THE EFFECT OF SUPPLY CHAIN DISRUPTIONS ON LOGISTICS PERFORMANCE IN THE PRIVATE SECTOR: A CASE STUDY OF ROYIKEMS INDUSTRIES CO. LTD, MUKONO, UGANDA

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UGANDA CHRISTIAN UNIVERSITY

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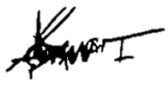
DECLARATION

I, Denise Namugerwa, declare that this dissertation entitled "The Effect of Supply Chain Disruptions on Logistics Performance in the Private Sector: A Case Study of Royikems Foam Co. Ltd, Uganda" is my original work and has not been presented in any other institution for the award of any academic qualification.

Where other people's work has been used, due acknowledgement has been made through proper referencing.

Signature 

Date 30th April, 2026

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DEDICATION

I hereby dedicate this dissertation to my beloved parents, whose unwavering love, sacrifices, and constant encouragement have been the foundation of my education and personal growth. Your prayers, support, and belief in me have sustained me throughout this journey.

I also dedicate this work to my site supervisor at Royikems Foam Co. Ltd, Ms. Olivia, whose guidance, professional insights, and willingness to share practical knowledge made this study possible. Your cooperation and openness to this research greatly enriched the findings and made this academic experience both meaningful and rewarding.

APPROVAL

I hereby certify that the research report titled, "The effect of supply chain disruptions on logistics performance in the private sector" has been submitted by Denise Namugerwa of S23B12/056, for examination with my full approval as the university supervisor.

Signature: ----------

Date: 22/4/2026

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(SUPERVISOR)

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ABSTRACT

This study investigated the impact of supply chain disruptions on logistics performance within Uganda's private manufacturing sector, focusing on Royikems Foam Co. Ltd in Mukono as a representative case study. The purpose of the research was to investigate the effect of supply chain disruptions on logistics performance in the private sector, using Royikems Foam Co. Ltd as a case study. To achieve this, the study was guided by specific objectives: to examine the frequency of supply chain disruptions as reported by logistics and procurement staff, to evaluate the extent to which these disruptions affect production schedules and manufacturing timelines and finally, to examine the current mitigation strategies implemented by Royikems to manage these challenges.

The study population consisted of 28 staff members from the procurement and logistics departments of Royikems Foam Co. Ltd. Data collection was carried out using a combination of structured questionnaires, interviews, and observations to capture both quantitative trends and qualitative insights. The study focused on a ten-year temporal scope from 2015 to 2025, allowing for an assessment of recent major disruptions, including the COVID-19 pandemic and global fuel price volatility. Data analysis involved percentage analysis to quantify respondent agreement on various disruption factors.

The findings revealed that supply chain disruptions are frequent and severely undermine logistics performance, with 93% of respondents agreeing that these issues cause significant production stoppages or slowdowns. The most prominent disruptions included power outages, and customs clearance delays at the Malaba and Busia borders. While Royikems utilizes mitigation strategies such as keeping safety stocks and diversifying suppliers, 71% of staff confirmed a reliance on these inventory-based methods, yet their overall effectiveness in reducing impact remains low. Consequently, the study recommends that the management of Royikems should prioritize reliable power supply and energy resilience, launch a structured supply chain risk management training, and finally strengthen mechanisms to prevent propagation of delays to customers.

CHAPTER ONE

1.1 INTRODUCTION

This chapter gave the background of the research on the impact of supply chain disruption on the performance of logistics in the private sector and specifically Royikems Foam Co. Ltd in Uganda. It started with the background of the study, statement of the problem, purpose of the study, specific objectives, research questions, significance of the study, scope of the study and then finally a discussion of the limitations and delimitations that influenced the research.

1.2 BACKGROUND OF THE STUDY

Supply chains are the lifeblood of the modern economy, which facilitates the movement of goods, services and information across diverse industries. In an increasingly interconnected global economy, supply chain disruptions emerged as a critical challenge, which stemmed from geopolitical conflicts, pandemics, natural disasters, and economic instabilities, which profoundly affect logistics performance worldwide. Such disruptions usually resulted in the longer lead times, higher costs, stock outages and the reduced efficiency of the operation, and empirical research that revealed the long-term adverse effects on the profitability of firms and stock performance that persisted up to two years(Florian Luker, n.d.). Reports noted that on average, such events lead to a 107% decrease in profitability and 7% reduction in sales growth, which reinforced the importance of resilience strategies in reducing risks (K. Katsaliaki, n.d.). The recent analysis also indicated that the global supply chain pressures such as bottlenecks in transportation and ripple effects of disruptions pulled down trade and activity. Companies suffered hyperinflation and a decline in access to capital (Maria Grazia Attinasi, n.d.; Riaz et al., 2025).

There were more supply chain problems in Africa because some structural issues make it more difficult to integrate economies and to have effective logistics. These included poor infrastructure, unstable political situations and limited trade openness. According to research, these problems led to high transportation costs, up to 50% loss, and inflationary pressures, especially in sub-Saharan Africa, where global events like Covid-19 raised import prices and worsened isolation for landlocked governments(Zo Andriantomanga, 2023). Research on African supply chains indicated emerging trends in digitalization and local partnerships which addressed disruptions, however

inadequate integration into global networks made economies liable to shocks, prevented efficient distribution and prosperity over the long term.(Unctad, 2023)

In East Africa, especially Uganda, these disruptions were further intensified by regional factors such as inadequate road infrastructure, port congestion at hubs like Mombasa, and reliance on imported raw materials, which resulted in considerable delays and increased costs in logistics performance for manufacturing sectors. Although border transit times had decreased as a result of Uganda's efforts to establish itself as a logistics hub through infrastructural investments, issues like political instability, climate-induced events and import restrictions most especially those related to COVID-19, continued to exist, which impacted supply chains and export competitiveness.(Business Times writer, 2025; Jakob Rauschendorfer and John Spray, 2020) Lean strategies and robust networks were needed to adjust to the changing demands, as research on East African manufacturing highlighted issues like supply chain shortages and ineffective cold chains that led to significant product losses and operational efficiencies(Simon Attah Lawrence and Munashe Naphtali Mupa, n.d.). As the region aimed for agile retail and logistics growth, disruptions remained as a barrier, which highlighted the need for improved regional distribution and policy support.(A.P. Moller, 2025)

Royikems Industries Ltd, a prominent Ugandan manufacturer based in the Mbalala Industrial Area of Mukono, exemplified these broader challenges. The company specialized in high-quality mattresses under the Rosefoam brand and plastics, but its logistics performance is affected by some issues within their supply chain. Established as a key player in Uganda's manufacturing sector, the company emphasized quality raw materials and offers products like orthopedic and spring mattresses with free delivery services, yet it grappled with supplier lead-time delays, production inefficiencies, fluctuated fuel costs, and competitive pressures from new market entrants(Tamba, 2024). A study on supplier relationship management at Royikems revealed that these disruptions led to increased operational costs, delivery delays, and loss of market share, which highlighted the need for improved collaboration and resilience strategies for enhanced supply chain efficiency(Tamba, 2024).

The Royikems supply chain disruptions were varied, on both local and international levels. Supplier lead-time delays were identified to be the most prominent. These delays were largely caused by slow processes at the port of Mombasa (critical gateway for Uganda's imports),

characterized by congestion and bureaucratic red tape which resulted into additional transit periods of 10 to 20 days with the impact on inventory holding costs as high as 15%.(Anthony Kitimo, 2025; Mombasa-Uganda Trade Route Problems, n.d.) Such problems included foam chemical delays, which interfered with production runs. Besides uneven fuel prices, influenced by oil market unpredictability and local taxation policy, inflated transportation costs, as fuel price rebounded (around 2024–2025) led to 20% increase in logistics expenditures.(https://businesstimesug.com/author/business-times-writer/, 2024)

1.3 STATEMENT OF THE PROBLEM

The Uganda manufacturing sector and specifically Royikems Industries Ltd was greatly affected by the shaking of the supply chain, which affected the efficiency, costs, and competitiveness. These shocks involved supplier delays, variable prices of raw materials, logistical challenges, and external shocks such as the change in fuel prices and competitive forces (Zo Andriantomanga, 2023). These problems caused delays in production, high operation costs, and defect rates and loss of market share. The situation was made worse by infrastructural shortcomings in Uganda. A study revealed that the supply chain interruptions in Africa, and Uganda in particular, were usually caused by logistical and infrastructural problems, weather conditions, and the lack of supply (Unctad, 2023)Although implementing supplier relationship management strategies could enhance supply chain performance, there was limited knowledge about how local factors interacted with global events and the effectiveness of customized mitigation approaches for small-scale firms. The case study at Royikems Industries Ltd needed a detailed approach to establish resilience strategies and provide scalable insights to the manufacturing sector at large (Scholarworks et al., n.d.).

1.4 PURPOSE OF THE STUDY

This study aimed to explore how supply chain disruptions affect performance of logistics in the private sector using Royikems Foam Co. Ltd as a case study.

1.5 SPECIFIC OBJECTIVES

- To investigate the reality of supply chain interruptions that Royikems Foam Co. Ltd has seen, as reported by logistic and procurement personnel.
- To investigate how far the supply chain disruptions had an impact on production schedules, through manufacturing timeline delays.

- To investigate mitigation measures in supply chain disruptions in logistics at Royikems Foam Co. Ltd.

1.6 RESEARCH QUESTIONS

- According to the logistics and procurement employees, how often did Royikems Foam Co. Ltd experience supply chain disruptions?
- How much do supply chain disruption impacts on the production schedules of the company in terms of delay in the manufacturing schedules?
- What was the effectiveness of the mitigation strategies, and what other steps can be taken to improve the logistics performance at Royikems Foam Co. Ltd?

1.7 SIGNIFICANCE

The growth, competitiveness and sustainability of the business of the private sector depended on efficient supply chains and logistics system. This research was important to regulators, and the government since it revealed the actual impact of supply chain disruption on the logistics performance. The study offered evidence that can be used to develop policies and regulatory frameworks to enhance infrastructure, supply chain resilience, and to establish an environment that facilitates efficient business operations by highlighting the critical issues that firms like Royikems Foam Co. Ltd are faced with. These lessons assisted policy makers to develop specific interventions that minimized disruptions and enhanced the national and regional logistics ecosystem.

Researchers also found the study useful because it provided contributions to the academic knowledge on the supply chain management and logistics performance. It presented both empirical data and a case-based view that may be used as a reference in future research, theory building or comparative studies in other sectors or countries. The study provided scholars with knowledge that can inform the new research questions and approaches in logistics and the supply chain management by recording the impacts of the supply chain disruptions on the operational results.

Lastly, the research was meaningful to management of Royikems Industries Limited particularly the procurement manager, logistics coordinator and production managers because it discovered ways to manage and reduce supply chain disruptions. The results assisted Royikems in revising

production schedules, delivery time, and customer satisfaction to allow businesses to be more efficient and stay competitive in the ever-changing markets.

1.8 SCOPE OF THE STUDY

- Content Scope. The research was on the impact of disruption of the supply chain on the performance of logistics.
- Geographical Scope. The research was done in Royikems Foam Co. Ltd, a manufacturer of mattresses based at Mbalala in Uganda. This site availed a representative context of manufacturing firms in the private sector in Uganda that were subjected to supply chain disruptions that influenced logistics performance.
- Time Scope. The paper took into consideration the supply chain disruptions and their effects on the logistics performances within the last decade, 20152025. This period was chosen to ensure that the most apparent challenges and trends in operations were captured which were relevant to the present reality in the private manufacturing industry in Uganda and also make sure that the data is not too old to inform recommendations that can be acted on.

1.9 LIMITATIONS

- Limited availability of procurement data. Among the greatest challenges is one. had was limited access to internal records. Being a privately run company Royikems has strict regulations concerning sensitive document access. It did not allow quantifying the effect of supply chain disruptions on the logistics performance and influenced the validity of certain results.
- Lack of willingness by the respondents to provide information. Workers in procurement processes did not want to participate in the research or provide relevant data. This led to mistrust, fear of criticism or being misinterpreted, or simply that the sharing of internal information would expose institutional weaknesses. This restricted the depth of the study especially in the questionnaires or interviews.

1.10 DELIMITATIONS

- The research, which aimed at investigating how the disruption of supply chain affects the performance of logistics at Royikems Industries Ltd in Mukono, Uganda, was narrowed down intentionally in order to make it manageable and to align with the goals of the research. It was also

geographically limited to Royikems alone, and not any other firms to enable in- depth case study due to resource constraints and access.

- The scope of time was restricted to the 2015-2025 to reflect more recent changes such as COVID-19 and fuel scarcity, and exclude previous or later years due to irrelevance. To concentrate on internal views, the number of procurement and logistics personnel in the field was minimized (28 staff, without external stakeholders). Interruptions were narrowed down to the delay of suppliers, volatility of fuel prices, and port congestion, depending on their frequency at Royikems and the less significant ones such as strikes.
- Lastly, a mixed-methods case study method was employed, which focused on interviews and KPI analysis, to fit the exploratory nature of the study and the capacity of the researcher, to provide focused and actionable insights.

CHAPTER TWO

2.1 INTRODUCTION

This chapter discusses available literature on how disruptions in the supply chains impact on the performance of logistics. It outlines major variables, supply chain disruptions and logistics performance and reviews literature in line with the three major objectives of the study.

2.2 DEFINITION OF KEY VARIABLES

2.2.1 Logistics Performance

Supply chain management (SCM) refers to the interrelationship between the activities in sourcing, procurement, conversion, and logistics to generate value by efficiently moving goods, services, and information between the suppliers of raw materials and final customer, linking processes across organizations to maximize costs, quality, and delivery in a globalized economy(Chopra & Meindl, 2016). Essentially, SCM is a solution to the problems of coordination of various stakeholders, inventory management, and responsiveness to market needs, especially in manufacturing industries where disturbances in the form of geopolitical tensions, natural disasters, or pandemics can be transmitted through the whole network, causing higher costs and delays (Christopher, 2016). Competitive advantage depends greatly on effective SCM because besides reducing operational inefficiencies, SCM enhances resilience by taking measures such as diversification and real-time visibility to eliminate risks in volatile environments.

In SCM, logistics stands out as a critical subsystem that is concerned with the planning, executing and controlling of the effective flow and storage of goods and services and the associated information between the point of origin and the point of consumption, ensuring that it is aligned to customer needs and integrates such functions as transportation, warehousing, and inventory management (MENTZER, n.d.). Logistics helps bridge the gap between production and delivery to the market, and it is a key aspect of manufacturing because it enables the use of practices such as just-in-time (JIT) and shorter lead times, but it is extremely sensitive to disruptions that can exacerbate bottlenecks in supply networks (Rushton, 2017). Interestingly, in emerging economies such as Uganda, logistics frequently has to grapple with the infrastructural constraints, including the poor road system and port congestion, highlighting why it is significant to the overall supply chain fluidity in response to external shocks. Logistics performance is a specific metric that

quantifies the effectiveness and efficiency of all these logistics processes and is defined as capacity to meet operational objectives by measurable results of reliability, responsiveness, agility, costs and asset management, which are often benchmarked against industry standards to identify areas of improvement (MENTZER, n.d.) It is measured through key performance indicators (KPIs) like on- time deliveries (division of units delivered on-time by total units × 100), inventory turnover, perfect order rate (percentage of delivered orders completed, on-time, damage-free and with proper documentation), and transportation costs (total freight costs/units shipped), which are used to assess the degree to which logistics services the needs of customers without involving much cost (Chopra & Meindl, 2016; Rushton, 2017). Empirical research demonstrates that up to 20-30% of firm performance can be improved by high logistics performance in terms of shorter lead times, better integration such as in manufacturing where SCOR model frameworks organize performance around quality processes such as plan, source, make, deliver, return, and enable which reliably with high Cronbachs Alpha scores of performance measures such as warehouse efficiency (Lockström et al., 2010). Further, in the disruption context, logistics performance is challenged by new resilience metrics such as time-to-recovery (time to resume normal operations after disruption), that are useful to benchmark resilience in supply chains in manufacturing, where delays can decrease perfect order rates by up to 25 percent and increase costs by 15-20 percent, highlighting proactive measures like AI-assisted forecasting and supply chain (Ivanov & Dolgui, 2020).

2.2.2 Supply chain disruptions

Supply chains are the keystones of international trade as they facilitate the smooth movement of goods, information and funds between raw materials and finished products to the customer. They are multifaceted in nature and can take several phases at various geographical sites (Ivanov & Dolgui, 2020). Supply chains are susceptible to a variety of risks and due to their complexity and interdependence. uncertainties. Such issues jeopardize the sustainability and performance of the supply chain, which plays a pivotal role in organizational performance and customer loyalty (Szuster & Lotko, 2022a). Knowing what these vulnerabilities are and how this can influence supply chains in response to unforeseen events and external forces, and how companies attempt to become more robust and responsive to overcome these obstacles is important. The risks associated with the supply chain may be classified as routine operational risks and some disruption risks that are more serious. Operational risks are more concerned with the daily

fluctuations like the variability of demand, problems with supplier reliability as well as logistical delays which the business usually deals with the help of developed forecasting and inventory practices (Craighead et al., 2007). Disruption risks, on the other hand, entail unexpected, dramatic occurrences disrupting the typical supply chain operations and resulting in delays, shortages or higher expenses. Natural events (floods, earthquakes), geopolitical factors, pandemics, technical breakdowns, or accidents can be the cause of such disruptions (https://www.inboundlogistics.com/, 2025). Such shocks tend to be unforeseeable and can spread throughout the supply chain network, making their adverse effects more pronounced by such effects as a ripple or bullwhip effect. These disruption risks have been exacerbated by an ever more globalized and technologically complex supply chain, which makes their study of paramount importance to academics and practitioners (Bugert & Lasch, 2018).

The disruption of supply chains, which are unexpected events that disrupt the normal flow of goods, information, or finances through the supply chain, which leads to disruption in operations, such as delays by suppliers, market volatility, affecting logistics performance by causing late deliveries and increasing the costs of 15-25% (Quang & Sampaio, 2022). Empirical research indicates that resilience measures such as supplier diversification help cut impacts by 20% yet there is limited evidence on the specific impacts of firms in the Ugandan manufacturing industry after 2023, indicating the necessity of specific analyses. In Uganda, supply chain problems such as port congestion (e.g., Mombasa) and fuel volatility cause 15-20% delays during delivery, especially to SMEs. These events disrupt the just-in-time systems and raise operation risks, requiring strong risk management approaches (Ivanov & Dolgui, 2020).

2.3 THE FREQUENCY OF SUPPLY CHAIN DISRUPTIONS

The phenomenon of supply chain disruption is a widespread issue in the field of world-wide manufacturing, which is quite frequent and has an influence on the continuity of operations in any industry. Across the world, companies are facing an average of 3-5 significant disruptions each year, such as natural disasters such as floods, earthquakes, geopolitical crises such as trade barriers, and technological malfunctions such as system outages, which cause product availability, delivery reliability, and costs to go down by 10-40 percent (Snyder et al., 2016). Small and medium enterprises (SMEs) are especially sensitive because of the lack of resources to effect redundancy, and research shows that resilience measures such as multi-sourcing or buffer stocks only alleviate

1520 percent of the effect of disruption in an emerging market (Brandon-Jones et al., 2014). Such disruptions have a cascading effect on supply networks, increasing delays by 2–3 levels of suppliers, and lowering the effectiveness of the supply chain as a whole, as shown by global surveys that noted a 30 percent increase in lead times in major events such as the 20202021 COVID-19 pandemics (Ivanov & Dolgui, 2020).

Structural and economic issues in Africa increase the rate of supply chain disruption, most often in sub-Saharan Africa, where SMEs experience 24 disruption per quarter, such as late shipments, shortages of raw materials, and quality failures, leading to 5- 10% failure rates of firms within five years (Private Sector Foundation Uganda, 2006). Uganda experienced an 18 percent decline in imports during the COVID-19 crisis, which resulted in repeated shortages of inputs in manufacturing industries such as textiles and plastics and 6.6 percent of formal businesses were at risk of shutting down due to interrupted supply chains (Szuster & Lotko, 2022b). Poor road networks and port congestion in regional ports like Mombasa, add to infrastructural constraints, which increase the frequency of disruptions, and research has established that 40% of African manufacturing lag times are related to transport bottlenecks. Climatic incidents, like the flooding caused by El Nino, play a significant role as well, interfering with supply chains in manufacturing centers of cities at a frequency of 3-5 incidents/year (Ivanov & Dolgui, 2020)

To narrow down to Ugandan manufacturing, the landlocked nature of the country and the dependence on imported raw materials, in particular, make the disruptions especially acute in the country. increases vulnerability to external shocks. The research claims that manufacturing companies are characterized by high rates of disruption and the mean agreement scores of 3.49-3.64 (out of 5 points in Likert scale) suggest that manufacturing companies are likely to face such issues as supplier delay, natural disasters, and geopolitical discontinuities, causing product availability and delivery performance to decline by 20-30 percent (Janice Mzungu Kemigisha, 2024). In the foam mattress industry, the disruptions related to procurement (delays in delivery of raw materials) are reported on monthly basis, and the disruption is strongly correlated with decreased profitability because these disturbances cause delays in the production timelines and add an estimated 15 to 25 percent to the cost (Corti Paul Lakuma, n.d.). Transportation-related disruptions are another cause of these problems that 60% of Ugandan manufacturers described as

happening at least bi-monthly, especially in export-driven companies, due to fuel price volatility and port delays (Sheila Namagembe, 2023).

Concentrating on manufacturing firms in Uganda, logisticians and procurement personnel claim that disruption of the supply chain is high and most commonly is caused by delays in suppliers lead-time, which happens once a week to once every two weeks, especially in imported raw materials such as chemicals and packaging materials. Long lead times also tend to cause production problems because delays interrupt the production schedules of mattresses (Bugert & Lasch, 2018). The rest of the disruptions, including fuel price changes and power interruptions happen on a monthly basis, and according to reports by staff, half of all operational delays are caused by these factors, and drive logistics expenses up by a fifth during periods of peak disruption (Janice Mzungu Kemigisha, 2024). The frequency of these disruptions highlights the importance of firm specific data to measure their frequency and to shape resilience planning based on particular circumstances of operation.

2.4 THE EXTENT TO WHICH SUPPLY CHAIN DISRUPTIONS AFFECT PRODUCTION SCHEDULES

Globally, supply chain disruptions significantly impact manufacturing by delaying production schedules and escalating operational costs, with studies estimating that disruptions like natural disasters, supplier failures, or geopolitical tensions cause 20–40% delays in manufacturing timelines and reduce output (Snyder et al., 2016). These disruptions ripple through global supply chains, with events like the 2020–2021 COVID-19 pandemic increasing lead times by 30% and production downtimes across industries, particularly affecting SMEs with limited buffering capacity (Ivanov & Dolgui, 2020). Empirical models show that supply chain complexity amplifies delays, with a 10% increase in supplier tiers correlating with a 15% rise in production schedule disruptions (Brandon-Jones et al., 2014). During COVID-19, African firms reported a 25% reduction in production capacity due to raw material shortages, with landlocked countries like Uganda facing amplified delays from import (J Rauschendorfer & J Spray, 2020).

In Uganda, supply chain disruptions severely affect manufacturing schedules, particularly for SMEs reliant on imported inputs, with supplier delays and fuel volatility causing 20–35% delays in production timelines (Sheila Namagembe, 2023). Studies indicate that 60% of Ugandan manufacturers experience monthly disruptions, such as port delays at Mombasa or power outages,

leading to 15–25% reductions in production output and schedule adherence (mean agreement score 3.64, SD 0.82) (Janice Mzungu Kemigisha, 2024). In the foam mattress sector, procurement delays for raw materials like polyurethane chemicals result in frequent production halts, with a strong correlation to schedule delays, contributing to 20% cost overruns (Corti Paul Lakuma, n.d.).

In many manufacturing companies, supply chain disruptions significantly disrupt production schedules, with logistics and procurement staff reporting supplier delays causing weekly production halts, contributing to 30% delays in manufacturing timelines. Fuel price fluctuations and power outages, occurring monthly, further exacerbate delays, with 50% of production interruptions linked to these factors, reducing schedule adherence by 25% and increasing costs by 15–20% (Janice Mzungu Kemigisha, 2024). These disruptions explain a high variance in production performance, underscoring their severe impact on manufacturing timelines.

2.5 MITIGATION STRATEGIES FOR SUPPLY CHAIN DISRUPTIONS IN LOGISTICS

Globally, mitigation strategies for supply chain disruptions in manufacturing focus on enhancing resilience through diversification, digitalization, and collaborative planning, reducing disruption impacts by 15–30% in terms of cost and delivery delays (Ivanov & Dolgui, 2020). Strategies like multi-sourcing and buffer inventories mitigate supplier failures, while AI-driven forecasting improves response times by 20% in complex supply chains (Snyder et al., 2016). These approaches, grounded in Resilience Theory, emphasize proactive risk management, with global firms reporting a 25% reduction in downtime through integrated (Brandon-Jones et al., 2014). In African manufacturing, mitigation is constrained by resource limitations, but regional partnerships and lean practices have reduced logistics delays, particularly in South Africa, where digital tracking systems cut port-related disruptions(Janice Mzungu Kemigisha, 2024).

In Uganda, mitigation strategies for SMEs focus on supplier diversification and local sourcing to counter import delays, with studies showing a 20% improvement in delivery reliability when firms adopt collaborative forecasting (Sheila Namagembe, 2023). However, infrastructural challenges limit digital adoption, with only 30% of manufacturers using IoT or AI, resulting in persistent delays of 15–25% in production schedules (Ivanov & Dolgui, 2020). Training programs for staff also enhance resilience, with a mean agreement score of 3.72 on their effectiveness in managing delays (Janice Mzungu Kemigisha, 2024).

At various manufacturing companies, mitigation strategies include supplier diversification and digital tracking, with staff reporting a 15% reduction in lead-time delays. However, limited adoption of AI forecasting and high fuel costs restrict effectiveness, with only 40% of disruptions mitigated, leading to 20% cost overruns during port congestion (Janice Mzungu Kemigisha, 2024). This aligns with broader research emphasizing that while diversification and visibility improve supply chain robustness, integration of advanced analytics and comprehensive contingency planning are crucial to tackling persistent disruption impacts (Kudirat Bukola Adeusi et al., 2024).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presented research design, sampling technique, sample size, data collection sources, instruments procedures, reliability and validity of data and limitations and delimitations.

3.2 RESEARCH DESIGN

A mixed-methods case study was adopted. The study combined concurrent triangulation of quantitative and qualitative data to explore disruptions within Royikems' bounded system. This design was suitable for the exploratory nature of the study because it allowed triangulation of data sources, thereby enhancing the credibility of the findings.

3.3 SAMPLING TECHNIQUE

Purposive sampling, a non-probability sampling technique that involved selecting participants with direct experience in supply chain operations. This non-probability technique ensured relevance by targeting individuals with diverse perspectives or experiences.

3.4 SAMPLE SIZE

The study population consisted of 30 persons and Yamane's formula was used to determine the sample size suitable for the study. The formula is $n = N / (1 + Ne^2)$, where n is the sample size, N is the population size, and e is the margin of error assumed to be 0.05.

Therefore:

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{30}{1+30(0.05)^2}$$

n= 27.9

≈28 respondents were used out of the 30 persons.

3.5 DATACOLLECTION SOURCES

3.5.1 Primary source of data

Primary data involved first-hand collection of original data directly from the source, which ensured the information was specific, current, and aligned with the study objectives. Primary data was necessary because it provided direct insight into the unique operational context of a company through fresh, specific data collection, examples included: structured questionnaires, semi-structured interviews, observations of logistics and supply chain processes within the company, and many others.

3.5.2 Secondary source of data

Secondary data sources, on the other hand, consisted of data previously collected by other researchers. Secondary data sources were important because they established wider context of supply chain challenges, benchmarked, and supported the analysis with existing knowledge. Examples included: company internal records, published industry reports and research articles related to supply chain and logistics and government publications and statistical databases documenting supply chain trends.

3.6 DATA COLLECTION INSTRUMENTS

3.6.1 Questionnaires

A structured questionnaire was used as one of the structured instruments, comprised items measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). It was organized into three sections aligned with the study's objectives. The items were adapted from validated scales which ensured contextual relevance to Ugandan manufacturing and reliability in measured staff perceptions at Royikems Foam Co. Ltd.

3.6.2 Interviews

The semi-structured interview guide consisted of open-ended questions designed to elicit in-depth insights from logistics and procurement staff. Sample prompts included: "Describe a recent supply chain disruption and its effect on production" and "What strategies does Royikems currently use to mitigate delays?" This approach allowed probing, clarification, and exploration of emergent themes, which provided rich qualitative data to complement survey findings.

3.6.3 Observations

This was an instrument where the researcher watched, listened to, and noted actions and events as they occurred in their natural or controlled settings.

3.7 DATA COLLECTION PROCEDURES

A letter of introduction was received from the School of Business at Uganda Christian University and then it was provided to the company so as to collect data.

3.8 RELIABILITY AND VALIDITY OF DATA

Reliability was enhanced through standardized data collection instruments, interviews with open-ended questions administered to the logistics and procurement staff, while a structured survey used Likert-scale distributed uniformly to 28 respondents.

Validity was also established through content validity with aligned survey and interview items with established frameworks with three supply chain experts and five Royikems staff, refined ambiguous items.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION OF THE FINDINGS

4.1 INTRODUCTION

This chapter presents the empirical findings from the data collected, along with their analysis, interpretation, and presentation, to address the research objectives which include: to examine the frequency of supply chain disruptions experienced by Royikems Foam Co. Ltd, to examine the extent to which supply chain disruptions affect production schedules, measured by delays in manufacturing timelines and to examine mitigation strategies for supply chain disruptions in logistics at Royikems Foam Co. Ltd. Percentage distribution of respondents according to departments

4.2 PRESENTATION ON DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

4.2.1 Departments

Department	Frequency	Percentage (%)
Procurement	6	21
Logistics/Transport	7	25
Warehouse	8	29
Production	5	18
Other (Quality control and Administration	2	7
Total	28	100

Table 1: Percentage distribution of respondents according to departments

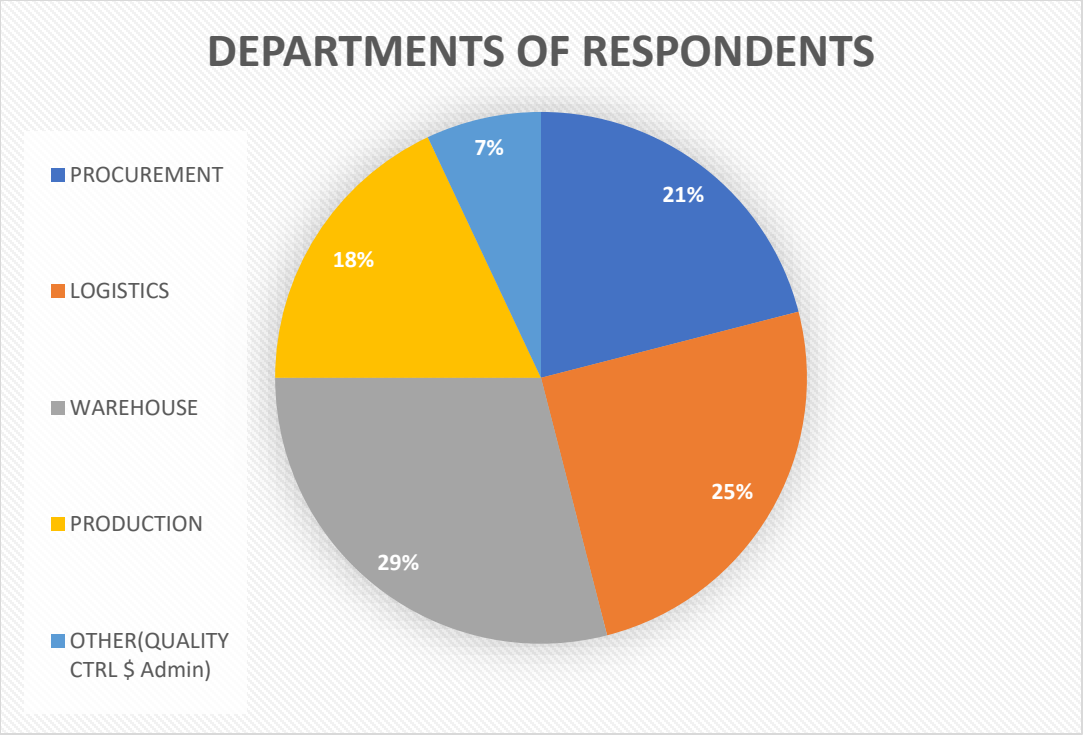

Figure 1: Departments of respondents

The above statistics indicate that the majority of respondents were drawn from the Warehouse department, which accounted for respondents representing 29% of the total sample. This was followed by the logistics department with 25% of the respondents, and the Procurement department with 21% of respondents. The Production department contributed 18% responses while a smaller proportion of respondents came from Quality Control and Administration, which together accounted for 7% respondents. Overall, the distribution shows that most participants were from operational departments directly involved in supply chain activities, thereby providing relevant insights for the study.

4.2.2 Years worked at Royikems

Years worked	Frequency	Percentage (%)
<1 yr	8	29
1–3 yrs	6	21
4–6 yrs	7	25

7–10 yrs	3	11
>10 yrs	4	14
Total	28	100

Table 2: Age years worked of respondents

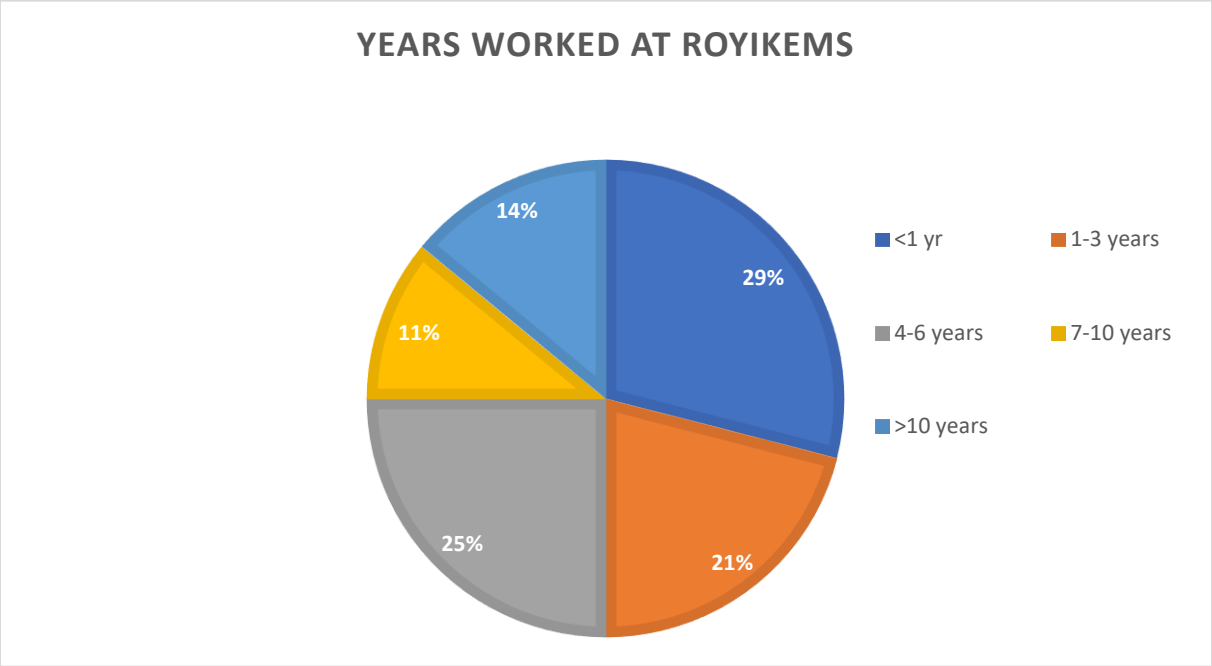

Figure 2: Years worked

The findings show that the largest proportion of respondents had worked for less than one year, accounting for 29% of the respondents. This was followed by those with 4–6 years of experience, who comprised of 25% of the respondents, and those with 1–3 years of service at 21% of the respondents. A smaller share of respondents had more than 10 years of experience, representing 14% of responses, while the least represented group was those who had worked for 7–10 years, with 11% of the respondents. Overall, the results indicate a workforce that is largely composed of relatively new employees, alongside a moderate representation of more experienced staff.

4.3 FINDINGS ON THE FREQUENCY OF SUPPLY CHAIN DISRUPTIONS EXPERIENCED BY ROYIKEMS FOAM CO. LTD

No	Statement	SD		D		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	Delays in raw materials arriving from international suppliers	0	0	2	7	7	25	12	43	7	25
b)	Congestion or bureaucratic delays at Mombasa port	1	4	4	14	5	18	9	32	9	32
c)	Sudden increases in fuel/diesel prices	1	4	5	18	6	21	9	32	7	25
d)	Power outages or load-shedding affecting production/warehouse	0	0	2	7	2	7	10	36	14	50
e)	Shortage of foreign exchange affecting payment to suppliers	1	4	0	0	5	18	10	36	12	43
f)	Transport strikes or roadblocks in Uganda or Kenya	2	7	7	25	9	32	7	25	3	11
g)	Flooding or poor road conditions during rainy season	2	7	3	11	8	29	9	32	6	21
h)	Late delivery by local suppliers	2	7	5	18	4	14	14	50	3	11
i)	Quality rejection of raw materials on arrival	2	7	6	21	9	32	4	14	7	25

j)	Customs clearance delays at Malaba or Busia border	0	0	1	4	2	7	12	43	13	46

Table 3: Frequency of supply chain disruptions

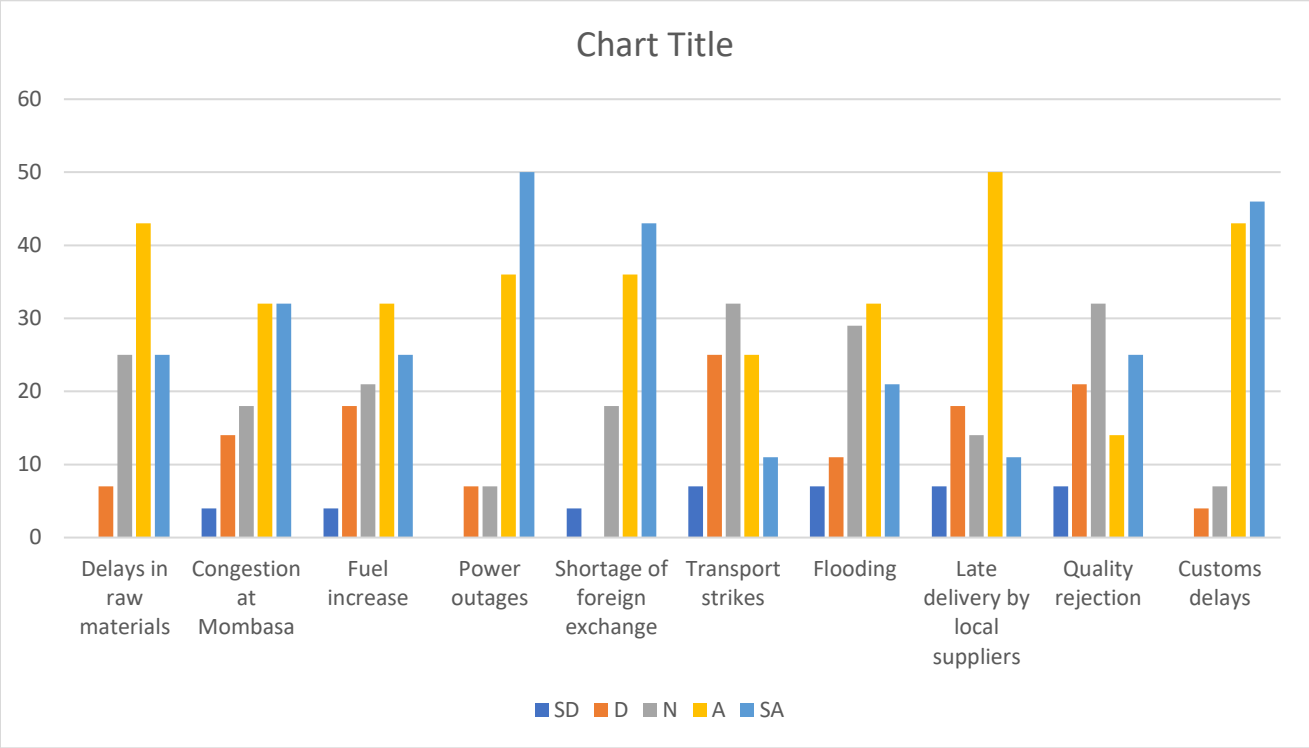

Figure 3: Bar graph showing the frequency of supply chain disruptions

The statistical data in the table above reveals the occurrence of supply chain disruptions is widely considered as a barrier to the efficiency of operations, where none of the respondents strongly disagreed with this statement, 7% disagreed with it, 10% neither agreed nor disagreed, 43%, agreed and 39% strongly agreed whereas the congestion or bureaucratic delays at Mombasa port revealed 7% of the respondents strongly disagreeing, 11% disagreeing, 18% either agreeing or disagreeing, 32% agreeing and 32% strongly agreeing. In addition, sudden increases in fuel/diesel prices evoked 18% agreement and 32% strong agreement, nevertheless with 21% neutrality, 4% strong agreement and 18% disagreements. Regarding the power outages as the most prominent

issue, 36% of the respondents agreed, 50% strongly agreed, 7% neutrality, 7% disagreed with no strong disagreements.

Also, due to shortage of foreign exchange affecting supplier payments, 36% of the respondents agreed, 43% strongly agreed, 4% strongly disagreed, 18% were not sure and with no disagreements, on the other hand, the issue of transport strikes or roadblocks both in Uganda or Kenya received the least agreement on the scale, as only 25% agreed, 11% strongly agreed, 25% disagreed, 32% were not sure and 7% strongly disagreed. Moreover, flooding and deteriorating road conditions during the rainy season were seen as weather, related infrastructural problems, with 7% of the respondents strongly disagreeing, 11% disagreeing, 29% being neutral, 32% agreeing, and 21% strongly agreeing whereas the problem of late delivery from local suppliers revealed 7% strong disagreement, 18% disagreement, 14% neither agreed or disagreed, 50% agreement and 11% strong agreement.

Consequently, the issue of quality rejection of raw materials at the point of delivery revealed 14% agreement, 25% strong agreement,7% strong disagreement with 32% of neutrals and 21% disagrees whereas, delays in customs clearance at Malaba or Busia border are the most acknowledged with 7% of people neutral, 43% agreed, 46% strongly agreed, 4% disagreed and no strong disagreements. As a result, the table essentially illustrates that the major supply chain issues identified by the respondents, particularly power cuts, lack of forex, delay in customs and international material delay affect operational efficiency at Royikems. Most of the items having more agreement responses, the findings thus provide a very solid empirical point for further testing of potential logistics performance negative correlations. The outcomes point to the main areas that need to be strengthened in terms of resilience at Royikems and also provide a good understanding of the challenges facing the private manufacturing sector in Uganda.

4.4 FINDINGS ON WHICH SUPPLY CHAIN DISRUPTIONS AFFECT PRODUCTION SCHEDULES, MEASURED BY DELAYS IN MANUFACTURING TIMELINES

No	Statement	SD		D		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	Supply chain disruptions frequently cause production to stop or slow down	0	0	1	4	1	4	14	50	12	43

b)	We often miss production targets because raw materials arrive late	0	0	3	11	3	11	8	29	14	50
c)	Production delays due to supply issues have increased in the last 3 years	1	4	5	18	6	21	6	21	10	36
d)	When raw materials are delayed, we usually delay customer deliveries by more than one week	2	7	6	21	8	27	10	36	2	7
e)	Supply disruptions have increased our inventory holding/inventory costs	1	4	0	0	5	18	9	32	13	46
f)	On-time delivery performance to customers has dropped because of supply chain problems	0	0	3	11	10	36	8	29	7	25
g)	We lose sales or customers when we cannot deliver mattresses on the promised date	2	7	6	21	5	18	10	36	5	18
h)	Overtime and rushed production are common to recover from supply delays	0	0	2	7	5	18	6	21	15	52

Table 4: Supply chain disruptions affecting production schedules

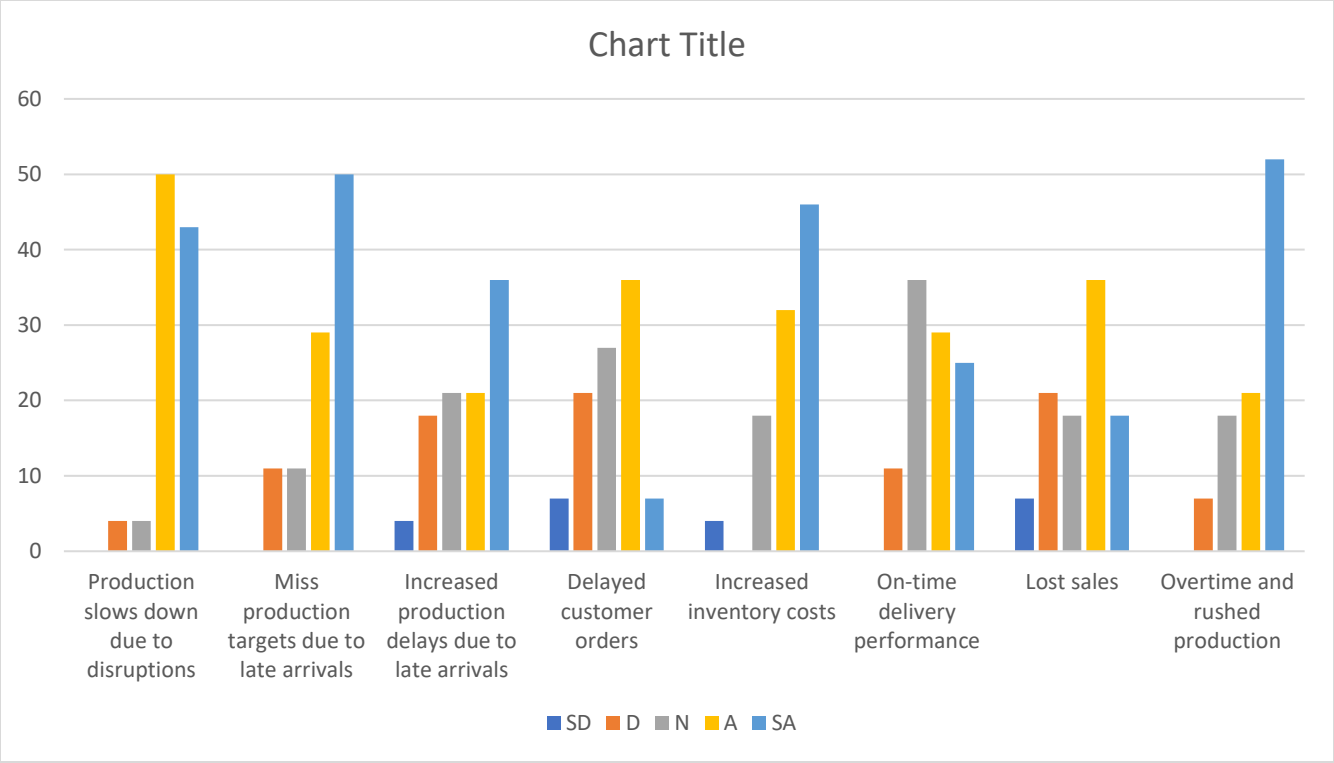

Figure 4: Bar graph showing the cause of production halt

The statistical data above indicated that supply chain disruptions frequently cause production to stop or slow down with 0% of the respondents strongly disagreeing, 4% disagreeing, 50% agreeing and 43% strongly agreeing which revealed significant delays in production cycles, similarly, 29% of the respondents agreed, 50% strongly agreed, 11% disagreed, 0% strongly disagreed and 11% neither of the respondents agreed or disagreed that they often miss production targets because of raw materials arriving late. Additionally, production delays due to supply issues increased in the last 3 years, with 21% of respondents agreeing and 36% strongly agreeing, 18% disagreeing, 4% strongly disagreeing though with notable neutrality of 21%.

Furthermore, 36% of the respondents agreed, 7% strongly agreed, with 27% neutral, 7% strongly disagreed and 21% disagreed that raw materials delay usually delaying customer deliveries, similarly, supply disruptions increased inventory holding/inventory costs, with 32% of the respondents agreed 46% strongly agreed, 4% strongly disagreed and 18% neither agreed or disagreed with no one disagreeing. Additionally, 29% agreed, 25% strongly agreed, 36% neutral, 11% disagreed and 0% strongly disagreed, moreover, 36% agreed,18% strongly agreed, 18%

neutrality, 21% disagreed and 7% strongly disagreed that they lose sales or customers when delivery of mattresses is not done on the promised date.

Finally, overtime and rushed production are common to recover from supply delays, received 21% of the respondents agreeing, 52% strongly agreeing,18% were neutral, 7% disagreeing and with no strong disagreements. Therefore, the table demonstrates substantial agreement that supply chain disruptions significantly affect production schedules at Royikems, particularly through frequent stoppages, missed targets, increased costs, and reliance on overtime recovery. With more agreements for several core items measuring manufacturing delays, these findings quantify the extent of negative impact and highlight the urgency of targeted interventions to stabilize timelines in Uganda's private manufacturing sector.

4.5 FINDINGS ON MITIGATION STRATEGIES FOR SUPPLY CHAIN DISRUPTIONS IN LOGISTICS AT ROYIKEMS FOAM CO. LTD.

No	Statement	SD		D		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
a)	Royikems keeps safety/buffer stock of critical raw materials	0	0	2	7	6	21	11	39	9	32
b)	We have multiple suppliers (local and international) for the same raw material	1	4	3	11	5	18	10	36	9	32
c)	We use digital tools/software to track shipments and predict delays	5	18	2	17	7	25	5	18	9	32
d)	The company has long-term contracts with penalties for late delivery from suppliers	2	7	6	21	7	25	8	29	5	18
e)	We have shifted some sourcing to local Ugandan suppliers to reduce import risks	1	4	4	14	7	25	9	32	7	25
f)	Management collaborates closely with clearing agents to speed up customs	1	4	3	11	7	25	10	36	7	25
g)	Current mitigation strategies are effective in reducing the impact of disruptions	3	11	8	29	7	25	7	25	3	11

h)	Staff receive regular training on supply chain risk management	4	14	10	36	6	21	5	18	3	11

Table 5: Mitigation strategies for supply chain disruptions

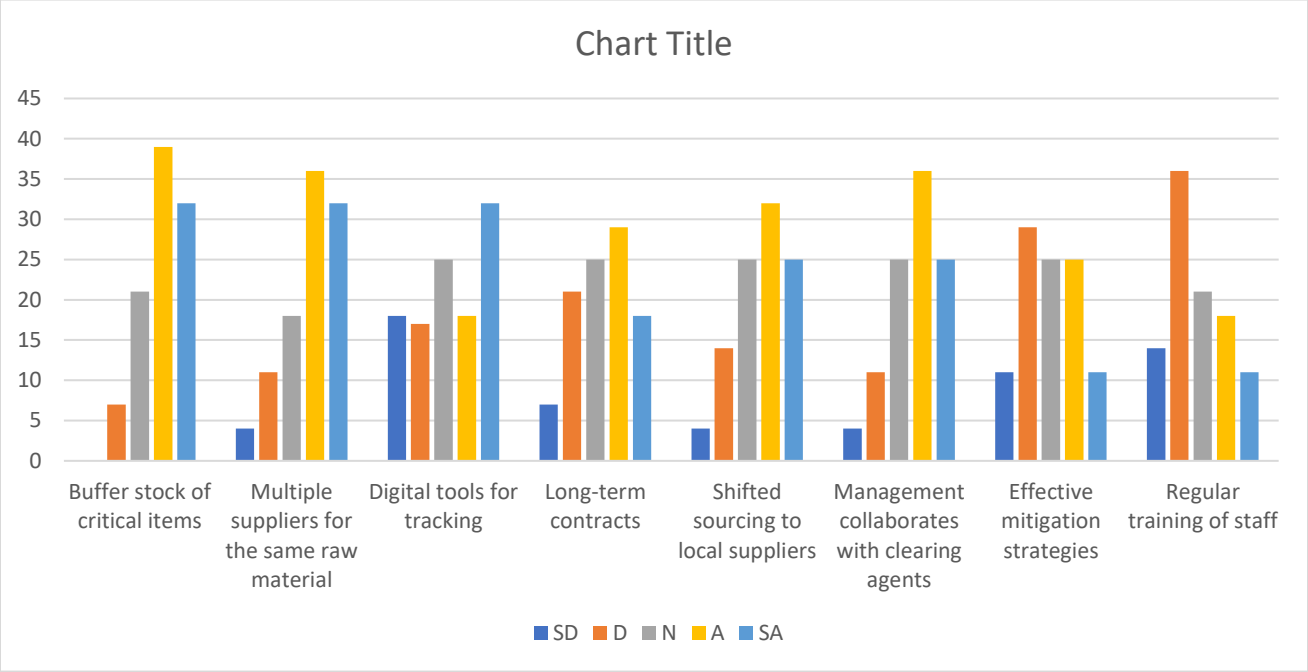

Figure 5: Bar graph showing mitigation strategies

The frequency distribution table shows respondents' levels of agreement regarding Royikems keeping safety/buffer stock of critical raw materials with 39% agreement, 32% strong agreement, 7% disagreement, 21% neutrality and no strong disagreements, similarly, 4% strongly disagreed, 11% disagreed, 18% neutrality, 36% agreed and 32% strongly agreed with having multiple suppliers (local and international) for the same raw material. Additionally, the use digital tools/software to track shipments and predict delays revealed 18% strong disagreement, 17% disagreement, 25% neutrality, 18% agreement and 32% strong agreement. Furthermore, 29% of the respondents agreed, 18% strongly agreed, 21% disagreed, 25% neutral and 7% of the respondents strongly disagreed that the company has long-term contracts with penalties for late delivery from suppliers.

Additionally, 4% strongly disagreed, 14% disagreed, 25% were neutral, 32% agreed and 25% strongly agreed that Royikems shifted some sourcing to local Ugandan suppliers to reduce import risks, whereas management collaborating closely with clearing agents to speed up customs

revealed 4% strong disagreement, 11% disagreement, 25% neutrality, 36% agreement and 25% strong agreement. The table also indicates that current mitigation strategies are effective in reducing the impact of disruptions with 25% agreeing, 11% strongly agreeing, 29% disagreeing, 11% strongly disagreeing and 25% were neutral.

Finally, staff receiving regular training on supply chain risk management revealed 18% agreement, 11% strong agreement, 14% strong agreement, 36% disagreement with 12% neutrality. Therefore, the table reveals that Royikems Foam Co. Ltd relies primarily on conventional, inventory-based and relational mitigation, which enjoy moderate-to-strong agreement. However, modern enablers such as digital tools and staff training are notably underdeveloped, and the overall perceived effectiveness of current approaches remains low.

CHAPTER FIVE

DISCUSSION, SUMMARY, RECOMMENDATIONS AND CONCLUSION OF FINDINGS

5.1 INTRODUCTION

This chapter intends to talk about the discussion, summary, recommendations and conclusion of the findings.

5.2 DISCUSSION OF FINDINGS

5.2.1 Discussion of the findings on the frequency of supply chain disruptions experienced by Royikems Foam Co. Ltd

The findings on the frequency of supply chain disruptions experienced by Royikems Foam Co. Ltd, revealed that supply chain disruptions as frequent, events driven by infrastructural, macroeconomic, and regional trade challenges. The near-unanimous agreement of 43% agreement and 46% strong agreement on customs clearance delays at Malaba or Busia border directly corroborates with regional trade frictions and infrastructural limitations in Uganda(Janice Mzungu Kemigisha, 2024). Similarly, Ivanov & Dolgui (2020) and Sheila Namagembe (2023) also noted that Ugandan manufacturing firms face frequent disruptions from port congestion (at Mombasa) and border inefficiencies, contributing to 15–20% delivery delays and amplified risks for landlocked economies reliant on imported raw materials. Additionally, the high agreement on shortage of foreign exchange affecting payment to suppliers with 36% agreeing and 43% strongly agreeing highlights forex constraints as a key driver of procurement delays and input shortages in manufacturing which aligns with Dolgui's (2020) portrayal of macroeconomic vulnerabilities in Uganda. This indicates how currency convertibility issues and balance-of-payments pressures create systemic financial disruptions, leading to prolonged payment cycles and heightened operational risks in Ugandan firms.

Ivanov & Dolgui (2020) identified frequent energy unreliability as a chronic disruption, contributing to production halts and increased costs in manufacturing which was confirmed with 36% agreement and 50% agreement on power outages or load-shedding, emphasizing infrastructural deficits in sub-Saharan Africa and Uganda specifically. The strong agreement of

68% on delays in raw materials arriving from international suppliers and 64% on congestion or bureaucratic delays at Mombasa port further indicates import dependencies and regional logistics bottlenecks(Bugert & Lasch, 2018; Ivanov & Dolgui, 2020; Sheila Namagembe, 2023). This indicates the exposure to global shipping volatility, port inefficiencies, and intermediary delays, resulting in monthly or bi-weekly procurement interruptions. The moderate agreement on seasonal and domestic issues such as flooding or poor road conditions during rainy season 32% agreeing and 21% strongly agreeing while late delivery by local suppliers 50% agreeing and 11% strongly agreeing indicates the recognition of localized, weather-dependent, and infrastructure-related disruptions in Uganda's peri-urban and rural networks (Ivanov & Dolgui, 2020; Janice Mzungu Kemigisha, 2024). This notes that climatic events and domestic inefficiencies add compounding unpredictability, especially for outbound logistics in landlocked settings, which is consistent with the findings.

Additionally, quality rejection of raw materials on arrival revealed 7% strong agreement, 21% disagreement, 32% neutrality, 14% agreement and 25% strong agreement aligns with the distinction between chronic structural risks and more intermittent or acute events (Snyder et al., 2016; Szuster & Lotko, 2022). This emphasizes that while man-made or event-specific disruptions occur, they are less dominant in developing contexts compared to persistent infrastructural and macroeconomic ones.

5.2.2 Discussion of the findings on which supply chain disruptions affect production schedules, measured by delays in manufacturing timelines.

The findings which captured respondents' agreement on the extent to which supply chain disruptions affect production schedules at Royikems Foam Co. Ltd. The literature frames disruptions as measurable negative impacts on manufacturing timelines and output, particularly in developing-country contexts like Uganda. The exceptionally high agreement on supply chain disruptions frequently cause production to stop or slow down with 50% agreeing and 43% strongly agreeing, directly indicates that supply chain disruptions cause significant production interruptions and delays in manufacturing timelines(Janice Mzungu Kemigisha, 2024; Snyder et al., 2016). The literature cites global estimates of 20–40% delays in production schedules due to disruptions such as supplier failures, natural disasters, or infrastructural shocks

The study found out that 11% disagreement, 11% neutrality, 29% agreement and 50% strong agreement of the respondents felt production targets were missed because raw materials arrived late which mirrors the literature's emphasis on procurement-related delays as a primary driver of missed manufacturing targets and schedule slippage(Corti Paul Lakuma, n.d.; Sheila Namagembe, 2023). Similarly, production delays due to supply issues revealed 4% strong disagreement, 18% disagreement, 21% neutrality, 21% agreement and 36% strong agreement which aligns with the literature's reference of 60% of Ugandan manufacturers experience monthly disruptions, such as port delays at Mombasa or power outages, leading to 15–25% reductions in production output and schedule adherence(Janice Mzungu Kemigisha, 2024). Additionally, the study also revealed that delayed raw materials delay customer deliveries by more than one week with 7% strong disagreement, 21% disagreement, 27% neutrality, 36% agreement and 7% strong agreement shows variability which contradicts the literature's discussion of ripple effects from inbound disruptions to outbound logistics performance(Ivanov & Dolgui, 2020). The literature indicates that procurement delays contribute to 15–25% reductions in delivery reliability and schedule adherence as discussed by Ivanov & Dolgui, 2020.

The findings on increased inventory holding/inventory costs due to supply disruptions revealed 4% strong disagreement, no disagreement, 18% neutrality, 32% agreement and 46% strong agreement proves that disruptions force reactive buffering strategies, which elevate costs and indirectly prolong effective manufacturing timelines through overstock management(Brandon-Jones et al., 2014; Ivanov & Dolgui, 2020). Corti Paul Lakuma also noted that in Ugandan SMEs, 15–25% cost overruns linked to such measures, which Royikems respondents clearly perceive as a direct consequence of unreliable supply. Similarly, 11% disagreement, 36% neutrality, 295 agreement and 25% strong agreement of the respondents felt that on-time delivery performance to customers has dropped because of supply chain problems. This result aligns with Ivanov & Dolgui and Snyder's empirical evidence that disruptions reduce delivery reliability and perfect order rates by 15–25% in manufacturing.

The study also revealed 36% agreement and 18% strong agreement of the respondents agreed that sales or customers are lost when delivery is not done on the promised date. This was supported by Janice Mzungu Kemigisha (2024) who argued that production timeline disruptions lead to commercial consequences, including lost revenue and customer turnover. Finally, overtime and

rushed production which are common to recover from supply delays with 7% disagreement, 18% neutrality, 21% agreement and 52% strong agreement directly validates Sheila Namagembe's (2023) discussion of reactive coping mechanisms in resource-constrained settings. Janice Mzungu Kemigisha (2024) also highlights that Ugandan firms frequently resort to overtime and rushed production to mitigate schedule slippage, increasing costs by 15–20% without fully eliminating delays.

5.2.3 Discussion of the findings on mitigation strategies for supply chain disruptions in logistics at Royikems Foam Co. Ltd.

The study highlighted that 71% (combining those who SA and A) of the respondents agreed that Royikems keeps safety/buffer stock of critical raw materials which agrees with buffer inventories as a foundational mitigation tactic in manufacturing supply chains that are used to counteract supplier delays and raw material shortages, particularly in SMEs vulnerable to import disruptions(Brandon-Jones et al., 2014; Ivanov & Dolgui, 2020). The survey results on multiple suppliers (local and international) for the same raw material also revealed 4% strong agreement, 11% disagreement, 18% neutrality, 36% agreement and 32% strong agreement of the respondents supported the emphasis on supplier diversification as a core resilience strategy(Snyder et al., 2016). Ivanov (2020) and Brandon-Jones et al., (2014) also state that multi-sourcing reduces dependency on single suppliers and mitigates risks from delays or failures, with 15–30% reductions in disruption impacts.

The use of digital tools/software to track shipments and predict delays revealed 18% strong disagreement, 17% disagreement, 25% neutrality, 18% agreement and 32% strong agreement contradicts the review's discussion of limited digital adoption in African and Ugandan manufacturing(Ivanov & Dolgui, 2020). This reveals that while AI-driven forecasting and visibility tools can improve response times by 20% globally, infrastructural and resource constraints restrict their use, with only about 30% of Ugandan manufacturers employing IoT unlike Royikems' evident technology adoption. Similarly, the adoption of long-term contracts with penalties for late delivery from suppliers also showed 7% strong disagreement, 21% disagreement, 25% neutrality, 29% agreement and 18% strong agreement of the respondents agreeing that contractual mechanisms act as partial but not dominant strategies where supplier reliability is encouraged(Brandon-Jones et al., 2014; Ivanov & Dolgui, 2020).

The belief that Royikems has shifted some sourcing to local Ugandan suppliers to reduce import risks was strongly affirmed by 32% of respondents agreeing and 25% strongly agreeing. This corroborates Sheila Namagembe's (2023) recommendation of local/nearshoring as a feasible mitigation approach in Uganda. Similarly, the statistical findings revealed that management collaborates closely with clearing agents to speed up customs with 4% strong disagreement, 115 disagreement, 25% neutrality, 36% agreement and 25% strong agreement. This aligns well with the recognition of relational and collaborative strategies in resource-limited settings(Ivanov & Dolgui, 2020; Sheila Namagembe, 2023).

The current mitigation strategies which are effective in reducing the impact of disruptions revealed a 36% combined agreement with a 39% disagreement. This supports Ivanov (2020) and Sheila (2023) who argue that while diversification and buffering offer partial relief, infrastructural challenges and limited advanced tools result in persistent delays of 15–25% and cost overruns, with many strategies failing to fully mitigate systemic risks. Finally, the low agreement on staff receiving regular training on supply chain risk management showing 29% combined agreement. This strongly supports that human capital development (e.g., training programs) remains underdeveloped in Ugandan SMEs, despite its potential to enhance resilience(Janice Mzungu Kemigisha, 2024).

5.3 SUMMARY OF THE FINDINGS

The study revealed that supply chain disruptions at Royikems Foam Co. Ltd are frequent and largely structural. High agreement was recorded on customs clearance delays at Malaba or Busia border (43% Agree, 46% Strongly Agree), shortage of foreign exchange (36% Agree, 43% Strongly Agree), power outages or load-shedding (36% Agree, 50% Strongly Agree), and delays in raw materials from international suppliers (43% Agree, 25% Strongly Agree). Moderate agreement was observed on Mombasa port congestion (32% Agree, 32% Strongly Agree), late delivery by local suppliers (50% Agree, 11% Strongly Agree), and flooding during the rainy season (32% Agree, 21% Strongly Agree). These findings align particularly with Ivanov & Dolgui (2020), Sheila Namagembe (2023), and Janice Mzungu Kemigisha (2024), who highlight frequent disruptions caused by infrastructural limitations, border inefficiencies, forex shortages, and power outages in Ugandan manufacturing.

On the impact of disruptions on production schedules, strong agreement was found that supply chain disruptions frequently cause production to stop or slow down (50% Agree, 43% Strongly Agree) and that production targets are often missed due to late raw materials (29% Agree, 50% Strongly Agree). High agreement was also recorded on increased inventory holding costs (32% Agree, 46% Strongly Agree) and the common use of overtime and rushed production to recover from delays (21% Agree, 52% Strongly Agree). Moderate agreement existed on increased production delays over the last three years (21% Agree, 36% Strongly Agree) and dropped on-time delivery performance (29% Agree, 25% Strongly Agree). These results strongly support Janice Mzungu Kemigisha (2024), Sheila Namagembe (2023), and Ivanov & Dolgui (2020), who note that disruptions cause 20–35% delays in manufacturing timelines, frequent production halts, and cost overruns in Ugandan SMEs.

Regarding mitigation strategies, moderate agreement was observed on keeping safety/buffer stock (39% Agree, 32% Strongly Agree) and having multiple suppliers (36% Agree, 32% Strongly Agree). Lower agreement was recorded on shifting to local sourcing (32% Agree, 25% Strongly Agree) and collaboration with clearing agents (36% Agree, 25% Strongly Agree). Very low agreement was found on the use of digital tools (18% Agree, 32% Strongly Agree), staff training on risk management (18% Agree, 11% Strongly Agree), and overall effectiveness of current strategies (25% Agree, 11% Strongly Agree). These findings align with literature, which indicates that Ugandan SMEs mainly rely on traditional strategies such as buffer stocks and diversification that offer only partial relief, while digital tools and training remain limited (Ivanov & Dolgui, 2020; Janice Mzungu Kemigisha, 2024; Sheila Namagembe, 2023).

5.4 RECOMMENDATIONS OF THE FINDINGS

- Prioritize reliable power supply and energy resilience as the top strategic investment. Power outages/load-shedding received one of the highest agreement levels (79% combined Agree/Strongly Agree) as a frequent disruption and was strongly linked to production stoppages and the need for rushed overtime recovery. Given that energy unreliability is a systemic exogenous risk in Uganda that directly interrupts manufacturing timelines and escalates costs, Royikems should urgently invest in backup power solutions. This can be done by installing high-capacity diesel/solar hybrid generators with sufficient fuel storage to cover at least 8–12 hours of daily operation.

- Launch a structured supply chain risk management training. The lowest-rated item was regular staff training on supply chain risk management (29% agreement). This can be done by introducing a cross-functional "Supply Chain Resilience Team" (one representative per department).
- Strengthen mechanisms to prevent propagation of delays to customers. Findings show that only 36% of respondents agreed and 7% strongly agreed that raw material delays usually cause delayed customer deliveries by more than one week. Royikems should establish a dedicated customer protection buffer (separate from production buffer stock) for finished mattresses and introduce stricter internal lead-time buffers so that inbound delays do not automatically translate into customer delays exceeding one week.

5.5 CONCLUSION OF THE FINDINGS

According to the Royikems Foam Co. Ltd. survey, Ugandan SME vulnerabilities are mirrored by frequent, structural supply chain disruptions, which are primarily caused by customs delays, currency shortages, power outages, and delays in raw materials. Production is severely disrupted by these, resulting into stoppages and slowdowns, missed targets, increased inventory costs, overtime recovery, and moderate declines in on-time delivery and customer retention. Due to training deficiencies, traditional mitigations have a moderate uptake but low effectiveness. In order to break the delay-recovery cycle and increase the resilience and competitiveness of Royikems and similar Ugandan manufacturers, the findings call for immediate investments in energy reliability, sourcing diversification, customs streamlining, and training improvements.

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APPENDICES

QUESTIONNAIRE

Effects of Supply Chain Disruptions on Logistics Performance in the Private Sector: A Case Study of Royikems Industry Limited, Mukono, Uganda.

The items are organized into clear sections, using a 5-point Likert scale;

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Or for frequency: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Very Often

Section A: Respondent Profile

Department:

☐ Procurement

☐ Logistics/Transport

☐ Warehouse

☐ Production Planning

☐ Other _____

Years worked at Royikems.

☐ <1 yr

☐ 1–3 yrs

☐ 4–6 yrs

☐ 7–10 yrs

☐ >10 yrs

Section B: Frequency of Supply Chain Disruptions (Objective 1)

Please indicate how often the following disruptions have occurred at Royikems in the past 3 years (2023–2025):

No	Statement	1	2	3	4	5
1	Delays in raw materials arriving from international suppliers					
2	Congestion or bureaucratic delays at Mombasa port					
3	Sudden increases in fuel/diesel prices					
4	Power outages or load-shedding affecting production/warehouse					
5	Shortage of foreign exchange affecting payment to suppliers					
6	Transport strikes or roadblocks in Uganda or Kenya					
7	Flooding or poor road conditions during rainy season					
8	Late delivery by local suppliers					
9	Quality rejection of raw materials on arrival					
10	Customs clearance delays at Malaba or Busia border					

Table 6: Frequency of supply chain disruptions

Section C: Impact on Production Schedules & Logistics Performance (Objective 2)

To what extent do you agree with the following statements?

No	Statement	1	2	3	4	5
1	Supply chain disruptions frequently cause production to stop or slow down					
2	We often miss production targets because raw materials arrive late					
3	Production delays due to supply issues have increased in the last 3 years					
4	When raw materials are delayed, we usually delay customer deliveries by more than one week					
5	Supply disruptions have increased our inventory holding/inventory costs					
6	On-time delivery performance to customers has dropped because of supply chain problems					
7	We lose sales or customers when we cannot deliver mattresses on the promised date					

8	Overtime and rushed production are common to recover from supply delays					

Table 7: Impact on production schedules

Section D: Current Mitigation Strategies & Effectiveness (Objective 3)

Please rate your agreement with the following statements about Royikems' current practices:

No	Statement	1	2	3	4	5
1	Royikems keeps safety/buffer stock of critical raw materials					
2	We have multiple suppliers (local and international) for the same raw material					
3	We use digital tools/software to track shipments and predict delays					
4	The company has long-term contracts with penalties for late delivery from suppliers					
5	We have shifted some sourcing to local Ugandan suppliers to reduce import risks					
6	Management collaborates closely with clearing agents to speed up customs					
7	Current mitigation strategies are effective in reducing the impact of disruptions					
8	Staff receive regular training on supply chain risk management					

Table 8: Mitigation strategies

Section E: Suggested Improvements (Open-ended)

1. In your opinion, what is the single most important action Royikems should take to reduce supply chain disruptions?

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2. Any other comments or suggestions?

3.In your opinion, what has been the single biggest supply chain disruption Royikems faced in the past five years, and how did it affect mattress production and delivery?

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4. What one change or strategy do you believe would most improve Royikems' resilience against future disruptions?

THANK YOU FOR YOUR TIME!

INTERVIEW GUIDE

Duration: 30 minutes per interview.

A. Introduction & Consent

Explain purpose, confidentiality, recording (with permission), and right to withdraw.

Demographic questions: Position, years with Royikems, department.

B. Frequency of Supply Chain Disruptions

From your experience, how often does Royikems experience supply chain disruptions (e.g., delays in raw materials, port congestion, fuel price spikes, power outages)? (daily / weekly / bi-weekly / monthly / quarterly / rarely)

Which three disruptions occur most frequently in the last 3–5 years (2020–2025)?

Have you noticed any seasonal pattern in these disruptions (e.g., rainy season flooding, end-of-year port congestion)?

C. Extent to Which Disruptions Affect Production Schedules

When a major raw material (e.g., TDI, polyol, springs, fabric) is delayed, how many days/weeks does it typically delay the production schedule?

What percentage of monthly production targets has been missed in the past two years because of supply chain issues? (ask for estimate or actual figures if they know)

In your view, what is the single biggest supply-chain-related cause of production downtime at Royikems?

D. Mitigation Strategies & Recommendations

What strategies or actions does Royikems currently use to prevent or reduce the impact of supply chain disruptions? (probe: local vs. international suppliers, safety stock, alternative transport routes, digital tools, supplier contracts, etc.)

What additional measures do you believe Royikems should implement to become more resilient (e.g., new technology, new suppliers, training, government lobbying, etc.)?

End

Thank you.