance of dynamic capabilities in explaining humanitarian supply chain performance. The ability of organisations to sense changes in demand and operating conditions, seize emerging opportunities, and reconfigure resources and processes significantly improves their capacity to respond to humanitarian needs. This highlights that, beyond having efficient sourcing systems, humanitarian organisations must continuously adapt their procurement and logistics strategies to shifting contexts, including refugee influxes, climate changes, donor requirements, and security dynamics. The study therefore confirms that dynamic capabilities are critical in humanitarian supply chain performance in Uganda. By enabling organisations to sense environmental changes, seize operational opportunities, and reconfigure resources in real time, dynamic capabilities enhance responsiveness, flexibility, resilience, efficiency, and accountability. These findings reinforce the applicability of dynamic capabilities theory in explaining performance differences among humanitarian supply chains operating in volatile and resource-constrained contexts.

The study therefore recommends that humanitarian organisations should shift from transactional procurement to strategic sourcing by strengthening supplier prequalification, framework agreements, and long-term partnerships, especially with local and regional suppliers. This can be achieved by developing and regularly updating their local supplier databases in the districts where they are operating. This will save the organisation's time during the sourcing process. The

organisations can also increase the use of framework contracts to reduce the lead time. This will enhance responsiveness and reduce costs. Humanitarian organisations should also deliberately develop sensing, seizing, and reconfiguring capabilities to respond effectively to the volatile humanitarian environment in Uganda. This could be achieved by establishing systems for early needs assessment and demand forecasting, strengthening decision-making structures that enable rapid sourcing and logistics adjustments, and periodically reconfiguring supply chain processes in response to changing funding, security, and humanitarian refugee influx dynamics. Since dynamic capabilities had more predictive power compared to sourcing effectiveness, there should be more investment in systems and practices that enhance sensing, seizing, and reconfiguration capabilities. Additionally, donor agencies should reconsider overly rigid procurement regulations, given the strong influence of dynamic capabilities. Policies that allow flexibility in sourcing decisions especially during emergencies will likely enhance humanitarian supply chain performance. Donors should therefore permit adaptive procurement approaches, including expedited procedures and local sourcing, without compromising accountability.

## References.

- Abeyssekara, N., Wang, H., & Kuruppuarachchi, D. (2019). Effect of supply-chain resilience on firm performance and competitive advantage: A study of the Sri Lankan apparel industry. *Business Process Management Journal*, 25(7), 1673–1695. <https://doi.org/10.1108/BPMJ-09-2018-0241>.
- Ali Atieh, A. A., & Abushaega, M. M. (2025). Achieving supply chain sustainability through green innovation: A dynamic capabilities-based approach in the logistics sector. *Sustainability*, 17(12), 1–22. <https://doi.org/10.3390/su17135716>.
- Altay, N., Gunasekaran, A., Dubey, R., & Childe, S. (2018). Agility and resilience as antecedents of supply chain performance under moderating effects of organisational culture within the humanitarian setting: A dynamic capability view. *Production Planning & Control*, 29(14), 1158–1174. <https://doi.org/10.1080/09537287.2018.1542174>
- Aslam, H., Blome, C., Roscoe, S., & Azhar, T. M. (2018). Dynamic supply chain capabilities. *International Journal of Operations & Production Management*, 38(12), 2266–2285. <https://doi.org/10.1108/IJOPM-09-2017-0555>
- Aslam, H., Blome, C., Roscoe, S., & Azhar, T. M. (2020). Determining the antecedents of dynamic supply chain capabilities. *Supply Chain Management: An International Journal*, 25(4), 381–397. <https://dx.doi.org/10.1016/j.spc.2020.09.017>
- Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of Management*, 36(1), 256–280. <https://doi.org/10.1177/0149206309350776>
- Besiou, M., & Van Wassenhove, L. N. (2020). Humanitarian operations: A world of opportunity for relevant and impactful research. *Manufacturing & service operations management*, 22(1), 135-145. <https://doi.org/10.1287/msom.2019.0799>.
- Bureth, L. (2025). Local-First, Global-Second: Implementing Glocal Dual Sourcing for Supply Chain Resilience: An Exploratory Case of a Swiss Pump Manufacturer. (Thesis) University of Vaasa. <https://urn.fi/URN:NBN:fi-fe2025052654954>.
- Child, J. (1972). Organisational structure, environment and performance: The role of strategic choice. *Sociology*, 6(1), 1–22. <https://doi.org/10.1177/003803857200600101>
- Child, J. (1997). Strategic choice in the analysis of action, structure, organizations and environment: Retrospect and prospect. *Organisation Studies*, 18(1), 43–76. <https://doi.org/10.1177/017084069701800104>

- Chowdhury, M. M. H., & Quaddus, M. (2017). Supply chain resilience: Conceptualisation and scale development using dynamic capability theory. *International Journal of Production Economics*, 188, 185–204. <https://doi.org/10.1016/j.ijpe.2017.03.020>
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. <https://doi.org/10.1017/CBO9781107415324.004>
- Cristofaro, M., Helfat, C. E., & Teece, D. J. (2025). Adapting, Shaping, Evolving: Refocusing on the Dynamic Capabilities–Environment Nexus. *Academy of Management Collections*, 4(1), 20–46.
- Di Stefano, G., Peteraf, M., & Verona, G. (2014). The organisational drivetrain: A road to integration of dynamic capabilities research. *Academy of Management Perspectives*, 28, 307–327. <https://doi.org/10.5465/amp.2013.0100>.
- Dubey, R., Bryde, D. J., Foropon, C., Graham, G., Giannakis, M., & Mishra, D. B. (2022). Agility in humanitarian supply chain: An organizational information processing perspective and relational view. *Annals of Operations Research*, 319(1), 559-579.
- Dubey, R., Bryde, D. J., Foropon, C., Tiwari, M., Dwivedi, Y., & Schiffing, S. (2021). An investigation of information alignment and collaboration as complements to supply chain agility in humanitarian supply chain. *International Journal of Production Research*, 59(5), 1586-1605. <https://doi.org/10.1080/00207543.2020.1865583>.
- Dubey, R., Bryde, D., Dwivedi, Y. K., Graham, G., & Foropon, C. R. H. (2022). Impact of artificial intelligence-driven big data analytics culture on agility and resilience in humanitarian supply chain: A practice-based view. *International Journal of Production Economics*, 243, 108328.
- Dubey, R., Bryde, D., Dwivedi, Y. K., Graham, G., Foropon, C. R. H., & Papadopoulos, T. (2023). Dynamic digital capabilities and supply chain resilience: The role of government effectiveness. *International Journal of Production Economics*, 255, 108664. <https://www.sciencedirect.com/science/article/pii/S0378720622001550>
- Farrington, B., & Lysons, K. (2020). *Procurement and supply chain management*. Pearson UK.
- Fikar, C., Hirsch, P., & Nolz, P. C. (2018). Agent-based simulation optimization for dynamic disaster relief distribution. *Central European Journal of Operations Research*, 26(2), 423-442. <https://doi.org/10.1007/s10100-017-0518-3>.
- Hinelo, R., Ani, L. S., Putra, W., Waryadi, Ratnaningtyas, S., Makbul, Y., Sholeh, M., & Puriningsih, F. S. (2024). Investigating the role of supply chain management on sustainable performance and dynamic capabilities: An empirical study on logistic organization. *Uncertain Supply Chain Management*, 12, 1739–1746. [https://www.growing-science.com/uscm/Vol12/uscm\\_2024\\_53.pdf](https://www.growing-science.com/uscm/Vol12/uscm_2024_53.pdf).
- Hong, J., Zhang, Y., & Ding, M. (2018). Sustainable supply chain management practices, supply chain dynamic capabilities, and enterprise performance. *Journal of Cleaner Production*, 172, 3508–3519. <https://journals.sagepub.com/doi/pdf/10.1177/21582440211000046>
- Hoque, I., & Sumi, R. S. (2026). Buyer-supplier relational dynamics and supplier dynamic capabilities for improving environmental sustainability, mitigating climate change vulnerabilities. *Climatic Change*, 179(1), 8-22.
- Iakovou, E., Vlachos, D., Keramydas, C., & Partsch, D. (2014). Dual sourcing for mitigating humanitarian supply chain disruptions. *Journal of Humanitarian Logistics and Supply Chain Management*, 4(2), 245-264. <https://doi.org/10.1016/j.biosystemseng.2013.10.014>.

- Jin Su Vidyaranya B. Gargeya, (2012), Strategic sourcing, sourcing capability and organisation performance in the US textile and apparel industry, *Strategic Outsourcing: An International Journal*, 5(2), 145-165.
- Junaid, M., Zhang, Q., Cao, M., & Luqman, A. (2023). Nexus between technology-enabled supply chain dynamic capabilities, integration, resilience, and sustainable performance: An empirical examination of healthcare organisations. *Technological Forecasting and Social Change*, 194, 122640. <https://doi.org/10.1016/j.techfore.2023.122828>
- Kalangwa, A., Knoppen, D., & Bak, O. (2025). The path to performance of public versus private healthcare supply chains: Case study of Uganda. *Journal of Humanitarian Logistics and Supply Chain Management*. <https://doi.org/10.1108/JHLSCM-10-2024-0133>
- Kamalahmadi, M., & Parast, M. M. (2016). A review of the literature on the principles of enterprise and supply chain resilience: Major findings and directions for future research. *International Journal of Production Economics*, 171, 116–133. <https://doi.org/10.1016/j.ijpe.2015.10.023>
- Khakdaman, M., Rezaei, J., & Tavasszy, L. (2026). Alignment of transportation strategy with supply chain strategy: a conceptual framework with illustrative evidence. *International Journal of Systems Science: Operations & Logistics*, 13(1), 2610956.
- Komakech Kizza Nsereko, K., & Nanzekho, S. N. (2022). Optimisation of supply chains and service delivery in selected Ugandan charitable organisations. *Journal of Procurement and Supply Chain Management*, 1(1), 1–14. <https://doi.org/10.58425/jpscsm.v1i1.26>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational And Psychological Measurement*, 30(1), 607–610. <https://doi.org/10.2747/0272-3638.17.1.60>
- Kumar, G., Subramanian, N., & Maria Arputham, R. (2018). Missing link between sustainability collaborative strategy and supply chain performance: Role of dynamic capability. *International Journal of Production Economics*, 203, 262–272. <https://doi.org/10.1016/j.ijpe.2018.05.031>
- Kurtmollaiev, S. (2020). Dynamic capabilities and where to find them. *Journal of Management Inquiry*, 29(1), 3-16. <https://doi.org/10.1177/1056492617730126>.
- Kuruner, J., Obadire, A. M., Dube, M., & Zvivanai, W. M. (2026). A critical analysis of social procurement obstacles: insights from contractors and clients in Botswana. *Modern Supply Chain Research and Applications*, 1-32.
- Lambert, D. M., & Pohlen, T. L. (2001). Supply chain metrics. *The International Journal of Logistics Management*, 12(1), 1–19.
- Li, L., Shan, S., Shou, Y., Kang, M., & Park, Y. W. (2022). Sustainable sourcing and agility performance: The moderating effects of organisational ambidexterity and supply chain disruption. *Australian Journal of Management*, 47(1), 126–148. <https://doi.org/10.1177/03128962211071128>
- Liew, N., Pattnaik, S., Kures, A. O., Park, K., & Pinsky, E. (2026). Transforming Global Supply Chains with Artificial Intelligence, Machine Learning, and Next-Generation Technologies. In *Next Generation Entrepreneurship: Convergence of Innovation, Technology, and Society* (pp. 207-234). Cham: Springer Nature Switzerland.
- Loijas, K., Jääskeläinen, A., Karttunen, E., & Vos, F. G. (2026). Customer attractiveness in public procurement—one size does not fit all. *Journal of Public Procurement*, 26(1), 51-73.

- Lugada, E., Ochola, I., Kirunda, A., Sembatya, M., Mwebaze, S., Olowo, M., Ladwar, D. O., & Komakech, H. (2022). Health supply chain system in Uganda: Assessment of status and of performance of health facilities. *Journal of Pharmaceutical Policy and Practice*, 15(1), 1–15. <https://doi.org/10.1186/s40545-022-00452-w>
- Maghsoudi, A., Zailani, S., Ramayah, T., & Pazirandeh, A. (2018). Coordination of efforts in disaster relief supply chains: the moderating role of resource scarcity and redundancy. *International Journal of Logistics Research and Applications*, 21(4), 407-430. <https://doi.org/10.1080/13675567.2018.1437894>.
- Mathivathanan, D., Govindan, K., & Haq, A. N. (2017). Exploring the impact of dynamic capabilities on sustainable supply chain firm's performance using Grey-Analytical Hierarchy Process. *Journal of Cleaner Production*, 147, 637–653. <https://doi.org/10.1016/j.jclepro.2017.01.018>
- Mawonde, D., Samuel, B., Nyoni, J., & Muzenda, A. C. (2023). The effect of supply chain resilient strategies on operational performance of humanitarian organisations in Zimbabwe during the Coronavirus period. *Cogent Business & Management*, 10(2), 2246741. <https://doi.org/10.1080/23311975.2023.2246741>.
- Mazar, M., Gossett, K., & Shashi, M. (2024). Sustainable strategies for improving humanitarian supply chain management in the United Nations using dynamic capability theory. *Standards*. <https://doi.org/10.3390/standards4040009>
- Mishra, A., Bruno, E., & Zilberman, D. (2021). Compound natural and human disasters: Managing drought and COVID-19 to sustain global agriculture and food sectors. *Science of the Total Environment*, 754, 142210. <https://doi.org/10.1016/j.scitotenv.2020.142210>.
- Monczka, R. M., Handfield, R. B., Giunipero, L. C., & Patterson, J. L. (2016). *Purchasing and Supply Chain Management*. Cengage Learning.
- Moshtari, M., Altay, N., Heikkilä, J., & Gonçalves, P. (2021). Procurement in humanitarian organisations: Body of knowledge and practitioners' challenges. *International Journal of Production Economics*, 233, 108017. <https://doi.org/10.1016/j.ijpe.2020.108017>.
- Musonye, B. M., & Machoka, P. (2024). Procurement Practices On Performance Of Humanitarian Organizations In Nairobi City County In Kenya. *International Journal of Social Sciences Management and Entrepreneurship (IJSSME)*, 8(2).
- Muhwezi, M., Mutebi, H., Mayanja, S. S., Tukamuhabwa, B., Namagembe, S., & Kalema, R. (2023). Information integration, procurement internal controls, material and purchasing procedure standardisation, and procurement performance in humanitarian organisations. *Journal of Humanitarian Logistics and Supply Chain Management*, 13(4), 410-432. <https://doi.org/10.1108/JHLSCM-11-2021-0115>.
- Mutebi, H., Ntayi, J. M., Muhwezi, M., & Munene, J. C. K. (2020). Self-organisation, adaptability, organisational networks and inter-organisational coordination: empirical evidence from humanitarian organisations in Uganda. *Journal of Humanitarian Logistics and Supply Chain Management*, 10(4), 447-483. <https://doi.org/10.1108/JHLSCM-10-2019-0074>.
- Nunnally, J. (1978). *An overview of psychological measurement*. In *Clinical diagnosis of mental disorders* (Springer). Boston, MA.
- Office of the Prime Minister (2015). Refugee management. Retrieved March 16, 2025, from <https://opm.go.ug/refugees>.
- Pereira, C. R., & Da Silva, A. L. (2015). Key Organisational Factors to Building Supply Chain Resilience: a Multiple Case Study of Buyers and Suppliers. *Journal of Operations and Supply Chain Management*, 8(2), 77. <https://doi.org/10.12660/joscmv8n2p77-95>

- Pettit, T. J., Croxton, K. L., & Fiksel, J. (2019). The Evolution of Resilience in Supply Chain Management: A Retrospective on Ensuring Supply Chain Resilience. *Journal of Business Logistics*, 40(1), 56–65. <https://doi.org/10.1111/jbl.12202>.
- Pitri, T., Firmansyah, I., Rijanto, R., & Rifa'i, A. A. (2026). Linking Marketing Strategies to Purchasing Decisions Through the 4P Marketing Mix Model in the Age of Artificial Intelligence Disruption.
- Polater, A. (2020). Dynamic capabilities in humanitarian supply chain management: A systematic literature review. *Journal of Humanitarian Logistics and Supply Chain Management*, 10(4), 509–546. <https://doi.org/10.1108/JHLSCM-10-2020-0089>
- Prayag, G., Chowdhury, M., & Kanani Moghadam, V. (2026). Antecedents of social performance in tourism and hospitality firms: The role of employee resilience, transactive memory systems, and dynamic capabilities. *Journal of Travel Research*, 65(2), 589-620.
- Pu, G., Gao, X., & Qiao, J. (2025). Impact of supply chain quality management practices on supply chain resilience: A dynamic capability perspective. *Business Process Management Journal*. <https://doi.org/10.1108/BPMJ-05-2024-0393>
- Puik, E., Telgen, D., van Moergestel, L., & Ceglarek, D. (2017). Assessment of reconfiguration schemes for Reconfigurable Manufacturing Systems based on resources and lead time. *Robotics and Computer-Integrated Manufacturing*, 43, 30-38. <https://doi.org/10.1016/j.rcim.2015.12.011>.
- Ramos, E., Patrucco, A. S., & Chávez, M. (2021). Dynamic capabilities in the “new normal”: A study of organisational flexibility, integration and agility in the Peruvian coffee supply chain. *Supply Chain Management: An International Journal*, 26(6), 749–766.
- Reklitis, P., Sakas, D., Trivellas, P., & Tsoulfas, G. (2021). Performance implications of aligning supply chain practices with competitive advantage: Empirical evidence from the agri-food sector. *Sustainability*, 13(15), 1–21. <https://doi.org/10.3390/su13168734>
- Roberta Pereira C, Christopher M, Lago Da Silva A (2014), "Achieving supply chain resilience: the role of procurement". *Supply Chain Management: An International Journal*, Vol. 19 No. 5-6 pp. 626–642, doi: <https://doi.org/10.1108/SCM-09-2013-0346>
- Sarwar, D., & Rye, S. (2025). The impact of the Russia-Ukraine war on global supply chains: a systematic literature review. *Frontiers in Sustainable Food Systems*, 9, 1648918. <https://doi.org/10.3389/fsufs.2025.1648918>.
- Sasidharan, S., & Dhillon, H. S. (2022). A Snapshot of Poverty, Diseases and war—the Democratic Republic of the Congo. *Disaster medicine and public health preparedness*, 16(5), 1765-1768. <https://doi.org/10.1017/dmp.2021.227>.
- Saunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students* (7th ed.). Retrieved from [www.pearson.com/uk](http://www.pearson.com/uk)
- Saunders, M.N.K., Lewis, P. & Thornhill, A. (2019). *Research methods for business students*. 8th ed. Harlow, United Kingdom: Pearson Education Limited. Retrieved from [www.pearson.com/uk](http://www.pearson.com/uk).
- Stadtfeld, G. M., & Gruchmann, T. (2023). Dynamic capabilities for supply chain resilience: A meta-review. *The International Journal of Logistics Management*, 34(3), 851–882. <https://doi.org/10.1108/IJLM-09-2022-0373>
- Tabaklar, T., Sorkun, M. F., Yurt, O., & Yu, W. (2021). Exploring the microfoundations of dynamic capabilities for social innovation in a humanitarian aid supply network setting. *Industrial Marketing Management*, 96, 190–204. <https://doi.org/10.1016/j.indmarman.2021.04.012>

- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic management journal*, 28(13), 1319-1350. <https://doi.org/10.1002/smj.640>.
- Teece, D. J., & Pisano, G. (1994). The dynamic capabilities of firms: An introduction. *Industrial and Corporate Change*, 3(3), 537-556. <https://doi.org/10.1108/IJLM-09-2022-0373>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Uddin, M. B. (2025). Investigating the role of relational factors on buyer-supplier relationship commitment to enhance firm performance through supply chain integration. *Benchmarking: An International Journal*, 32(6), 2099-2132.
- Uddin, M. S., Habib, M., & Mohamed, O. (2023). Exploring the interconnectedness of supply chain management theories: A literature review. *International Supply Chain Technology Journal*, 9(1), 1-17. <https://doi.org/10.20545/ISCTJ.V09.I04.03>
- Van Wassenhove, L. N. (2006). Humanitarian aid logistics: supply chain management in high gear. *Journal of the Operational research Society*, 57(5), 475-489. <https://doi.org/10.1057/palgrave.jors.2602125>.
- Wilden, R., Gudergan, S. P., Nielsen, B. B., & Lings, I. (2013). Dynamic capabilities and performance: strategy, structure and environment. *Long range planning*, 46(1-2), 72-96. <https://doi.org/10.1016/j.lrp.2012.12.001>.
- Yan, B., Yao, B., Li, Q., & Dong, Q. (2022). Study on the impact of supply chain dynamic capabilities on long-term performance of enterprises. *Sustainability*, 14(19), 12345. <https://doi.org/10.3390/su141912441>.
- Zhang, X., He, X., Du, X., Zhang, A., & Dong, Y. (2023). Supply chain practices, dynamic capabilities, and performance: The moderating role of big data analytics. *Journal of Organisational and End User Computing*, 35(4), 1-24.
- Zhao, N., Hong, J., & Lau, K. H. (2023). Impact of supply chain digitalization on supply chain resilience and performance: A multi-mediation model. *International Journal of Production Economics*, 258, 108773. <https://doi.org/10.1016/j.ijpe.2023.108817>.