

# IMPACT OF THE COVID-19 ON GLOBAL SUPPLY CHAIN – SOME SECTORAL POLICY AND ECONOMIC RESPONSES AND BUSINESS INTERVENTION

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## 1. INTRODUCTION

The new coronavirus 2019 (COVID-19) has infected millions of people worldwide since its first occurrence in December 2019, in Wuhan, China (Torales et al., 2020). More than one-third of the world population had been under some type of restriction. A total of 48 countries implemented partial or full lockdown and among these countries, Brazil, France, Italy, New Zealand, Poland, and the UK have implemented the world's longest and most restrictive lockdown (Langton, 2020). Despite widespread concern and action, the continuous rate of infection and death because of the COVID-19 pandemic has caused a severe economic downturn around the world (Kells, 2020). Under rapid globalization, firms face increasing levels of uncertainty and, thus, a greater risk of supply chain disruption. A further problem is that supply networks now span multiple geographic regions, exposing managers to greater environmental and operational risks (Sato et al., 2020). This has led to social distancing, lockdown of towns and cities to prevent transmission of the virus, and the need for anyone involved in the frontline to wear personal protective equipment. However, the need for lockdown and social distancing meant that all elements of the supply chain in many economic sectors were interrupted, including manufacturing, procurement, distribution, and supplies. These significant restrictions on transportation and movement have led to significant socioeconomic effects on people's livelihoods, even leading to an economic recession. The remainder of this article is organized as follows. Following this section, we report the data source and the design of this study. Next, in the discussion section, we summarise the policy, economic, and business responses to address the challenges followed by some reflections on them. Last not but not least, some conclusions and a direction for future study are offered.

## 2. METHODOLOGY

This article aims to better identify the role of the supply chain and its impact on the social and economic current of COVID-19, as well as the strategies adopted by policymakers and business leaders to improve the supply chain network performance. Considering this need, the study is designed to identify relevant literature, using Systematic Literature Review (SLR). The SLR method has gained interest among academics since it was first introduced by Mulrow in 1994. We employed a search strategy using online databases including Scopus and ISI Web of Science (WoS) for studies published from 2019-2021 due to the first COVID-19 case has found in 2019. The search for this article was executed on 28 February 2021. Of these, 141 sources

that do not meet the title and abstract requirements were further excluded from the list. The remaining 31 papers were gone through full-text analysis. Papers that were eliminated for example do not mention both main keywords used. In addition, the sources are focused on the internet-of-things, accounting, vaccine development, waste management, financial liquidity management, psychological causes, and energy and environmental impacts were also taken out from the lists. Papers that try to examine consumer behavior and worker perceptions were also excluded from the analysis as these studies did not fit the focus of this research. At the end of the full-text analysis, 3 papers were removed as no complete text was found, with the sample for this review now consisting of only 28 publications deemed relevant for further analysis.

### **3. RESULTS AND DISCUSSION**

#### **3.1 Some Sectoral Policy and Economic Responses and Business Intervention**

A few key themes emerge from these studies. First, countries have sought to mitigate the COVID-19 disruptions, by severely limiting travel and in-person business activities through the lockdown and imposing travels ban, and stay-at-home orders. Second, the magnitude of policy and economic responses measured by their sector varies significantly across countries and regions. Therefore, flexibility and resilience to manage the perpetuated risks are vital for mitigating the impact. Also, it is difficult to determine a common set of factors that influenced the magnitude, policy scope, and impact of each response, as the performance of the supply chain management is strongly influenced by the multi-criteria decision making (Francis, 2020; Alkahtani et al., 2020).

While the COVID-19 pandemic impact appeared to be swiftly responded to by the magnitude of policy and economic responses in many countries (Qin et al., 2020; Francis, 2020; Márquez et al., 2020; Xu et al., 2020), the domestic theoretical space for businesses to rethinking the conventional supply chain management strategies (Handfield et al., 2020; Russel et al., 2020; al-Mansour et al., 2020; Sharma et al., 2020) and the anticipated policy instruments and long-term economic capacity to develop and support a more resilient supply chain of the future (Sharma et al., 2020; Rohit et al., 2020; López-Santos et al., 2020; Xu et al., 2020; Coluccia et al., 2021; Alikhani et al., 2021; Márquez et al., 2021) seemed to matter more in some countries than others. In facing the adversity of the recent pandemic and to maintain resiliency and even be immune to the COVID-19 shockwaves, companies, and governments should look for strategical plans that are of critical importance for companies, businesses, and countries worldwide.

Meantime, there are some similarities in policy tools used by different countries (de Jong & Ho, 2020). Many governments adopted “risk mitigation strategies” for reducing the impact of pandemics on the socio-economic wellbeing of the people. Policy and economic intervention are used to address specific challenges in real times, i.e., an immediate policy and economic stimulus package to “cushion” the consequent impact from the COVID-19, i.e., providing loans, loan guarantees, and debt relief for companies and specific industrial sectors, tax relief for individuals, workers, households, and businesses, as well as, promoting incentives to leveraging private investments (Grossi et al., 2020). Because these measures may have not considered such extreme adverse impact brought by COVID-19 of virtually all manufacturers, retailers, and wholesalers throughout the supply value chain, many countries, including those that had strong risk and contingency plans act as a benchmark for supply chain industry stakeholders to efficiently minimizing the disruptions. This development has led to rising the

importance of businesses need to reevaluate their strategies during the current COVID-19 crises.

Finally, the COVID-19 pandemic also highlights the critical policy and economic intervention to promote “supply chain resiliency”. These include initiatives such as the need to have a “transparency and real-time access to material status and location” for receiving and distributing materials (Handfield et al., 2020), to apply a “differentiation strategy than with a cost leadership strategy” as this is more feasible and compatible to achieve sustainability (López-Santos et al., 2020), the restrictions in terms of reflecting adjusting and non-adjusting events adopted by the authorities to control the spread of coronavirus and through the actions of financial reporting compilers (Derevyankina & Yankovskaya, 2020) and effective and forward-looking strategies that must comprise of multiple facets of the supply chain variables including people, processes, and technology towards next-generation supply chain (Sharma et al., 2020).

Additionally, governments should formulate smart lockdown strategies. This means that policymakers must take suitable policy actions to react quickly and to deal with this unprecedented pandemic-driven economic crisis. In other words, the cross-border trading activities should not be stopped (Qin et al., 2021); instead focusing more on a ‘go-slow’ approach to lifting restrictions that demand collective efforts and support to lower capacity countries (Guan et al., 2020). All these show the synergistic impact of cost efficiency and resilience and the importance of reactive and proactive policies to contribute to the overall improvement as well as the resiliency of the supply chain aftermath of the pandemic (Alikhani et al., 2021; Xu et al., 2021).

### 3.2 Points of Reflection

Since the COVID-19 pandemic still has no definite end date and the ensuing economic wide impact are getting even more difficult than any catastrophe that countries and businesses have ever faced, that no region of the globe is being spared, its permanent and long-term consequences on the value chain of supply chain governance are not fully known. Global supply chains (GSCs), which had shown a high level of robustness and resiliency against several disruptions in recent decades, are genuinely compromised. Most Governments announced various forms of the economic stimulus package to “cushion” the resulting impact from the COVID-19 outbreak, as well as “reinvigorate” the growth of their economy. Considering that the impact of COVID-19 can be generated by different causes across industry sectors, the latter defines the “nuance” of the disruption and lead to the proper recovery strategies. There is a complete inability to predict when this pandemic will be contained; any single infected area in the globe is undoubtedly a high-risk area for a new outbreak about the long-term effects of policy and economic stimulus on the supply chain value chain around the globe.

COVID-19 will disproportionately impact highly leveraged businesses and those with low cash buffers already facing tough trading conditions. Liquidity tightening across the markets will cascade, from business to business, impacting the supply chain network. Also, if past crises can be lessons for us, the COVID-19 pandemic may create fiscal and economic hardship that may, in turn, challenge the existing political, social, and budgetary institutions and status quo (Poterba, 1994). This organized literature review by various researchers recognizes the implementation of swift responses as an essential intervention tool by

organizations to achieve sustainable growth. From 2021 onward, policy and economic responses were found to be more concerned about a more risk mitigation approach. We observed that researchers mainly focused on developing new methodologies/tools/technologies to make the existing supply chain more sustainable. Researchers and organizers have focused on traditional supply chain management that was about “simplicity, efficiency and the minimization of moving parts to remove friction from the whole process” (Anonymous, 2020). The theme of supply chain disruptions has stimulated work and research in the areas of policy and economic intervention and sustainability. We can conclude that the target of policy and economic intervention forced different firms to develop sustainable supply chains strategies by continuously evaluate their strategic and tactical positions to address critical supply needs. From a business point of view, the organization's primary goal is to maximize its profit. However, we witness regarding the resilience of the supply chain and its relationship with performance that building in resilience to disruptions and their potentially damaging ripple effects can also be an effective strategy, but it is not moderated by supply chain complexity. In other words, while resilience will benefit performance, the extent to which it benefits a firm is not dependent on supply chain complexity. In future research, one can focus more on the sustainability aspect of the firms.

#### 4. RECOMMENDATIONS

All these questions will have to be examined carefully in the coming few years to understand the long-term implications of this exogenous shock to the existing institutions of different countries. Currently, the policy instrument responses seem to give a priority to domestic economic growth and focus primarily on short-term output measures instead of long-term impacts (Al-Mansour, & A. Al-Ajmi, 2020). The case studies and comparative analyses in this article also show that countries do not lack ideas or policy tools to address the short-term concerns of a pandemic. However, they may lack the necessary capacity to execute these tools cost-effectively or fast enough, and the suitable strategies to address various needs proactively, inclusively, and flexibly, especially from the perspective of a longer time horizon. These observations suggest that the government is becoming increasingly aware of the criticality of a supply chain but may not be fully aware of the risks and opportunities to avoid the next crisis. Equally important will be the research on policy and economic intervention should consider wider resilient strategies, which are not just stopping the cross-border trading activities but also utilizing multi-criteria decision making through the optimal utilization of the resources and controllable production rate during the pandemic crisis (Alkahtani, et al., 2020).

#### 5. CONCLUSION

The present study limitations are that it draws a conclusion based on limited journal articles constrained by the Scopus database. We evaluated only 28 most recent and relevant papers that may overlook more profound dimensions of the issue. There is also the scope from a research methodology perspective, as the methodology adopted could be extended through large-scale surveys or secondary data with other decision-making tools and empirical research. Finally, it would be interesting to examine the impact of the COVID-19 and the intensifying US-China trade disputes risk judgment and thus produce different policy and economic responses. We hope that the present study provides a starting point for further investigations that will deepen our understanding of the impact of COVID-19. Moving forward, it is certainly imperative to review the experiences in 2020–2021 and generate lessons from different countries about policy and economic intervention, particularly risk mitigation and supply

resiliency strategies so that countries as much as businesses will be more equipped to handle the next impending catastrophe.

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