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REMAKING THE SUPPLY CHAIN IN THE POST COVID 19 WORLD

The recent global crisis has spotlighted vulnerabilities of the global supply chains. The writing has been on the wall due to converging market forces driven by local and regional market disruptions, consolidations of businesses globally, increasing regulations, elastic demand, inventory requirements of just in time and e commerce and the growing demand for consumer transparency.

The current global crisis is likely to accelerating digital transformation for businesses across the global enabling them to meet the challenges highlighted above. Technology led business model including Industry 4.0 and IoT will emerge as more critical than ever and AIDC will play a key role in defining strategy as we reimagine the global supply chains of tomorrow.

Per a March 2020 survey conducted by the Institute for Supply Chain Management nearly 75 per cent of companies reported supply chain disruptions in one form or another due to coronavirus related transportation restrictions and that figure is expected to rise throughout Q2 and Q3 2020. The survey also revealed that less than 50% of businesses had contingency plans in place and over 50% of the companies reported over 50% sudden, unexpected delays in receiving orders compounded by limited supply chain visibility

SUPPLY CHAIN CHALLENGES WITH THE CURRENT MARKET SITUATIONS

Manufacturing

Manufacturing today for everything from frozen French fries to jet engines is a far more complex process than just 20-30 years ago with subcomponents sourced globally. Raw materials required to manufacture the subcomponents are also sourced globally, often from different continents with the finished/semi finished products also potentially requiring globally distribution. This dependency on logistics make import, manufacturing and globally distribution difficult in the case of disruptions to supply chains.

Consider a relevant example in the current situation: India imports well over half of its active pharmaceutical ingredients (APIs) from China. Between the Indian government selectively restricting API import and the logistics challenges created by COVID-19, India's pharmaceutical industry is going to find it difficult to maintain its export numbers. Considering that India is the biggest supplier of generic medicines worldwide, this could very easily lead to a global shortage.

Procurement

The other side of the coin involves procurement challenges for the sourcing organizations

In a globally integrated world, a drive toward efficiency has fueled an increasing consolidation of production in lower cost geos – primary China, Taiwan, Vietnam or other low cost economies. With the pandemic starting in China and spreading across the global the resultant fallout and shortages indicate the need for distributing and managing risk. Supply chain transparency will provide the needed data to manage the risk

Distribution

- Distribution of products is going through some unique challenges such as staffing of warehouses, a need for direct distribution and more intelligent and responsive allocation across channels.
- Retailing is also been impacted in a peculiar way. The lockdown and curfew scenarios across the world have led to a unique situation where there is demand as far as essentials are concerned, subdued demand in some niche areas, and big challenges in the luxury items segment, and we are likely to see several retailers down their shutters while many others will be severely challenged on operating margins and models.
- On the consumer side, hoarding/stocking of essential commodities and over-the-counter medicines has led to unusual stress on the supply chains. It is not unusual for consumers to panic stock food and other essential commodities during times of crisis. While this leads to stress if the stockpiling goes beyond a few weeks, it is natural for consumers to be anxious about availability and resort to this kind of behavior. This unnatural spikes in demand and the required supply fluctuations are extremely difficult to handle and together create a bullwhip effect in the entire supply chain often leading to artificial shortages.

Based on learnings from supply chain inflexibility to cope with disruptions, demand shifting and changing consumption models the post covid world will need to build resilient supply chains. These include reducing manual labor across transportation, logistics and warehousing. This shift in labor demand will rely on supply chain visibility. Supply chain visibility is achieved when items, cases and pallets are individually marked and the data is captured as the product moves through the supply chain. Enabling technologies will include RAIN RFID, sensors, portals, blockchain and data analytics to detect supply chain or demand changes.

Some key elements, that will prove crucial in the supply chains of tomorrow include:

INTELLIGENT PROCUREMENT:

To help organizations understand where and when to source using advanced machine learning algorithms based on past purchases, commodity pricing, agricultural and industrial trends, among others.

SUPPLY CHAIN CONTROL TOWER:

A single source of truth from sourcing to delivery for all trading partners to see and adapt to changing demand and supply scenarios across the world.

SUPPLY CHAIN DATA MANAGEMENT WITH INTELLIGENT AUTOMATION AND ANALYTICS:

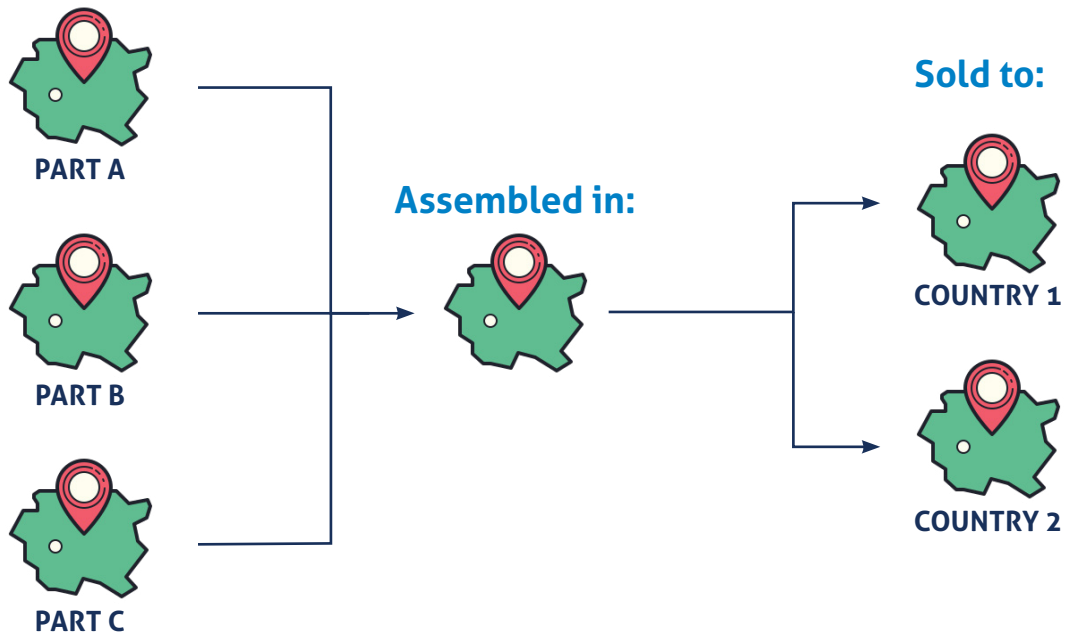
End-to-end information management, taking the form of a data vault of sorts to capture supply chain transactions accurately with high consistency and minimum redundancy. This will help supply chain organizations gather insights around supplier performance, supply chain diagnostics, market intelligence and risk management.

SUPPLIER RISK MANAGEMENT:

N tier risk management helping organizations model cost structures, trend performance data and visibility in to extended value chain to keep abreast of any supply disruptions and secure capacity. This could help companies avoid sudden disruptions in supply chain and deal with lack of information, something that many major global companies including Sony, are facing today.

SUPPLY CHAIN SIMULATION:

Modeling new supply chain strategies based on business/operating model change, current and/or future supply/demand/ logistics constraints. Helps to validate and identify the best cost-efficient network to achieve the necessary service level across the value chain



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1 United States Census Bureau. "Exhibit 1. U.S. International Trade in Goods and Services." Accessed Feb. 10, 2020.
 2 United States Census Bureau. "Exhibit 7. U.S. Exports of Goods by End-Use Category and Commodity." Accessed Feb. 10, 2020.
 3 United States Census Bureau. "Exhibit 3. U.S. Exports of Services by Major Category." Accessed Feb. 10, 2020.
 4 United States Census Bureau. "Exhibit 8. U.S. Imports of Goods by End-Use Category and Commodity." Accessed Feb. 10, 2020.
 5 United States Census Bureau. "Exhibit 4. U.S. Imports of Services by Major Category." Accessed Feb. 10, 2020.