A holistic approach to make supply chains more resilient
The Supply Chain Management and Logistics market, valued globally at $6 trillion\(^1\), is facing significant challenges due to the COVID-19 pandemic, a unique disruption witnessed in the recent times. Such is the effect of the pandemic that the topline of core industries such as Retail, Consumer, Manufacturing, Technology, Medical devices, and Travel etc. have shrunk by at least 15-35%. As they strive to regain their mojo, Supply Chain Management (SCM) and Logistics will be the epicenter of focus with allied industries aiming at optimizing their supply chain with minimum investments for maximum returns.

**Transforming the ‘new normal’ to meet challenges**

The SCM & Logistics market is gearing up to the growth challenge with autonomous vehicles (drones for delivery), driverless rapid transport systems, driverless cars etc. as the industry moves towards being digital via operations.

With adoption of autonomous vehicles, the US SCM & Logistics industry is set to witness a decline of 45% in operating costs and save the US trucking industry between $85–125 billion annually\(^2\). Asset sharing is gaining ground in logistics, i.e. third party logistics (3PL) companies are aiming to be asset light in terms of investments on trucks, warehouses, trains and ships etc. and consumer companies are participating in asset sharing to optimize total cost of operations (TCO).

Focus on these transformation areas is helping the industry regain its lost momentum:

1. **Last mile - the new first mile:** Retailers, Consumer Packaged Goods companies, communications services providers, manufacturers, and e-commerce market players are focusing on last mile deliveries, as last mile delivery costs can range from 25-30% of total transportation\(^3\) costs globally. Last Mile delivery issues such as delayed, damaged, misplace and lost deliveries can be addressed if shippers improve their internal logistics and SCM processes via either transformation, process simplification or standardization for delivering goods along with 3PLs that they rely on because of their strength of network for last mile deliveries.

2. **Same day delivery a reality:** Algorithmic tracking and route optimization enable logistics companies to increase profits up to 16% and reduce up to 3.6% in line haul network cost\(^4\).

3. **Analytics & technology-driven logistics:** Artificial Intelligence (AI), Internet of Things (IoT), Augmented Reality-Virtual Reality (AR-VR) are coming to the fore as shippers and 3PL companies make investments to increase strength of their supply chain. They are investing in supply chain visibility/control towers and predictive analytics to forecast demand, and optimize route planning and load balancing of their vehicles. Data suggests that 3PL firms find that analytics tools can produce additional efficiencies of up to 25%.

4. **Omni-channel experience:** Enabling seamless and consistent experience across all interaction channels (Mobile Apps, Email, Phone, Chat, Web etc.) within the supply chain for drivers, carriers and end consumers continues to be at the forefront of service providers’ needs.

5. **Need for instant gratification:** Near real time tracking of shipments by customers (Business to Business & Business to Customer) is no longer a luxury considering that ~50% of global population would shop online by 2021.

**The opportunities for transformation**

Let us examine a typical logistics value chain comprising of order entry, fulfillment, dispatch and customer support Depicted in (Figure 1). Within the value chain mapping, there exists several opportunities for transformation. Shippers/carriers can use various technologies to drive wide range of efficiencies and automation in areas such as route planning, load balancing, track and trace, optimal fleet utilization, designing of right network for delivery etc. This will reduce overall TCO while providing optimal services to end customers.
A 3x3 XY matrix, (Figure 2) demonstrates the mapping of key activities and areas of investments balanced with a time and cost factor over a scale of low, medium and high, so that prioritization and grading of activities, either outsourced or in-house, from a transformation standpoint can be demarcated. Key challenges such as ad-hoc route planning, mapping shipments against fleets and drivers, limited visibility on fleet operations, inability to provide real time assistance to drivers on the go, inability to incorporate pick up requests in existing route schedule, and inability to keep customers informed can be addressed through transformation.

![Figure 2](image-url)
The disruptive approach to transformation

The challenges of transformation can be addressed via a four-pronged holistic approach that aims to standardize and simplify some operational activities, while automating some activities in the process, addressing challenges via analytics and all of this, by enabling higher customer experience. (Figure 3) is an indicative art of possible within the logistics value chain to reduce the TCO by optimizing operations.

The whitespaces in the supply chain that will be addressed through this approach are:

- Simplify and streamline delivery scheduling process via proper planning.
- Simplify process for drivers to deliver/pick up goods “On Time” and “Right location” with zero hassle and guided route support.
- Automated system in place to allocate shipments with available resource pool (Driver/Fleet) to optimize deliveries.
- Real time recommendations via a central control room on movement of fleet catering to end users and enhancing end use satisfaction by taking right business decisions in terms of increase in fleet, incorporation of SKUs (Stock Keeping Units) that constitute the right logistics mix.
- Using AI to guide and enable dynamic route planning and delivery scheduling.
- Intelligent chat bot solution to automate queries/customer requests managed by the team.
- App based services that can be leveraged by drivers and customers for real time updates/guidance on routes.

Figure 3: The 4-pronged approach to transformation

Opportunities for simplifying current areas of delivery operations
- Process Standardization: Ad hoc decision making at each stakeholder level.
- Standardization of inputs for order pickups, cancellations & rescheduling.
- Single SPOC for managing shipment deliveries (Route Planning, Scheduling, Analysis etc.) and customer requests (Pickups, Cancellations, Delays, order damages, shortages etc.)
- Configure various parameters (Price/Order Size/Load capacity etc. to enable smart allocation on a logistics platform for order delivery request and allocation of delivery requests to fleets/trucks against customer orders.
- Integration of existing WMS/TMS systems to fetch necessary data.
- Auto-incorporation of Pickup request for scheduling.
- Route Planning, Driver/Fleet Allocation, Pickup requests, Field force Management, On-time Deliveries and much more.
- Eliminate repetitive, manual tasks and automate of core activities of login with single sign on (SSON).

Opportunities for automation using multiple levers including RPA, AI, OCR, Blockchain etc.
- Environmental 
- Configuration of WMS/TMS systems to fetch necessary data.
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Opportunities to create great experience for business stakeholders and customers
- Enhancing overall experience:
  - Real time alerts and triggers to customers/other key stakeholders in case of any delay expected.
  - Mobile app for customers to track returns real time.
  - Mobile app for drivers to receive complete shipment details, dispatch sequencing and alerts in case of delays.
  - Chat bots that communicate to customers to receive change/pickup requests and integrate with a central system enabled with changes in delivery schedules.
  - Waste management via self serve: Drivers to report waste collection/disposal on real time basis.

Enabling analytics for well defined and on time operations insights
- Centralized control room solution to track assets and recommend next best action.
- Route Analytics: Analyze historical route data and logistics performance
- Capacity utilization analysis: Analysis of Assets (Trucks/Fleets) and Resources (Drivers, Field Support Agents etc.) to optimize allocation.
- Driver analysis: Real time analysis of driver behavior during transit (Over-speeding, Detention, Stoppages, Designed route followed, SLA adhered etc).
- Vehicle performance analysis for delayed/on-time shipments etc. for better route planning.
- Hub Detention: Leverage Visual Location analytics to find best and worst performing warehouses/DCs in terms of on-time shipments.
- Predictive Estimated Time of Arrival (ETA) calculations based on historical deliveries.

Figure 3: The 4-pronged approach to transformation
Creating value through transformation

A holistic approach to transformation across logistics and supply chain value chain is essential to realize the benefits of transformation. The resultant value-add to the business and operations will be:

- 25–40% improvement in delivery times (On time delivery) that affect the customer happiness and satisfaction scores
- 20–25% increase in number of deliveries/day
- 15–20% in overall total cost savings
- Up to 20% improvement in capacity utilization of fleet
- Up to ~25% reduction in the overall turnaround time
- 10–25% reduction in overall number of complaints and
- 30–50% reduction in number of SLA breaches

All of these eventually lead to a happy and satisfied customer that impacts the overall brand and Net promoter score (NPS). Continuous improvement in operations, higher employee morale and greater focus of employees from tactical to strategic tasks are resultant outcomes.

In summary, the success of the logistics & SCM industry depends upon the pace at which they are able to cater to their customers by designing solutions that help transform delivery led last mile logistics operations at an optimal cost. Success, at the same time for the vertical customers (Retail, consumers, manufacturing, medical devices etc.) that either outsource or do it in-house, depends on how they optimally manage cost of logistics and distribution. They will need a priority heat map for transformation depending on some of the whitespaces indicated in the 3*3 matrix defined earlier as a function of time and cost to deploy. The core and allied industries would need to continue to have their heart in the right place to ensure growth in/post COVID-19 era to help themselves and their customers flourish.

References

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