Pakistan’s Supply Chain Resilience

Impact of Corona Virus

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Introduction
The global economy is facing supply chain challenges amidst the coronavirus outbreak in China in mid-December 2019. Until now, the virus has reached 198 countries, affecting their economy, supply chain, manufacturing sector and equity market. Staff shortages are inevitable due to country-wide lockdowns and limitations on workforce population in an office/factory forcing businesses in key industries to scale back their operations. Which is gravely effecting the global supply chains.

The SARS epidemic started in the Guangdong province in 2002 and led to 8,000 cases in 2003. During that year, the GDP of China represented 4.31% of the world GDP. By contrast, the number of detected cases of Covid-19 has already passed 80,000 and China represents about 16% of the world GDP, an almost four-fold increase. (Haren & Simch-Levi, 2020).

Once COVID-19 is brought under control we can all experience a collective sigh of relief, but we cannot be naive about the fact that something similar will happen again. In our globalized world, the next disruption is just around the corner so it’s imperative that businesses build up their immunity against these disruptions or at least have a contingency plan to immediately fall back on.

Global Supply Chain
As governments and health care agencies work to stop Covid-19 spread and treat those who are infected, manufacturers in more than a dozen industries are struggling to manage the epidemic’s growing impact on their supply chains.

Businesses must respond on multiple fronts simultaneously as they work to protect their workers’ safety, safeguard their operational viability, which is now increasingly under strain from a historic supply-chain shock and contribute back to the society during this hour of crisis. There are two key factors when considering supply chain logistics: production and delivery. Both of which are heavily dependent on human beings to run the machines. Delivery and transportation are...
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most crucial these days particularly as the commercial aviation industry is shutting down huge chunks of its operations increasing lead time for long distance freight.

Most companies will have inventory for between two to five weeks, with no additional supply, depending on the company’s supply chain strategy and its supply lead time. If the supply of components is disrupted longer, manufacturing will have to stop. However, companies like Dell & Zara will be able to cope in this scenario because of their supply chain features like tiger team and exclusive underground transport channels. The rest are aiming to cope through short term crisis management mechanisms to mobilize their goods from one end of the supply chain to another.

For now, if your company or its key suppliers carries limited raw material inventory and relies heavily on Asian sources of supply, you are at high risk of disruption. (Galea-Pace, 2020)

Many high-tech companies and global giants, except app developers and game developers, are facing declined sales due to Covaid-19 as the demand in Chinese market decline for their products and secondly due to their inability to procure raw material or manufacture goods during the lockdown in china. Similar to these Big firms in US and Europe firm in Pakistan are facing these issues as well due to their heavy reliance on China for raw material and parts. Small businesses may feel the economic pain the most and will have a trigger down impact on the whole economic flow, since these firm are mostly labour intensive. On the other hand, app developers and game developers are seeing a boom in their sales as firms look for ways to smooth-out their work from home technology and billions of gamers download games to keep them busy during the lockdown.

The COVID-19 outbreak is arguably more impactful than all these events combined because it hasn’t just created hurdles, it’s completely stopped production, something many supply chains can’t absorb. But the reasons businesses are struggling to deal with the fallout are the same: supply chains are fragile. (Brun, 2020)

A huge vacuum has been created in global trade due to limited supply of manufactured
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goods, raw materials and intermediate goods from China which is also expected to create colossal domino effects. Thus, we can safely say that the impact of Covaid-19 on supply chains could have been easily buffered if companies had a strong contingency plan and didn’t rely solely on one source for their raw material. Therefore, they should have applied risk management beyond Tier 1 supplier to preferably tier 3 but at least tier 2 suppliers.

The coronavirus epidemic teaches us — once again — that a robust supplier-monitoring system that maps sub-tier dependencies is a basic requirement for today’s supply chain and sourcing professionals. (Linton & Vakil, 2020)

To manage the supply chain crisis at hand and build immunity to it the firm need to update their supply chain management protocol and ensure compliance to the base 6 principles as described by Knut Alicke et al in their report.

**Supply-chain actions**

Create transparency on multitier supply chain
- Determine critical components and determine origin of supply
- Assess interruption risk and identify likely-tier-2 and onward risk
- Look to alternative sources if suppliers are in severely affected regions

Optimize production and distribution capacity
- Assess impact on operations and available resource capacity (mainly workforce)
- Ensure employee safety and clearly communicate with employees
- Conduct scenario planning and assess impact on operations, based on available capacity
- Optimize limited production, according to human-health impact, margin, and opportunity cost/penalty

Assess realistic final-customer demand
- Work with sales and operations planning to get demand signal to determine required supply
- Leverage direct-to-consumer channels of communication
- Use market insights/external databases to estimate for customer’s customers

Estimate available inventory
- Estimate inventory along the value chain, including spare parts/ remanufactured stock
- Use after-sales stock as bridge to keep production running

Identify and secure logistics capacity
- Estimate available logistics capacity
- Accelerate customs clearance
- Change mode of transport and prebook air/rail capacity, given current exposure
- Collaborate with all parties to leverage freight capacity jointly

Manage cash and net working capital
- Run supply-chain stress tests vs major suppliers’ balance sheets to understand when supply issues will start to stress financial or liquidity issues

Figure 2 Supply-chain recovery in coronavirus times—plan for now and the future- (Alicke, Azcue, & Barriball, 2020)
Therefore, the success of supply chain crisis is dependent on the timely and sound reaction of the top management to changes in the business arena and consumer psyche. Especially in identifying short term and long-term changes in consumer psyche and the meanings of the signals sent in by consumer through their demand pattern during the lock-down period.

Once the immediate risks to a supply chain have been identified, leaders must then design a resilient supply chain for the future. This begins with establishing a supply-chain-risk function...During this process, digitizing supply-chain management improves the speed, accuracy, and flexibility of supply-risk management. (Alicke, Azcue, & Barriball, 2020)

In many cases, the roots of this current supply-chain crisis stem from decisions made far upstream — (Linton & Vakil, 2020)

Establishing digital foundation is the prerequisite to applying the tools that bring the theory of an antifragile supply chain to life and have the potency to evade this supply/transport backlash. For example, AI-intelligence can analyse data from an array of public and proprietary sources to learn from previous periods of disruption and suggest what supply chain leaders can do to meet oncoming challenges.

The supply chain becomes a company’s biggest risk during times of disruption. But by making it antifragile it can become its biggest strength. (Brun, 2020)

Due to all of these factors the growth rate in Asia Pacific is predicted to hit a toll.

“The outbreak of the coronavirus has added a further dent to growth prospects at a time when economic growth trajectories throughout the region were already declining,” - Deborah Tan (Moody’s Assistant Vice President and Analyst)

If the global supply chain halts as it is expected it will result in a Global Economic Crunch. Through shortage of input Supply that goes into the manufacturing of a wide range of products translating into shortages of finished products resulting in a steep fall in production and also contraction in product demand due to decreased income which will in turn result in fall in future product prices, hence, a depression in business activity across the globe.

Pakistan's Supply Chain

The effect of coronavirus on Pakistan’s supply chain is no different from that of the rest of the world. Pakistan has significant reliance on China as their largest trading partner and also shares a stretch of common border, thus is in direct line of the spread of the virus.

Pakistan was also among the 20 countries most affected by the global effects of China’s slowdown through global value chains. (Ahmed, 2020)

Moreover, the government seems to be ill prepared to tackle the out-come of this pandemic especially on the economics and business forefront.
Pakistan is clearly ill-prepared to deal with the possible impact of the epidemic crisis in China that may take time to subside. It can lead to supply chain disruptions, amplify the inflation and suppress consumer and business confidence, rattling the fragile economy and dragging the low GDP growth rate further down. (Subohi, 2020)

Pandemic COVID-19 is expected to have a lasting negative impact for Pakistan’s economy as the number of people living below the poverty line is estimated to rise to almost 125 million from existing figure of 50 to 60 million due to loss of jobs by 19 to 20 million people during this time period. FBR revenue are already short by 317 billion of the IMF target and might have to face additional revenue loss of Rs 300 billion to Rs 380 billion from March to June 2020 due to Covaid-19.

With fresh assessment in the wake of COVID-19 Virus and in case of locked down for three and half months period then the FBR would be able to collect around Rs 4.4 trillion maximum. (Haider, 2020)

Due to CPEC Pakistan does not only get inbound logistics from china for its own imports but also serves as a route to Gulf Corridor in the pacific region. Thus, Pakistan does not only face the threat of virus spread from contaminated shipment dislodged in its ports but also from the contaminated shipment that will cross the country and will be handled by various transporters during the route.

As part of the Pak-China free trade deal agreement, more than half of the products available in Pakistan’s local market are imported from China-- to the tune of around $17 billion-- and account for around one fourth of the country’s overall imports. Meanwhile, we export goods worth roughly $2 billion per annum to China. (Mujtaba, 2020)

The companies that are facing the greatest magnitude of hit belong to either service sector, manufacturing sector or whole-sale sector as they face lower footfall of customers and have to work on their employee safety as well. Additionally, most businesses in the impacted region are micro businesses with less than 10 employees and small businesses with less than 100 employees. These companies will most likely be more severely impacted by the crisis and could have a harder time recovering once the outbreak is contained.

“We can say that around 25 percent trade with China is impacted so far and if the holiday break is further extended, the situation for Pakistan may be worrisome because it may create a shortage of raw material for our industries,” Khurram Ijaz, Vice President of the Federation of Pakistan Chambers of Commerce and Industry (FPCCI), told Arab News.

The agriculture sector which contributes 20 percent to the GDP is expected to witness an unprecedented decline as the coronavirus (COVID-19) pandemic will have severe repercussions for the market dynamics of agricultural inputs, availability of rural labour force and smooth supply chain of vegetables and fruits to the urban market. While the government is taking measures to avoid any disruption in the supply of daily essentials and food items, a deep dive into historical data shows that a decline in the country’s agricultural output is inevitable as preceded by the earthquake in 2005 and the floods in 2010. However if
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Pakistan is able to secure export contracts in US and EU apparel industry than the cotton farmers and the textile industry can be saved from the current downturn in local textile market otherwise they too will have to face the blow which can result in non-sale of Pakistani Cotton resulting in negative repercussion for changes in crop pattern.

The reasons businesses are struggling to deal with the fallout are the same: supply chains are fragile because of

1. Consolidated centres of production
2. Lack of supply chain transparency
3. Manual supply chain management
4. Reduced inventory levels
5. Rigid supply chains

However, Pakistan can benefit from this situation in two ways, firstly due to this pandemic Chinese Yuan is predicted to depreciate by 3-5%, secondly due to shut-down of factories in China Pakistan can try to export its textile to U.S and Europe while they are short of Chinese textile goods. This way not only Pakistani Textile industry will have a chance to grow and absorb the laid-off labour from other industries, Pakistan's balance of payments will also move toward positivity.

The garments industries have already received exports orders from EU and USA for which local manufacturers are now operating on full capacity. (Khan, 2020)

This pandemic has created business opportunities for developing countries like Pakistan, India, Bangladesh and Vietnam especially in the textile trade as Chinese factories are closed and firms in US and EU resort to other sources of goods.

A USD 20 billion gap has been created for which Pakistani government's support to garmenting and textile sector is required to acquire at least USD 4-5 billion of business in textile trade. (Sattar, 2020)

Conclusion

The most robust method to solve this problem in the long-run is to make the supply chain anti-fragile. To do this decision makers can spot single points of failure and make informed choices about how to manage any disruption. At the governmental level the government needs to be prepared to make difficult decisions and take strong measures to get grasp of the crisis as quickly as possible. However, if both the governmental body and the business themselves fail to get hold of their job during crisis like these than these epidemics have the potential to not only disrupt the economy and wellbeing of the nations at different levels but to bring the economy at a standstill and jolt business with direct contact in a way that will take decades to recover from. On the brighter side if they succeed than the businesses can come back to
normal production level and sales within 2-3 months from the outburst of the epidemic as evident from the precedence of China, South Korea and Japan.

A resilient supply network should align its strategy and operations to adapt to risk that affects its capacities. Therefore, networked ecosystems are the key to supply chain resilience. The traditional supply chain structures are optimized for cost and are not equipped to effectively cope with an increasing number of unplanned disruptions for which the supply chain needs to be either flexible or have buffers in them to keep the supply running even if the global transportation system stops working as a whole or parts of it.
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Figure 2 Dependence of Fortune 1000 companies on Quarantined areas..... Error! Bookmark not defined.

Works Cited