

Supply Chain Disruptions due to COVID-19
The Industry need of the hour and later



Ocean ship

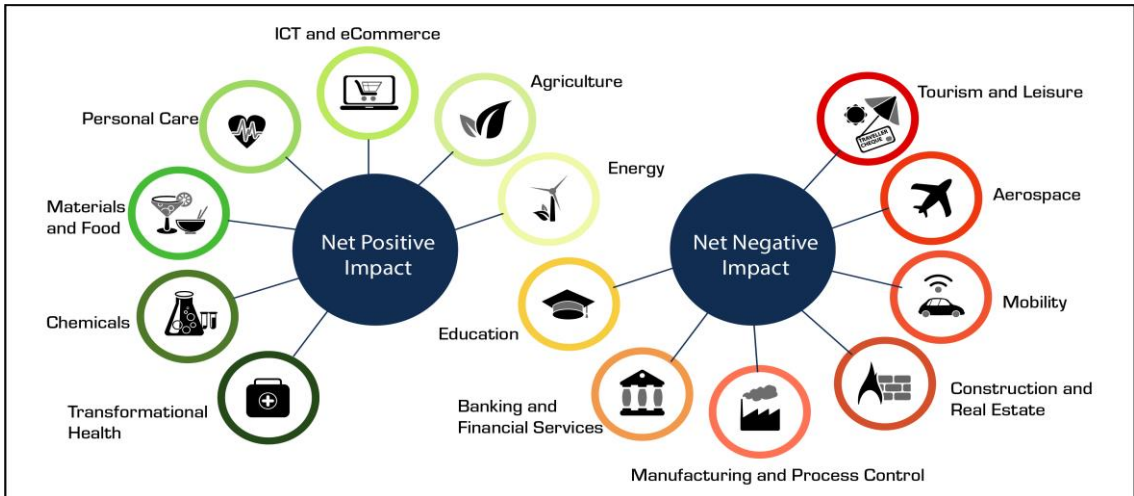
Author

Prasanna Rajagopalan

Principal Consultant & Solution Architect, Manufacturing

Impact due to the Pandemic on Industry, Sales, Demand and Jobs

Industries



Sales

US Credit/debit card purchases show a trend where discretionary purchases have been hit hard due to lock-down, restrictions, job-losses. Forecast on Industrial production in developed markets indicates a plunge and gradual recovery by 4th quarter.

30% - 50% of global consumers expect their household income to continue to fall in May.

Jobs

Global advanced economies unemployment stands at 8.3% compared to 4.8% in 2019, and USA Job loss exceeding 2009 numbers - US un-employment is at record high, around 17%, more than 20 million jobs loss due to COVID, compared to 10% during the 2008-2009 recession.

Demand

According to recent analyst reports, Manufacturing is hit hard due to lockdown. Supply chain stalled in most cases. Demand affected.

Impact due to the Pandemic on Production Output, Performance Indicator and IT Spending



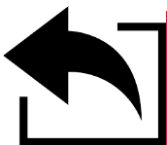
Production Output

Manufacturing production output in developed markets is forecasted to recovery by end of 3rd quarter 2020



IT Spending

According to Leading Analyst firm Manufacturers are at huge cost pressure, which would impact the IT spending for the rest of the year, 2020.



Purchasing Manger's Index (PMI)

With American manufacturers having a strong reliance on Chinese materials, China Manufacturing PMI shows a recovery in March, but to slow-down again to impact Manufacturing material supply for short to medium term and recover by end of 3rd quarter of 2020,

How the industry is responding to the change in SCM requirements...

According to a Leading American B2B media company, US national economy depends on trucks to deliver nearly 70% of all freight transported in the U.S. annually, accounting for \$671 billion worth of manufactured and retail goods transported in the country by truck alone. About 97% of carriers in the U.S. operate 20 or fewer trucks (while 90% of those operate with six or fewer trucks). Consolidating and tapping a wide range of truckers would offer a cost effective logistics.

Few Large Indian Automobile companies are keen to increase local sourcing, while some others still see value in buying from China, given the cost competitiveness. With BS6 emission norms effective this April, the supply sources must diversify.

According to a FCA spokesperson, during this current production pause, they are working with government officials and their unions to implement new procedures to certify the daily wellness of their workforce. They are redesigning the work stations to maintain proper social distancing and also expanding the already extensive cleaning protocols at all locations. Hence they will be able to restart operations with safe, secure and sanitized workplaces to protect all their employees.

"The aftermarket and vehicle services market will stutter but an ageing vehicle parc will support growth, although growth rates will be much slower than earlier anticipated. The market will steady with the rising demand for in-vehicle aftermarket HWW components like air cabin filters and driver monitoring systems, while services around vehicle sanitization will also provide a much needed revenue boost. In a clear departure from tradition, contactless parts delivery and touchless pick up and drop at service locations will become the new norm" – According to a Leading Analyst Firm

A Large Japanese Multinational Auto & truck parts Manufacturer is restarting its North American Tire Production. The manufacturer, famous for its tires, said it would abide by CDC recommendations released recently



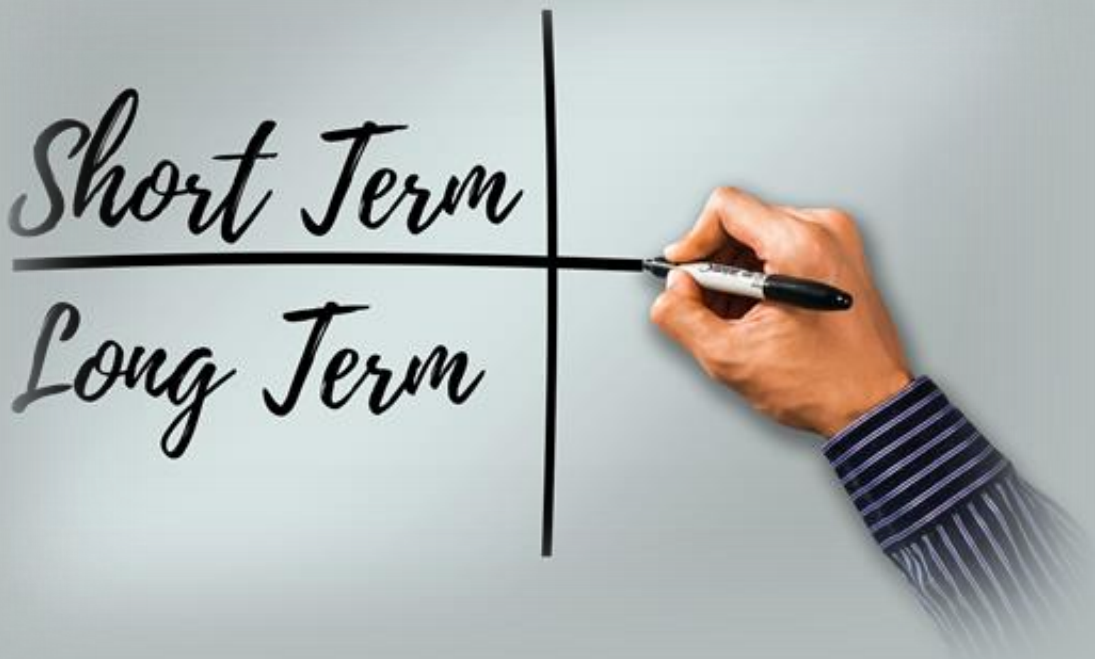
Needs of the Manufacturing supply chain to cope with this disruptions vary...



The near term focus is to ensure safety, save cost, product availability



And medium to long term is on building resilience



Near-term focus



Many organizations would be able to find the impact on their supplies, but they need help to find alternative sources of supplies, it could be for the strategic decision to relocate from an off-shore location to a near-shore manufacturing hub, or moving away from china to another host country or temporary supply mitigation effort

Extend supplier network, develop supplier HUB, rework on the product value engineering & costing

More than 30% of businesses are concerned about sourcing strategy, Supply risk and mitigation is the key challenge that keeps supply chain leaders busy.

Ability to reduce front-office & back-office operations like sourcing and procurement and other support functions to operate remotely to offer more room for critical workers in the manufacturing facility to operate safely.

Desktop Automation

With 85% of the RPA market still untapped, the economic slowdown will encourage all businesses to dive into automation.

Manufacturing facilities would soon start getting operational with new norms for health and safety, with low dense worker strength. The material handling across the shop-floor, warehouse must be managed with lesser manpower. Materials must be handled with less physical contact, and go touch-less or autonomous

Paperless, Automation in Material handling

Gartner predicts by 2023 over 30% of operational warehouse will be supplemented by robots



Near-term focus



Adoption to (DTC) direct to consumer business model. More online sales and direct delivery would be the focus. New supply chain must be designed and adopted. Identify retail partners and/or develop retail portals to reach consumers.

New Supply Chain Model

Online purchases for parts and accessories in the US and Canada have increased significantly, online revenue in the week of May 3-9 had a 42% increase from the first week of March

Realistic assessment of demand, short term forecast 1-3 months and mid-term 9-12 months. Demand dynamics have changed, demands vary by region by category. Traditional forecasting methods do not work. Inputs from retailers and distributors are vital, detailed assessment with human judgement is critical for the short term.

Reliance more on Analog, human judgement than AI

Manage cash and networking capital
Save operational expenses
Visibility into assets across the supply chain and geographies, identify WIP, finished goods, spare parts inventory to realign demand and supply, and effectively reduce inventory

Inventory visibility; Operation optimization

Total on-hand inventory days across automotive, high-tech, semiconductor industries vary between 40 - 200



Near-term focus



Spare parts supply & services would be critical to ensure consumers peace of mind. The demand for essential aftermarket parts is expected to be least affected, and this needs on-time inventory replenishment to ensure consumers get going. Focus on the aftermarket supply chain would be a priority for business.

Optimize aftermarket Business & Supply Chain

OEM replacement parts sales: A 14% increase from first week of March. Over the past nine weeks, OEM replacement parts were negative for five weeks, went positive the week stimulus payments first showed up, and have stayed in positive territory since.

Sales and Operations planning must be reworked; traditional approaches does not work in this special scenario. Scenario based planning would be adopted based on the human intelligence, factoring in the revised demand, material supply availability, operational capability considering the workforce availability and deployment plan

Shorter planning horizon, human intelligent planning with digital support

Visibility into the availability of various freight and logistics services to enable shifting materials to adjust demand and supply

Digital freight matching platforms. Increased demand for logistics support and services, positive on commercial vehicle segment

A leading Analyst firm, **refers “trucking-as-a-service” or TaaS** market to grow to \$79.4 billion by 2025 (up from a current \$11.2 billion).

Visibility into the supply chain to know the bottle necks and constraints to mitigate

Increase collaboration with Suppliers



As organizations emerge out of the pandemic, they would build resilience and implement the learning from the downturn, Digitizing supply chain would see higher priority for investment

Key areas of supply chain that would see interest and investment....

Mid - Long Term focus



Visibility, Transparency across supply chain. Establishing a secured, reliable network of all supplier data, need to have a common data share among the partners to access the capability, inventory, material movement visibility.

Establishment of Supplier HUB, a single source of truth of extended supply base, intelligence to evaluate the performance of the supplier, mitigate supply risk

Supply chain process automation – more use case adoption in the process automation, setup center of excellence for digital workforce – bots, the sourcing and procurement organizations have huge potential automate tasks

Supply chain design optimization – redesign manufacturing network, distribution network based on the demand profiles, new supply sources, freight, and logistics availability

Touchless, paperless operations to optimize resources and manage efficiently namely, Smart warehouse with vision picking, RFID based asset tracking

Supplier Network, Supply Chain Control Tower, Traceability solutions

Supplier HUB, Supplier performance management

Desktop Automation

Supply Chain Design Optimization

Warehouse Automation; Autonomous material handling



In the mid-long term, 3 - 12 months (depends on how economy rebounds after pandemic) organizations would adopt to scenario-based planning, at least 3 possible scenarios where an organization and/or the product category would fall in...

The impact due to the pandemic could be temporary and businesses return to normal production with sustaining demand

The demand goes for a slow recovery, leading the businesses to gradually increase the production and services, leaving a long-term impact

The impact leaves a change in the demand pattern for product and services, businesses must reinvent to adopt

Industry approach towards building resilience would depend on how an organization emerges out of this pandemic impact, the support and the solution to the supply chain would vary.

We need to adopt to a clustered approach to offer solution & services differently for each cluster.

About Author

Prasanna Rajagopalan, Principal Consultant & Solution architect, Manufacturing

Prasanna Rajagopalan is an Industry 4.0, TOGAF certified Solution Architect and a Digital Supply Chain consultant. He has led large enterprise transformational projects through industrial process reengineering, enterprise application implementations for manufacturing industry. He has been working on developing solution and providing consulting in the area of supply chain for more than 20 years.

