

# **Digitizing Supply Chains: The Gateway for Post-Covid-19 Era**

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## **1. Introduction**

The Chinese government announced the first case of Covid-19 until the epidemic swept through the world in a short period not exceeding days, and most of the countries of the world have successively announced the discovery of cases among its citizens (WTO, 2020b). The majority of countries in the world initially adopted prudential policies at international airports arriving from China. However, precautionary measures at these airports became applied not only to all air travelers but also by all the means of transport to apply a mandatory thermal detection procedure for travelers (World Economic Forum, 2020). Hence prevailed Intra-world movements are a kind of reservation regarding the European Union countries, which also closed their borders Geography among them.

Covid-19 differs from the rest of the epidemics and diseases that have stricken the world throughout history, which are confined spread in a limited geographical range around the world or a specific country, such as the SARS epidemic in China, and the Ebola epidemic in West Africa, Spanish flu, and swine flu, where these diseases and epidemics did not leave the same effect (World Bank, 2020a). Which was caused by the Covid-19 in a short period. China's response came with the authorities imposing a state of high alert to control the epidemic by quarantining the infected and isolate them healthily away from populated areas, and imposed a curfew in Chinese cities and the city Ohan is the source of the epidemic, with a population of about 11 million people. With the gradual spread of the virus, The World Health Organization has declared Covid-19 a global pandemic, and countries must confront it strictly by means of: Take measures to limit its spread and take caution (World Bank, 2020b).

Therefore, this article aims at determining two main approaches: First, to highlight the impact of Covid-19 on global supply chains by revealing the circumstances on the global economic growth and the international trade of goods and services. Second, to focus on how digital supply chains can be the most adaptive tool for dealing with several disruptions. Finally, the article concludes with several recommendations and actions to be taken for better risks and disruption mitigation.

## **2. The Impact of COVID-19 on global supply chain spectrum**

### **2.2 Global economic growth**

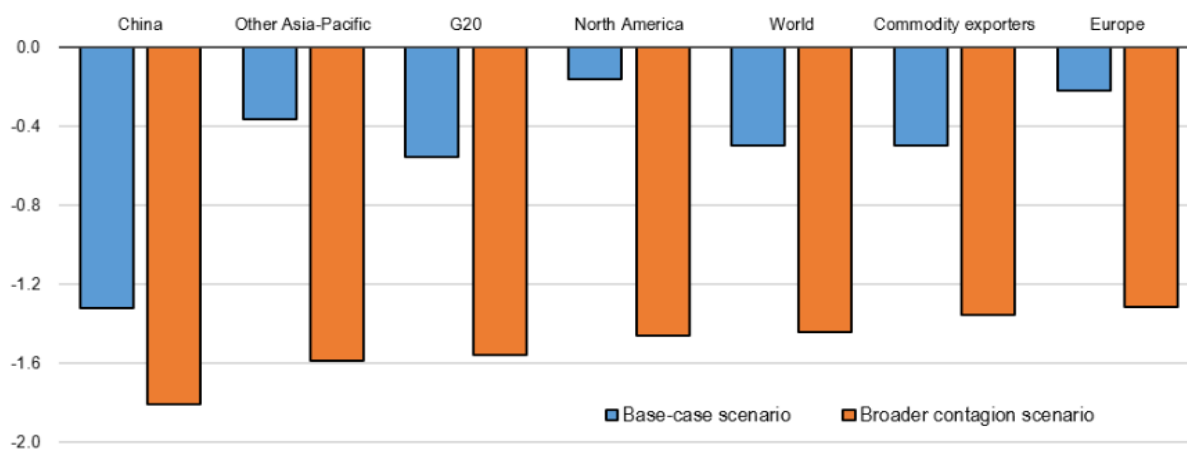
Although the Chinese economy has faced a decline by 2% growth rate during the previous two years but it is still playing a pivotal role in the global economy, as the second largest economy after the US economy, and as the largest exporter economy for manufacturing goods and a major trading partner for world countries (World Bank, 2020b). The growth of the global economy witnessed a slowdown even before the emergence of the Covid-19 pandemic due to the challenges it faces and represented in trade tensions between China and the United States of America, and political and political risks, as well about the fluctuating conditions in some countries of the world (UN, 2020). Multinational companies had lowered their forecasts on global economic growth before the outbreak of the Covid-19 epidemic. For instance, the International Monetary Fund revised its forecast from 3.3 % to 3.2 % in 2020 following the emergence of Virus (IMF, 2020), while it is currently moving to amend these expectations after the spread of the Covid-19, taking into account its impact on the negative side of global supply and demand, especially after the slowdown in the determinants of global demand represented by the slowdown global consumption and investment (OECD, 2020).

In addition to the movement of international trade that has been paralyzed after countries close their borders, and restrict the movement of goods and individuals. The global economy is in a deeper recession than it witnessed during the global financial crisis in 2008 (WTO, 2020b). In the same context, the World Bank predicted that the global economy will grow by about 2.4 % in 2020, except for the indicated that the uncertainty surrounding the global economy still exists (IMF, 2020). The World Bank (2020a) indicates that these expectations can be modified in line with current conditions and potential threats it is caused by the outbreak of the epidemic, despite international efforts and stimulus packages launched by multinational companies, international organizations and governments and the global central banks. On the other hand, the United Nations (2020) indicated that the global economy in light of the Covid-19 outbreak, it is expected to grow by less than 2 % in 2020 compared to its expectations before the emergence.

The virus, which reached 2.5 % with the possibility that the organization will make further adjustments in light of current uncertainty. Note that companies pointed to some of the existing challenges that could be an obstacle to achieving rates the growth it referred to, including trade and geopolitical conflicts and financial turmoil (ICMA, 2020). In addition, the repercussions of the Covid-19 on the global economy is facing a state of uncertainty, and the lack of access until now to discover vaccines to treat it, so international and regional organizations have tended to review expectations economic growth for 2020, and recently adopting more realistic scenarios to assess the threat of the outbreak of the epidemic on the global economy

Consequently, lowered its global growth forecast to 2.4 % (WTO, 2020a). Figure 1 illustrates coronavirus scenarios highlight the adverse impact on growth. The change in GDP growth in 2020 relative to baseline, percentage points

**Figure 1: Coronavirus scenarios highlight the adverse impact on growth**



Simulated impact of weaker domestic demand, lower commodity and equity prices and higher uncertainty. Base-case scenario with the virus outbreak centered in China; broader contagion scenario with the outbreak spreading significantly in other parts of the Asia-Pacific region, Europe and North America.

According to World Economic Forum (2020) their estimates a decline in global economic growth is attributed to the modification of the US economic growth in 2020 as a result of the outbreak of the virus from 2.3% to 1.9% due to the decline in public and private consumption, And uncertainty about asset prices. In the EU area, a growth rate of 0.8 % is expected instead of 1.2 %, due to lower exports and slowing consumption. The growth rates have also been adjusted the Japanese economy went from negative 0.7 % to -0.2 % in 2020. Growth rates have also been adjusted the Chinese economy went from 6.1% to 4.9%, and there are still other negative risks to the global economy in view of the uncertainty prevailing in the world in this period (World Bank, 2020a).

### 2.3 International trade of goods and services

International trade was paralyzed during the short period of the outbreak of the Covid-19, which in turn affected all from exports and imports, as the World Trade Organization expected a slowdown in the movement of merchandise trade around the world in the short term, as a result of the disruptions caused by the virus's repercussions of conditions of uncertainty and border closures between countries, including countries of the EU. The World Bank (2020) indicates that the global services trade is witnessing a

significant slowdown since 2019, as the rate decreased its growth from 4.7 % in the first quarter of 2019 to about 2.8 % in the third quarter of 2019. The decline is expected to continue, especially as the outbreak of the Covid-19 has had a negative impact in the short term on a number of important services that represent the basis for the balance of payments of countries such as air transport, and tourism services, which are the main sectors most affected by the outbreak of the virus (WTO, 2020a). For example, a trade scale was recorded passenger air transport services and the merchandise transport services trade scale are 93.5 and 94.3 points, respectively (IMF, 2020).

Where which recorded losses in EU countries, where the majority of hotel reservations were canceled after the announcement of the virus outbreak the tourism sector in EU incurred heavy losses. The tourist sector is not expected to recover during the remainder of 2020, as the impact may extend until the end of 2021, it may begin to recover, but not at the level it was before the crisis even in If the virus recedes, due to the negative impression about the disease that dominated international tourists (European Central Bank, 2020). In this regard, it is expected that the ranking of the world's countries will change in the travel and tourism competitiveness index (UNWTO, 2020). China, which ranks No. 13, is estimated at 26.7 points in the index to decline in 2020, as is the case for countries that witness high rates of HIV infection Especially the countries of the EU and the US as a result of the controls and restrictions, they imposed Countries that prohibit entry and exit as well as to closing tourist and entertainment areas until notice else (World Economic Forum, 2020). According to the measure of trade in services issued by the WTO (2020b), it is expected the growth rate of global services trade due to the virus continues to be weak, as it is likely to decline further in the coming months.

### **3. The Impact of COVID-19 on digital supply chains deployment**

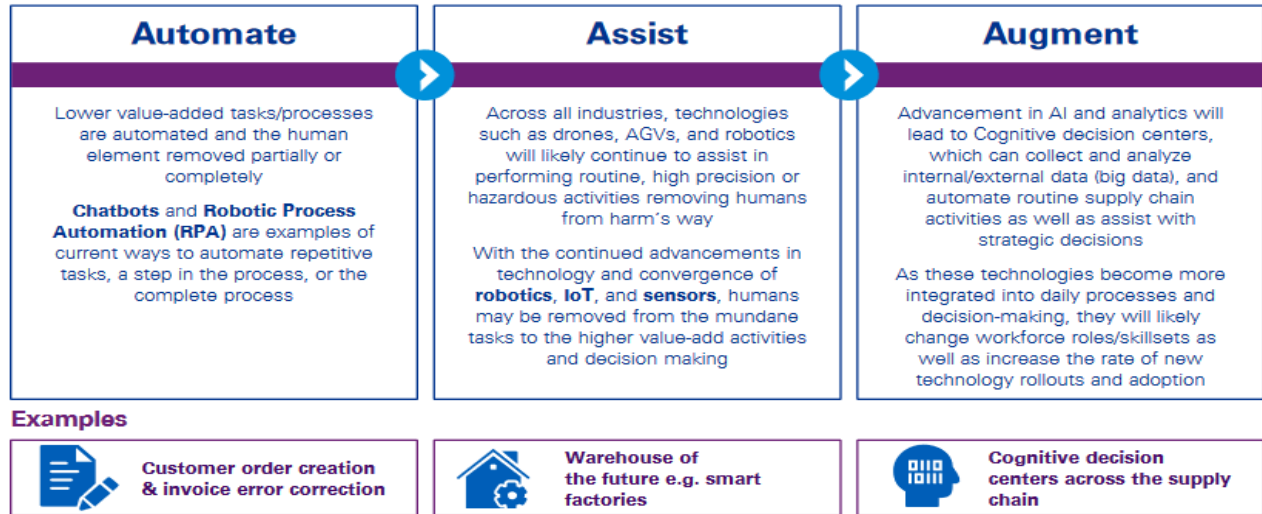
Even in the middle of a pandemic, the good news is that a push to accelerate digital transformation will be rewarded by newfound agility (KPMG, 2020). Covid-19 allowed the rare opportunity for resetting global supply chains. Now is the time to put a relentless focus on the customer centric, data enabled, digital technology that many companies had good intentions to implement prior to COVID-19, but deferred due to fragmented efforts, legacy systems, or other factors (Flynn, 2020). Furthermore, manufacturers have experienced competitive challenges in local markets due to relatively higher labor costs. That has been partly mitigated by investment in automation, digital enablers and advanced technologies. Additionally, COVID-19 has brought back an emphasis on boosting local manufacturing for critical industries, compounded by growing unemployment and consumer desire to support local business (Carnevale & Hatak, 2020). The pandemic disruption to trade caught many off-guard, causing disruption in the supply chain. Global lockdowns brought fragile domestic, regional, and global supply chains to a grinding halt. The initial outbreak underscored how much of the global economy relies on China. Along with increased

international trade and interconnected supply chains came hyper-efficient, just-in-time supply models. As COVID-19 hit, few companies had redundancy in their supply chains to weather a disruption of more than a few weeks (KPMG, 2020). There are trade-offs with any business strategy such as: there are embedded costs to carry extra inventory, to invest in back-up supply chains, or to manufacture closer to the customer base.

Many supply chain strategies have been changed from efficiency and low-cost country sourcing, to focus more on supply chain resilience and visibility that can reduce complexity and uncertainty across the supply chain network. The supply chain resilience against unpredictable, dramatic events require strong business models enabled by a robust digital backbone and processes that can pivot rapidly (Flynn, 2020). Thus, it is mandatory now to highlights the broad steps that can help businesses enhance their supply chains, regardless of their digital maturity and transformation journey.

Consumers expect a personalized experience such as product recommendations and communications are willing. Global companies are moving away from traditional sales reps going door-to-door and using digital salesforce automation (Flynn, 2020). A survey by Carnevale & Hatak (2020) found that almost 40% of respondents in EU increased online shopping in early April, higher than during the worst days of the crisis, and three-quarters of them said they planned to keep up the habit in the future. This aligns all functional areas within the supply chain to be integrated. This integration allows real-time visibility to make better decisions and can reduce operational cost. The broad emergence of stay-at-home orders further pushed the digital trend as millions suddenly found themselves working remotely, using digital systems to collaborate and support their work, while millions of others were home-schooled using online learning technologies. Figure 2 presents how digital transformation in Supply chain can be implemented.

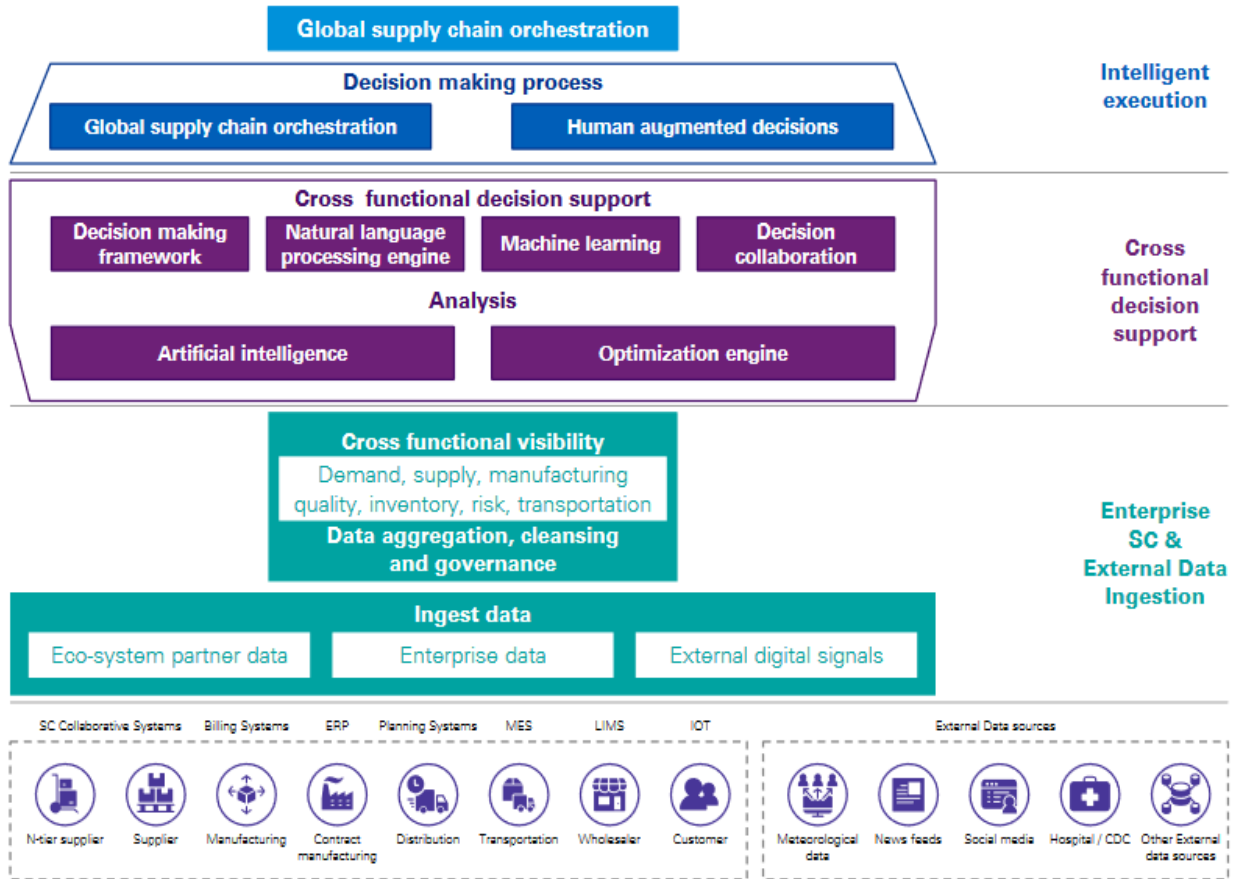
**Figure 2: Implementation of Digital transformation in Supply chain**



#### 4. Conclusions

Every company is at a different stage in its digital evolution. Some are successfully executing pilots or launching new business models and an equal or greater number perplexed as to where to even begin. The digital transformation journey objective is: to improve performance, create value, and enhance the customer experience. Therefore, some supply chains of many companies the EU had transformation efforts toward the new normal sets in and businesses turn their attention to the mid-and long-term priorities to drive sustained growth and prepare for future challenges. Figure 3 presents the recommended model for how digital supply chain in Post-Covid-19 Era. Thus, companies should focus on value. They have to use a variety of tools and methodologies to target and realize benefits and opportunities for ROI that can offset the costs incurred in transforming supply chains. Companies can create a transformation roadmap by mapping critical activities and determining potential areas for failure /disruption, and conduct scenario analysis to develop future contingency plans that build resilience. Many companies have developed a sophisticated, purpose-built digital analytics platform that can leverage to pinpoint opportunities and cost-drivers faster and more effectively than before.

**Figure 3: Digital Supply chain Model in Post Covid-19 era**



COVID-19 has forced us to accelerate and re-assess our digital transformation plans. By leverage new technologies and the power of the Cloud to ensure our systems are agile, secure, robust and scalable. Therefore, the are six stages are recommended to be applies for effective digital supply chains as stated by KPMG (2020):

- 1- Understand the cost of complexity versus the value of variety. While there is value in meeting growing customer demand for choice, offering too wide a range of the wrong products and services is often not profitable.
- 2- Leverage data to improve core competencies. The business intelligence is served by dozens of different data streams, but are you able to leverage the data in a meaningful way to improve existing capabilities?
- 3- Lead with performance, not technology. Forget the hype surrounding the latest technological trends and focus on their present capabilities and the needs of the customers they serve.
- 4- Upskill the workforce. Whatever the technological maturity of the business, the success of the future supply chain strategy depends on the people.

- 5- Embrace new partnerships. In the future, no single organization is likely to have the full suite of digital capabilities under one roof.
- 6- Without the specific focus of these steps, the supply chain digital roadmap risks becoming just a collation of good ideas – a bottom-up brainstorm churned into a project plan with little thought given to overall return on investment.

## References

1. Carnevale, J. and Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *Journal of Business Research*. 116, 183-187.
2. European Central Bank (2020). Our response to the coronavirus emergency. Retrieved from <https://www.ecb.europa.eu/home/html/index.en.html>
3. Flynn, D. (2020). CDC provides first guidance to a specific meat plant for combating COVID-19 among employees. Retrieved from <https://www.foodsafetynews.com/2020/04/cdc-provides-first-guidance-to-a-specific-meat-plant-for-combating-covid-19-among-employees/>
4. ICMA (2020). COVID-19 Market Updates. International Capital Market Association. March 2020.
5. IMF (2020). World Economic Outlook: Tentative Stabilization, Sluggish Recovery?. IMF
6. KPMG (2020). Building supply chain resilience through digital transformation. KPMG International.
7. OECD (2020). Coronavirus: The world economy at risk. OECD Interim Economic Assessment. Paris: OECD.
8. UN (2020). World Economic Situation and Prospects 2020. Washington DC: UN.
9. UNWTO (2020), “UNWTO Statement on The Novel Coronavirus Outbreak”, World Tourism Organization, Jan 2020.
10. World Bank (2020a). World Bank Group Increases COVID-19 Response to \$14 Billion To Help Sustain Economies. Protect Jobs. Retrieved from <https://www.worldbank.org/en/news/press-release/2020/03/17/world-bank-group-increases-covid-19-response-to-14-billion-to-help-sustain-economies-protect-jobs>
11. World Bank (2020b). Global Economic Prospects: Slow Growth and Policy Challenges. Washington DC: WB.
12. World Economic Forum (2020). The Travel & Tourism Competitiveness Report. Geneva: WEF.
13. WTO (2020a). WTO DG welcomes G7 leaders’ statement on COVID-19. March 2020. Retrieved from [https://www.wto.org/english/news\\_e/news20\\_e/dgra\\_17mar20\\_e.htm](https://www.wto.org/english/news_e/news20_e/dgra_17mar20_e.htm) .
14. WTO (2020b). New WTO indicator finds services trade weakening into second half of 2019. Services Trade Barometer. Geneva: WTO.