

Investigating the Impact of the COVID-19 Pandemic on Supply Chain Performance: A Case Study on Ghazala Steel Fabrication, Steel Industry

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EXECUTIVE SUMMARY

Organizations confront falling demand and, as a result, operational and financial restrictions during difficult economic times. The purpose of this case study is to examine the influence of COVID-19 on the SC of a steel fabrication manufacturer in Egypt, named Ghazala Steel Fabrication Company, as the massive dispersion of COVID-19 is seen as a global shock. Furthermore, the pandemic effects are being felt globally in various ways, including all SC operations, manufacturing costs, and logistical activities. The case study used primary data collection methods to investigate and analyze the impact of COVID-19 on SC performance on Ghazala's SC performance. Semi-structured interviews and site observations were used to analyze and discuss the impact of COVID-19 on the steel industry SCs and how it affected all relevant stakeholders.

INTRODUCTION

Businesses are more vulnerable to supply chain interruptions as globalization grows. Changes in the business environment throughout the whole supply chain can lead to unforeseen business situations like inaccurate demand estimates, faulty or broken products, and late deliveries, which can cause unpremeditated consequences and make the supply chain more vulnerable (Oh et al., 2020). Companies are looking for innovative approaches to improve supply chain management flexibility, efficiency, and reliability in light of globalization, market unpredictability, and intense competition, where supply chain management success needs companies to divert their focus from organizational improvement to the entire supply chain, which enables firms to concentrate on the entire supply chain (Duong et al., 2022).

Throughout recent years, the most challenging problem facing supply chains has been dealing with unplanned incidents. Unforeseen incidents like the COVID-19 epidemic have impeded global supply systems. Meanwhile, reprised lockdowns have triggered rushed purchases and substantial demand variations, resulting in significant paradigm shifts in how people shop, with millions of workers forced to stay home. Supply chain delays worldwide were caused by unanticipated supply and demand fluctuations and border restrictions. Moreover, the pandemic has impacted different aspects of the supply chain, including finances, time, demand, and performance (Chowdhury et al., 2021). The pandemic effects were felt globally; they affected operations, manufacturing costs, and logistical activities. In light of these wretched developments, supply chain managers were in a difficult situation to find ways to fix and ensure the sustainability of the business (Dodd & Yengin, 2021).

Previous studies have identified structural and operational recovery measures (e.g., additional inventory prepositioning) as significant measures to mitigate supply chain risks (Hosseini & Ivanov, 2019). Unlike instantaneous disasters, COVID-19 was a substantial disruption with an unpredictable time interval, damaging the supply chain ecosystem. Likewise, healing happens in a unique scenario where the disruption stays due to unpredictability. As a result, the pandemic dynamics could be viewed as a separate element that interacts with the supply chain ecosystem and simultaneously changes and influences all of the supply chain's capabilities and routine operations (Queiroz et al., 2020).

The objective of the case is to examine the impact of the COVID-19 pandemic on the steel fabrication industry, and the challenges companies face concerning supply chain disruptions. Specifically, the case focuses on GSF, a company that has implemented a zero-inventory policy, and how this policy has affected the company's ability to handle supply chain disruptions caused by the pandemic. Therefore, this study aims to present the challenges faced by companies in the steel fabrication industry due to the COVID-19 pandemic and the impact of zero-inventory policies on their ability to handle supply chain disruptions. It also highlights the importance of having contingency plans, diversifying the supplier base, and investing in technology and automation for supply chain management to mitigate the risks associated with supply chain disruptions.

The research's importance is based on providing valuable insights into the challenges faced by companies in the steel fabrication industry during the COVID-19 pandemic, which can help other companies in this industry prepare for and handle similar disruptions in the future. Additionally, the case highlights the importance of supply chain management in ensuring the continuity of business operations and the critical role of technology and automation in reducing costs and managing risks.

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