

Impact of COVID-19 on the Supply Chain of Small and Medium Enterprises: Case Studies on Food, Manufacturing and Hospitality Industries

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Abstract: The constant flux in the supply chain has intruded on the demand and supply equilibrium throughout the globe. Firms that elongated the operation period have to pursue changes in suppliers to respond to the tumultuous trading environment due to the COVID-19 pandemic. This paper aims to develop a framework for supply chain disruption for different small and medium enterprises (SMEs) in the Food, Manufacturing, and Hospitality industries. SMEs are susceptible to fluctuant economic change since the change puts an enormous threat to the sustainability of SMEs. Therefore, strategic foresight is crucial for SMEs to be competitive in the market. In this paper, rationalization and digital transformation are chosen as potential measures to conquer the unsettled economic environment. Reformation and innovation in SMEs could provide opportunities to maintain the firm's long-term healthy operation. This study can help SMEs comprehend the importance of modern strategies and survive during the outbreak of COVID-19.

Keywords: COVID-19, digital transformation, rationalization, small and medium enterprises, SMEs, food industry, manufacturing industry, hospitality industry

1. Introduction

The business environment has changed since the novel coronavirus swept the globe in 2020. This has caused a great impact on the global economy, especially on the survival of small and medium enterprises (SMEs). The situation faced by SMEs has become more and more severe. COVID-19 has not only made the supply chain disintegrate but also made the distribution of commodities troublesome [1]. World Trade Organization has shown that SMEs are essential for economies since they account for 60% of employment from 95% of companies worldwide [2]. They play an important role in maintaining the health of the economy. As Singh and Kumar stated in their research, SMEs in different industries should evolve a long-term strategic scheme for being flexible during a doubtful business environment [3].

In this paper, the impacts and consequences of supply chain disruption in SMEs are illustrated. Case studies on the food, manufacturing, and hospitality industries are conducted. Additionally, potential solutions to minimize the risk of supply chain disruption in SMEs are demonstrated. The paper is useful for SMEs to find a better way to meet their needs in an uncertain economic environment.

2. Impact of COVID-19 on Small and Medium Enterprises

The COVID-19 pandemic has had an overwhelming effect on the economy as well as the logistics industry. A delay in raw material transportation is likely to affect the production cycle of finished products, thereby affecting consumers' purchase of products and the survival of companies. The situation is exacerbated for SMEs as firms may not have enough retained earnings or other limited resources to overcome the short-term cash flow problem [4]. Moreover, the disruption in supply chains caused by the pandemic has not only affected the demand-supply equilibrium but also caused a comprehensive and negative effect on a company's prestige [5], which could influence the future transaction of a start-up company.

2.1. The Food Industry

Firms that compete in different sectors may face internal and external risks based on diverse industry structures. The rising population in the world has increased the burden on the food industry to provide enough food on time. During the lockdown period, scarcity of food appeared in some regions as all types of food supply chains have been seriously influenced by the pandemic, for example, the supply chain of fresh vegetables, fruits, baked foods, perishable goods, and grains [6]. It is also noticeable that considering the threat of being infected, people have been prevented from ordering food from online platforms, which creates a challenge for a company to distribute food [7]. Moreover, it is inevitable for food supply chain employees to work outside, which increases the chances of viral transmission in the supply chain [8]. As a consequence, food production faces a huge productivity decline compared with the productivity before the pandemic. This leads to less supply to the final customers and, therefore, a reduced sales turnover.

As for SMEs, the problem is likely to be magnified as big and multinational firms appear to be better at adjusting and adopting changes. This leads to a loss of employees in SMEs and worsens food security. Resilience and sustainability in the long term are also negatively impacted. In response to disruptions, the literature suggests that the food supply network is supposed to be capable of withstanding, adapting, and recovering from COVID-19 by adjusting operations and adapting environments to meet the consumer's needs [9].

2.2. The Manufacturing Industry

In the manufacturing industry, risks include supply chain disruption due to the halt of production for raw materials and spare parts, various hindrances in logistics, and the obscure timeline for restoration [1]. For instance, due to the strict epidemic prevention and control measures in China, Shanghai faced a great restriction on the export of spare parts during the lockdown. Therefore, the supply chain was hugely affected globally. In addition, the poor performance of logistics may bring other difficulties to enterprises, particularly SMEs. The raw materials that have not been sent out due to the shipping issue will remain in the warehouse as inventories. When orders are unsuccessfully processed, the renting burden of SMEs can be increased.

What is more, the internal environment in the warehouse will also greatly impact the quality of the spare parts. For example, if the warehouse is built in a rainy region, there is a high probability of metal parts becoming rusted, thus affecting the next transaction. The cost of drying the warehouse will amplify the burden on SMEs. Furthermore, some of these SMEs may be pushed to seek new suppliers and buyers in a local region within the province to eliminate the risk of inventories, but establishing these new trade relationships would not be easy, especially during the pandemic [10].

2.3. The Hospitality Industry

The hospitality industry in this study includes accommodation and catering. The homestay market becomes extraordinarily popular in recent years. Plenty of homestays, from high-end to economical, have been constructed near tourist attractions to attract customers. However, the COVID-19 pandemic brought pressure on cash flow supervision. Most enterprises in the hospitality industry are investment and labor-intensive and are under significant financial pressure to cover their rents, fixed costs, and employee salaries [10]. It is common for them to take a bank loan to cover the initial investment and pay it back with a long-term sales turnover. Nerveless, with the burden of covering fixed costs and a decrease in the sales turnover under the COVID-19 pandemic, enterprises in the hospitality industry may find it struggling to maintain sustainability and the risk of them going into bankruptcy is exceptionally high.

Moreover, the COVID-19 pandemic has changed tourists' behavior. For example, people fear going out and eating outside. This leads to the breakdown of the tourism market. The supply chain of the hospitality industry has been influenced as the geographical advantage stops making them competitive.

SMEs are susceptible to crisis because of a lack of preparation, limited cash flows, and the inability to allocate resources strategically [11]. SMEs might greatly depend on the supply chain to gain customers. This makes enterprises in the coordination-intensive industry get exposed to more risks. Shocks from one firm quickly spread to others, producing profound cascading effects on the tourism supply chains [12]. Consequently, SMEs are likely to be the final victims in this supply chain to suffer diminishing revenue.

3. Potential Solutions to Minimize Risks

After experiencing the early epidemic impact, many companies have taken countermeasures to hedge major risks that could be encountered in the future. For SMEs, an effort could be made to support the resilience and sustainability of the firm. Even if the future epidemic trend is not fully revealed yet, it is advantageous to take some precautions before the possible latent outbreak. Figure 1 demonstrates the benefits of adopting potential solutions in SMEs to reinforce sustainability.

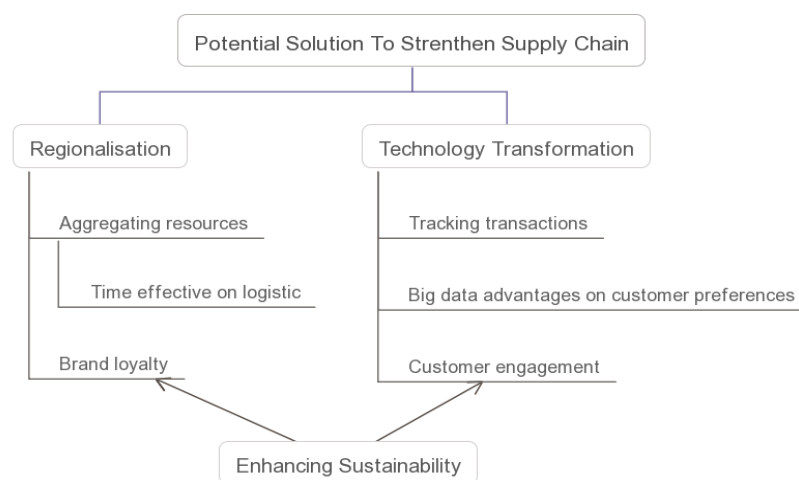


Figure 1: Potential solution to strengthen the supply chain.

3.1. Globalization to Regionalization

Before the outbreak of the COVID-19 pandemic, managers have been prompted to compete in offshore manufacturing, cut overheads through worldwide economies of scale, systematize products internationally, and finance national market-share battles through international cash flows or other support activities [13]. This is a great challenge for SMEs, but once it functions prosperous internationally, it will win huge profits for the company. Notwithstanding, latent risks have been revealed with the emergence of COVID-19. The company that emulates in the global marketplace might confront delivery delays caused by dependency on remote cheap sources and the convoluted logistics network structure which will impair SME's liquidation and long-term revenue. As a consequence, managers are highly recommended to rationalize the company. SMEs can obtain resources from nearby in a short time avoiding the risk of delayed expected production period and could dispense the final product at the right time. Moreover, local SMEs that regard local customers and communities as target audiences rather than putting foreign customers as a priority are more likely to gain brand loyalty and win the trust of their customers.

3.2. Technology Transformation

Technology transformation or digital transformation aims to utilize technology to enhance a firm's overall performance. For instance, SMEs can exert digital design on the business model, thus using information technology to help understand and evaluate the digital value network design and feedback from customers [14]. Digital Transformation could yield superiority to SMEs for firms to be more competitive. For example, without a comprehensive digital control structure, the possibility of fraud is tremendously high as the supervision system is comparatively flimsy. However, with the presence of a thorough digital design, the likeliness of fraud might be reduced as any abnormal transactions are alarmed. Besides, the robustness of the supply chain could be strengthened. For instance, Walmart has recently used big data and digital transformation in the supply chain to give customers the expected arrival time of their orders. The mechanical tracking scheme not only enables a supplier to have a more inclusive understanding of the dealing process but also acquires a better insight into customer needs within a specified area.

4. Conclusion

This paper studies SMEs in three industries under a volatile business environment. The three industries are the food industry, the manufacturing industry, and the hospitality industry, respectively. The instability of the supply market has witnessed the bankruptcy of SMEs that failed to look out for changes in this dynamic condition. Hence, the survival of an enterprise is guaranteed by the ability of an organization to have the foresight to oversee the tendency of the future. This paper posits that the regionalization and transformation of technology would assist SMEs to intensify their ability to meet the ever-changing surrounding. Measures introduced in this paper could fabricate competitive advantages, which in turn, leads to a lower probability of being submerged in the trade competition.

However, the disadvantages of technology transformation and rationalization have not been introduced in this paper. The implementation of the settlement in SMEs needs further studies to elaborate. Besides, data collection through questionnaires or surveys could be utilized to manifest the usefulness of the measures. Moreover, additional policies could be spotted in future studies, such as the government policy on the use of big data and customer tracking system.

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