

Understanding Risk Management of Supply Chain for Risk Mitigation and Risk Recovery during COVID-19

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ABSTRACT

This paper examines the various threats of supply chain and level of intensity of these threats. In present era, the most common threats of supply chain are natural disaster, cyber-crime, pandemics and blockage of roads due to strike, protest etc. Among all of these threats COVID-19 pandemic become a major problem for global supply chain. This pandemic effecting the advance and under develop economies in the world. The number of economies crash, and many businesses shut down due to this pandemic. Nobody knows about the future of world economy. Now, after analysis the current situation and read many articles; we found that if all major and minor channels of supply chain join together, in order to make smooth supply of grocery and medical, then situation can be controlled. It's not only beneficial for supply chain, but the society also. The supplier should alter the current model of their businesses and make a new model under the light of current situation in order to protect their businesses and societies.

Keywords:

COVID-19, Supply chain, threats, solution, global, risk

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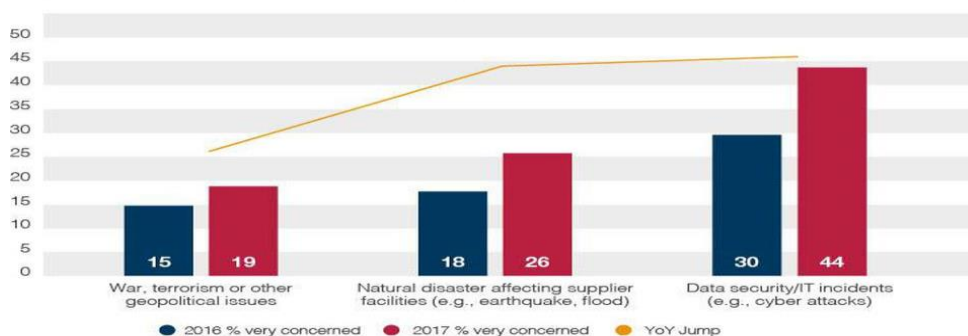
Introduction

Now, the Supply chain has become a global philosophy for all businesses in the world. It has covered almost all parts of the world in order to supply raw, finish, and semi-finish product for consumer and producer (Baryannis, Validi, Dani & Antoniou, 2019). There are some major reasons: who are the base to makes a supply chain most important and international; first, most businesses are adopting the method of just in time and lean management for their production. Thereby, the businesses have no space for any

error or disruption. That's why; they need the supply chain to meet their requirement (Snyder et al, 2016). The second reason, all businesses have merged with vertical integration between them. The models of business are becoming more complex and wider; that's why they need the most complex and big supply chain to meet the requirement of their all business channels. Third, there is a number of events that affect the supply chain badly; due to this, they need global co-operation for smooth supply (Behzadi et al, 2018).

Fastest Rising Supply Chain Risks

Respondents are increasingly concerned about a variety of threats



Source: SCM World Future of Supply Chain surveys 2016, 2017 (preliminary results)

% of respondents 2016 n=1,409
2017 n=1,193 (preliminary results)

The supply chain always faced a large number of threats, just like War, terrorism, natural disasters and cybercrime. The natural disaster is 2nd major cause who disrupts the whole supply chain. In this problem includes earth-quack, flood, storm and any type pandemics. When this problem occurs, then no one can predict the period and intensity of destruction. Especially pandemic it firstly spread in population and hereby all businesses shutdowns. Thereby, it disturbs the demand & supply, logistics and infrastructure of market (Ivanov, 2020).

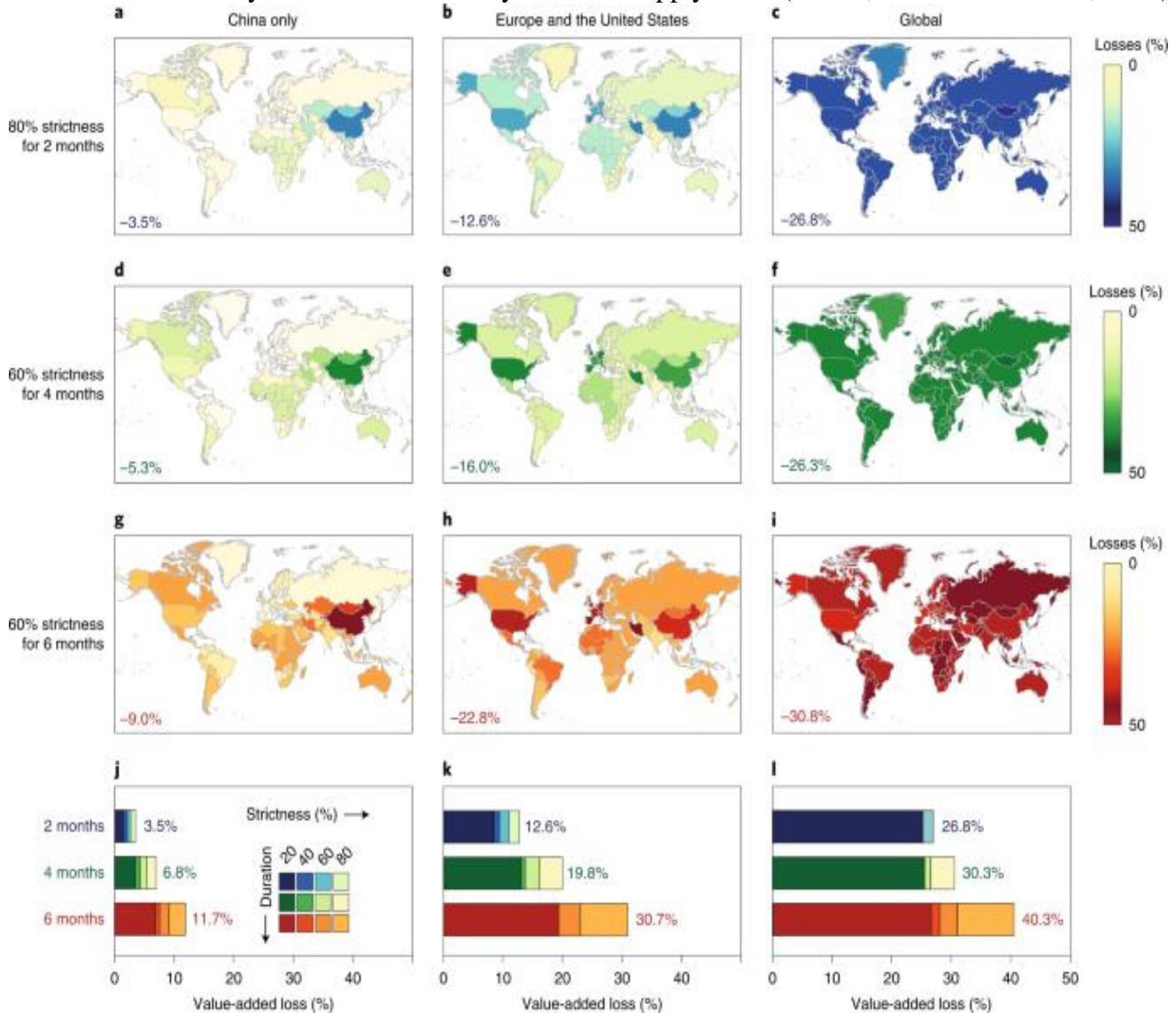
Some unpredictable and predictable incidents have always influenced the supply chains at the national and international levels. These events directly affected the gainfulness and coherence of the supply chain. The epidemic COVID-19 outbreak disturbed the global supply chain (Ivanov & Dolgui, 2020). This epidemic spread from province of china Wuhan and it does disturb the export of china. All big groups of supply chain have roots in china, especially in Wuhan (Araz et al, 2020). China has a project of one belt one road. Under this project china build three international roots for its trade. That's why; it's disturbing the global supply chain. In March, 2020 this pandemic spread all over the world first in Europe and then America. Even, this Pandemic covers 250 plus countries. The world largest supply chain s who have more than 12000 different sources, in which includes factories, warehouse etc. These all are using as quarantines (Ivanov & Dolgui, 2020). Due to disruption in supply chain many companies become a sandwich among problems. In which one company of gift says that they face a shortage supply from china and demand disruption from Italy. Among all these problems everybody raise questions, that how many periods taken by this pandemic? How we prolong our safety measures to get protection in this situation? What about our future and recovery from this recession (Sharma et al, 2020)? All international borders, important highways, airlines have blocked due to this pandemic.

Literature Review

There is a number of global integration in the supply chain, which has disturbed due to this. There are almost more than 1000 global companies affected by this pandemic (Ivanov, 2020). On the 11 March, 2020 world health organization declares, that it is a global pandemic

it's not only disturbing all world economy, social, but the local supply chain of the country. There are some preventions for companies to survive during this pandemic; backup supply, subcontracting, transportation infrastructure, and many other things; they must have their own distribution system; flexible production techniques, and monitoring of real-time (Araz et al, 2020). First, the companies of the supply chain are focusing on larger production, and on long terms, goals to achieve maximum profit. These efforts might increase efficiency, but this can only lead to the supply chain to unprotected incidents (Rizou, Galanakis, Aldawoud & Galanakis, 2020). Because, they have not paid much attention to the supply chain's complications (Snyder et al, 2016). The second problem is that most of the firms are facing focusing on international trade; they are not controlling and fulfilling proper procedures and requirements of this task; due to this negligence, they are increasing more complexity for the supply chain and revealing them to more adverse risk (Behzadi et al, 2018). In present condition, there is elementary task to consider the availability of goods and services in resilience level (Dolgui, Ivanov & Rozhkov, 2020; Hosseini, Ivanov & Dolgui, 2019). Thereby have a complex system of supply chain prevail in the markets. So, there is task to amend complex system in subsystem groups in order to meet the demand of residence level. The viability concept must be understood in this present condition. The supply chain viability concepts understand in national and international system of supply chain (Aubin, 1991). There is need to amend the interconnected and complex system of supply chain in order to fulfill the need of present condition. For eliminating the barriers of supply chain, there is need to share the firms' facilities in order to make the supply chain more effective (Wang et al, 2018; Tan, Cai & Zhang, 2020). The localities of supply chain where goods are blocked. They should change supplier and adopt convenient way to supply goods and local supplier also contribute with them (Rizou, Galanakis, Aldawoud & Galanakis, 2020). The Govt. and other bodies also create a map for alternate routes for make smooth supply of goods. Moreover, the level of goods, like finished, semi-finished and raw material should be delivered according to their availability. Because traditional system is not fruitful for all, so

there is need to amend system for loss recovery in supply chain (Alicke, Azcue & Barriball, 2020).



In this table shows the effect of COVID-19 pandemic on businesses. The first 2 month 80% strictness fall in china and its neighbor countries; it creates a great depression in their economies. After that it effect on America and European countries and day by day its effect on global economy within first two month. The Next 4 month 60% strictness fall in the world. Thereby, further two month it's become a drastic situation for the whole economy and increase the loss on unexpected level.

There are a lot of incidents that occurred in the past; which have been noticed by the whole world. Just Like due to natural tragedy Flood in Thailand in 2011 has greatly disturbed the supply chain of hard drives (Chopra & Sodhi, 2014). Thereby, a lot more incidents occurred in the past that is not natural, but man-made catastrophe, like the terrorist attack 9/11; and international financial

dilemma in 2008; in 2016 UK decided to leave the European Union due to recover control on migration and their own border (Brexit & Matthews, 2017). Due to these problems, analysts are finding out the actual problems and their remedies for minimizing the problems of the supply chain permanently. The supply chain have two types risk first is certain and 2nd is uncertain (Huo, Guo, Cheng & Xie, 2019). The risk firstly occurs due to lack of passing information (Li, Fan & Lee, 2015). Every organization establishes a well-programmed security system to protect from risk. But uncertain risk like corona always crashes the system. In this situation, every organization tries to overcome this problem (Sreedevi & Saranga, 2017). Thereby, there is no space for blind action and wrong decision. Every organization should exchange their ideas, resources, opportunity. Because, this problem is unaware; nobody can notice an extreme level of it.

But, now everybody know, that if this situation could not be handle jointly, hereby it will hardly disturb global chain. Thereby, everywhere we will see a problem lack of food and other necessities of life (Zsidisin & Henke, 2019).

There is number of remedies concerning the problem of supply chain management. Just like in the present condition, coronavirus there is a great problem of supply (Ivanov & Dolgui, 2020). But due to fulfilling the need for goods and medicine, there is some way to supply the products there. All the countries are allowing the supplier to supply goods in their areas without any barrier. The markets of goods and medicines are free from all restrictions; which are imposing during the lockdown. Thereby, suppliers of goods and medicine are earning a lot of revenue. The other ways the number of owners of the warehouse shares their localities to make a smooth supply of goods and services. The local suppliers sharing their roots with the international suppliers; and local bodies are co-operating with each other to facilitate the consumers (Castellanos & Chan-López, 2017). In this way, the behavior of suppliers is very important, there are a number of suppliers; who are co-operating with each other to make smooth supply of goods and services. In this condition, when complex channels of logistics and supply chain establish, then no trouble can demolish it. The other advantage in this situation is that the countries are lowering the price of petrol and diesel; thereby, the transportation cost is going down and the suppliers are earning revenue through it (Keilhacker & Minner, 2017). The countries are also giving a number of facilities to the supplier to maintain a smooth supply of products to meet their demand and supply in their market. According to the guidance of UK and USA that everyone should use face mask in order to get protect from COVID 19. Because face mask is general equipment who is used for safety against air viruses infections. Thereby markets and especially front line worker of this pandemic needs bulk of face mask (Cheng, Lam & Leung, 2020). Now, whole world started to build strong global chain of suppliers for make smooth supplies of medical equipment especially face mask and grocery products to handle the current situation. Most countries are providing subsidies to the suppliers in order to fulfill the needs of the hospital. The suppliers have complex

tasks to fulfill the need of the present situation (Schwartz, Stiegel & Greeson, 2020).

Discussion

The competition always have prevailed among the firms, and it is understood that they always faces number of challenges & threats (either natural or non-natural) during execution to their operation (Durach, Weiland & Machuca, 2015). Thereby, they all have alternate sources and facilities to overcome these challenges to achieve competitive edge. In competitive environment, there is no space for financial loss due to any threat either is natural or artificial (Lu, Ran & Shen, 2015). Rational suppliers are those, who can select the beneficial mode of strategy. If breakdown occurred in one part of the chain, it disturbs the whole network. By following the procedures of risk recovery, risk control, risk mitigation suppliers can select the ideal model for their business. In order to upgrade their businesses, suppliers should adopt all the necessary factors step by step. For the purpose of becoming an international player of the supply chain and part of the big chain the major task for the candidate of supply chain, that it must have all elements to meet the requirement of the global supply chain. In which includes selecting alternate root or means of transport in case of emergency. There is a number of roots in the world have high importance in international trade; but the root has disturbance just like fog, glaciers, snowfall, etc (Baudrot et al, 2018). That's why, in the global supply chain every supplier knows their root; they know how to overcome the problem in any emergency. Moreover, they must have knowledge about times and seasons, when snow or rain does not fall on the road, there are no strikes or protest on road. There are some roads that cross the sea and rivers; waves of water strongly disturb the road, but the suppliers know how to meet the disturbance; they must have expert driver to drive with the presence in these entire obstacle. Not only land roots, but also the sea roots have the number of the problem some sea in the world just like the Atlantic ocean have dangerous waves who could broke the ship into pieces. But the supplier must have knowledge about this difficulty and safety measures. The sky roots have a problem of air pressure that can crashes the plan. The jets always have some extra fuel, because sometimes jet need to land on those areas, who is unexpected.

In this way to overcome this problem, the jet already kept some extra fuel. All the suppliers sometime have to face a problem in local areas, just like strikes, protest and road construction etc. In this situation, the suppliers must be need to prepare plan to select the best alternate road for their supply; they must aware the challenges of journey and their solution (Mari, Lee, & Memon 2016). The natural disaster also have to prove a great problems for the supply chain, just like over raining, melting glaciers and volcano etc. In this type of problem, the supply chain suffered a great loss for a long time; but they also have safety measures for it, just like choose substitute supplier, amend the mode of supply. In which include, move from land road to air, just like Qatar suppliers use air and sea roads, when Saudi ban business with it and closed the borders with it. Every challenges of supply chain have specific duration and intensity, which already have in the knowledge of every supplier. But, in case of COVID 19 nobody knows, how many time taken by this pandemic. In future number of new sources of supply chain could be discover. For this research, we approach some researches and observation, but future researcher targets other respondent with other approach. This pandemic will gives us new models of business. Due to this pandemic, we could able to overcome number of critical problems. Thereby, we can say that after this situation, our lives will be amended and we enter in new world, there our present problems will be eradicated and new challenges welcome us.

Conclusion

All the suppliers are facing the problems & challenges in their domains, but they have a number of alternates & precautions to overcome these problems and tackle the challenges. The natural disasters always faced by the supply chain, but COVID-19 proved very drastic challenge. Thereby, external and internal channels of supply chain both affected. In this situation, suppliers need to establish intranet and extranet channels among them (Munir, Jajja, Chatha & Farooq, 2020). They should also add maximum links in their network, especially local supplier; who is not more beneficial in routine business. But they always could be helpful in emergencies, just like present condition of COVID-19 (Ivanov & Dolgui, 2020). The prime target of every supplier should protect itself from recession and then survive in a

market till recovery. In this situation, the new business model will be helpful. The traditional supply chain could not generate normal profit with local supplier in present situation, but they can survive in market with new channel & business model (Manuj, Esper, Stank, 2014).

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