

# Supply Chain Resilience During COVID-19: A Case Study Of Magers Deluxe Investment Limited In Lusaka, Zambia

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## Abstract

The COVID-19 pandemic exposed structural vulnerabilities in global supply chains, particularly for firms operating in emerging economies that rely heavily on international sourcing. This study examines how Magers Deluxe Investment Limited (MDIL), a mid-sized procurement and supply firm based in Lusaka, Zambia, responded to supply chain disruptions caused by the pandemic. Using a qualitative case study approach, data were collected through twenty semi-structured interviews with managers, staff, and suppliers involved in MDIL's supply chain operations. Thematic analysis revealed severe disruptions including import delays, supplier shutdowns, logistics bottlenecks, and cost volatility. In response, MDIL adopted resilience strategies such as supplier diversification, inventory buffering, local sourcing, enhanced internal coordination, and accelerated adoption of digital communication and procurement tools. The findings demonstrate that even in resource-constrained environments, pragmatic and flexible strategies can significantly enhance supply chain resilience. The study contributes empirical evidence from a developing country context and offers practical insights for similar firms seeking to strengthen preparedness for future disruptions.

**Keywords:** Supply chain resilience, COVID-19, supplier diversification, digitalization, emerging economies, Zambia

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## I. Introduction

Global supply chains have become increasingly complex and interconnected, making them highly vulnerable to systemic disruptions such as pandemics, geopolitical tensions, and natural disasters. The COVID-19 pandemic represented an unprecedented global shock, simultaneously affecting production, transportation, and demand across industries. Firms dependent on international sourcing experienced severe operational challenges as borders closed, logistics networks slowed, and supplier reliability deteriorated.

Supply chain resilience refers to the ability of a supply chain to anticipate, absorb, adapt to, and recover from disruptions while maintaining continuity of operations. For firms operating in developing economies, resilience is particularly critical due to limited access to alternative suppliers, constrained financial resources, and infrastructural challenges. Despite growing scholarly interest in supply chain resilience, empirical studies focusing on mid-sized firms in African contexts remain limited.

This study addresses this gap by examining how Magers Deluxe Investment Limited (MDIL), a Zambian procurement and supply firm, managed supply chain disruptions during the COVID-19 pandemic. The study aims to analyze the disruptions faced, identify resilience strategies employed, and draw lessons relevant to organizations operating in similar contexts.

## II. Literature Review

### Supply Chain Resilience

Supply chain resilience has been widely conceptualized as the capacity to withstand and recover from disruptions while sustaining operational performance (Ivanov & Dolgui, 2020). Resilient supply chains balance efficiency with flexibility, redundancy, and adaptability. While lean practices improve cost efficiency under stable conditions, they often exacerbate vulnerability during crises.

### Supply Chain Disruptions and Crisis Management

Disruptions occur when unexpected events interrupt the normal flow of goods, information, or finances (Tang, 2006). The COVID-19 pandemic created simultaneous supply-side and demand-side shocks, challenging traditional risk management approaches. Effective crisis management requires rapid decision-making, cross-functional coordination, and strong supplier relationships (Christopher & Peck, 2004).

### **Business Continuity Planning and Adaptation**

Business continuity planning (BCP) enables organizations to sustain critical operations during disruptions (Herbane, 2010). During COVID-19, firms with established contingency plans and adaptive logistics strategies were better positioned to mitigate impacts. Logistics adaptation, including alternative routing and flexible transport arrangements, emerged as a key resilience mechanism (Ivanov, 2021).

### **Digitalization and Supplier Relationships**

Digital technologies such as ERP systems, communication platforms, and data analytics enhance supply chain visibility and coordination. Although advanced tools like artificial intelligence and blockchain are often emphasized, basic digital tools can significantly improve resilience in resource-constrained environments (Queiroz et al., 2020). Strong supplier relationship management further reduces vulnerability by enabling collaboration, information sharing, and access to alternative sources (Wieland & Handfield, 2013).

## **III. Research Methodology**

### **Research Design**

The study adopted a qualitative case study design to gain an in-depth understanding of MDIL's supply chain resilience strategies during the COVID-19 pandemic.

### **Study Context**

MDIL is a Lusaka-based procurement and supply firm sourcing goods from international markets to serve government institutions, private sector organisations, and SMEs across Zambia. The firm was selected due to its heavy reliance on imported goods and its exposure to pandemic-related disruptions.

### **Data Collection**

Primary data were collected through twenty semi-structured interviews conducted with senior managers, procurement officers, logistics personnel, and suppliers. Secondary data included internal reports and operational records. Ethical approval was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC), and informed consent was secured from all participants.

### **Data Analysis**

Interview data were transcribed and analysed using thematic analysis. Codes were generated, grouped into categories, and refined into key themes reflecting disruption experiences and resilience strategies. To enhance credibility, data triangulation was applied through the use of multiple respondent categories and supporting documentary evidence.

## **IV. Findings**

### **Nature of Supply Chain Disruptions**

Participants reported severe import delays due to border closures, reduced freight capacity, and supplier shutdowns. Shipping lead times increased from weeks to several months, while freight and procurement costs rose sharply. Internally, staff shortages and operational constraints further affected service delivery.

### **Internal Coordination and Crisis Response**

MDIL established a cross-functional crisis response team comprising procurement, logistics, finance, and sales personnel. Frequent virtual meetings enabled rapid decision-making, prioritisation of essential clients, and coordinated responses to changing conditions.

### **Supplier Diversification and Local Sourcing**

Supplier diversification emerged as a critical resilience strategy. MDIL expanded its supplier base across multiple countries and increased engagement with local and regional suppliers. Although local sourcing involved higher unit costs, it reduced lead times and dependency on volatile global routes.

### **Adoption of Digital Technologies**

The pandemic accelerated MDIL's use of digital tools. Communication platforms such as WhatsApp and Zoom facilitated real-time coordination, while ERP systems improved inventory visibility and procurement workflows. These tools enhanced responsiveness despite infrastructural limitations.

### **Lessons Learnt and Organisational Resilience**

Key lessons included the importance of agility, proactive risk management, and strong stakeholder relationships. Employees demonstrated adaptability and innovation, contributing significantly to organisational resilience.

## **V. Discussion**

The findings align with existing literature emphasising supplier diversification, digitalization, and agility as core resilience strategies. However, this study highlights that in resource-constrained contexts, resilience can be achieved through pragmatic, low-cost measures rather than advanced technologies alone. MDIL's experience illustrates the trade-off between efficiency and resilience and underscores the role of organisational culture and human capital in crisis response.

## **VI. Conclusion**

This study demonstrates that mid-sized firms in emerging economies can enhance supply chain resilience through flexible sourcing, digital coordination, and institutionalised risk management practices. MDIL's response to COVID-19 disruptions shows that resilience is multifaceted, involving strategic, technological, and human dimensions. The findings provide valuable insights for firms and policymakers seeking to strengthen supply chains against future global shocks.

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