
HOW CAN WE BEST ADAPT OUR GLOBAL SUPPLY CHAINS DURING A PANDEMIC OF HISTORIC PROPORTIONS?

Ray Saibal | May 27, 2020

For the last several decades we have been conditioned to assume that necessities like food items and cleaning supplies will be readily available, whenever we require them. But, the COVID-19 pandemic has upended those supply chains as well as those for other necessities, such as medical devices (e.g., respirators) and personal protective equipment (PPE, e.g., masks, gloves). Suddenly, their availability has become a matter of life and death.

Supply chains ensure the smooth flow of products from its origin to its destination, the customers, and involve a network of organizations in diverse locations. Manufacturers might be receiving components from hundreds of suppliers while a retailer with dozens of warehouses and thousands of stores delivers products to millions of customers. Managing this complex process, while taking care of constantly changing customer needs, different regulations and norms across different countries, threat of social or political or financial and/or health related risks (e.g., Covid-19 or financial crash of 2008-09) and even natural disasters (e.g., 2011 Tsunami in Japan) requires considerable decision-making expertise.

Academics and practitioners have spent a lot of effort to manage risks and cut costs in global supply chains. One particularly successful cost-reduction initiative has been the just-in-time (JIT) inventory system, whereby each stage of the chain only keeps the absolute minimum level of inventory needed for the smooth functioning of the chain. Through close cooperation between different stages, advanced algorithms and state-of-the-art software, JIT systems, under normal conditions, have cut a significant amount of inventory from the system, resulting in lower prices for customers (and higher profits for the firms). These supply chains have also developed resiliency in the face of more probable, but low impact, risks like late deliveries or bad quality.

But when there is a black swan event (rare events with significant impact) like Covid-19, the minimizing of “excess inventory” can be disastrous. In the wake of the pandemic, we have seen manufacturing and transportation systems come to a near standstill globally, which means that the supply of many necessities and PPEs have been severely curtailed. At the same time, there is now a global competition among countries for the limited supply of these items and panic buying from consumers, which are only exacerbating conditions.

In order to deal with these issues, Canada has started exploring new options. We are seeing provincial governments take proactive measures to promote local suppliers, and the re-purposing of certain industrial facilities (e.g., from manufacturing apparel to face masks). Second, Canada has also resolved to increase the stock of PPEs in anticipation of future emergencies. Retailers are also taking actions like consumer rationing (e.g., 2 items per person) and even reserving supply for consumers who most need them.

These actions are commendable, but they should be done in a strategic manner that considers long-term impacts. For example, given the climate conditions of Canada, to what extent is it possible to make food supply chains local? Is there an appetite for investment in greenhouse facilities to produce food year-round? Similarly, if we are re-purposing facilities, what will happen if the pandemic subsides and there is low demand for items like masks? In terms of stockpiling PPEs, in the throes of the pandemic, it seems to be an effective strategy. But will we question this approach in a few years when perhaps the memory of the pandemic fades? Will people be willing to pay higher taxes, if required, in order to stockpile PPEs? What else various entities in the supply chains can do to reduce risks and provide safer and more convenient service for customers?

These questions arise because we saw similar action in both 2008 and 2011, in the wake of major disasters. But memories faded quickly and people started questioning the cost-effectiveness of such a strategy. It is essential that federal and provincial governments collaborate for PPEs, as well as for vaccines in the future, and develop a centralized procurement strategy that provides negotiation power and a centralized database that can provide supply visibility. The newly announced Covid-19 supply council for PPEs is, therefore, a welcome initiative. Similarly, governments should collaborate proactively to make food supply chains as local as possible; given the difference in tastes among Canadians, large-scale localization might be difficult. On the other hand, Canadian firms need to understand that this pandemic is unique in that it has created havoc in both supply and demand sides, and both will take time to recover. They need to invest more in risk management and business execution and integration systems in preparation for the next disruption.

COVID-19 has presented us with both a major challenge and an opportunity to reassess critical supply chains. But any actions taken should be carefully planned to account for long-term consequences. We expect that the new normal, whereby consumers prefer safer products that are less prone to supply disruptions, can provide a positive spur for local supply chains. Hopefully, the lessons learned from this pandemic will not be forgotten.