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## From The Editor

During this COVID pandemic, the healthcare and supply chain professionals played a phenomenal role in all the economies across the globe. The former was helping the mankind to survive, and the latter was providing the supply. Without these COVID warriors' untiring efforts, the world would have been an even worser place far beyond our imagination.

After 10 long gloomy months of past year, December 2020 and January 2021 were very positive months that demonstrated the human ingenuity and will power to rise against any adversaries. Across the globe, different vaccines were rolled out and on January 16, 2021, Hon'ble Prime Minister of India, Shri. Narendra Modi launched the COVID-19 Vaccination drive in India.

Never ever in human history a vaccine was developed this fast and at this volume. Thanks to the scientific community around the world in making this moment a

## reality.

Until the beginning of 2020, the term supply chain was used only by the supply chain professionals. We supply chain professionals were silently serving the consumers without much fanfare. But today, this term is very familiar with common citizens and national leaders are talking about the importance of supply chains. Supply chain people - working in the warehouses and distribution centers, operating the transportation vehicles, and delivering the essential commodities right at our doorsteps - took enormous risk and supported their customers.

I salute these warriors, who made our life safe and comfortable during these testing times. What keeps them going? It is not just the duty they perform, but it is their earnestness to serve their customers. We have just witnessed humanity in supply chain at work.

> Venkadesh Narayanan Editor-in-Chief

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## **REVERSE LOGISTICS** -**PATH TO CIRCULAR ECONOMY**

*By* Sonal Nayak Faculty, Manipal Academy of Higher Education

How often do we get excited to see this message on our phones "your order will be delivered today"? As soon as the parcel arrives in our hands we jump right in, to tear off the sticky tape, rip open the plastic wrapping, and cherish the product inside. Then we proceed to dispose the outer cover in the bin. Who bothers about the waste packaging material? After all it can be thrown out along with the garbage. Well, we should care before the situation gets out of hand.

Over the past few years there has been a considerable shift from brick and mortar stores to e-commerce. In 2020 during the pandemic, lock-downs lead to an increase in online shopping. While shops have banned the use of plastic and charge customers for bags at the checkout, why can't we extend this to the virtual platform as well? Of course packaging plays an important role in safeguarding of products while in transit during the supply chain journey. In that case, we can have a system in which the packaging is being taken back by the online retailer? Why can't reverse logistics be instrumental in taking back the packaging,



whether paper, cardboard or plastic packaging, to recycle?

In European nations like Germany and Sweden, there are vending machines installed in supermarkets to collect used bottles. Depending on the size and material, cash is provided for each bottle. This has helped divert bottles from going into landfill, as well as provided an incentive to consumers to save bottles after their use and visit the supermarket to be able to recycle in the vending machine. In the Indian context, one of the challenges to this model is that consumers predominantly shop at smaller "kirana" stores in their locality. The model may work in the cities with shopping malls and larger supermarkets,

but in other parts of India, where markets are largely informal and unorganized, the challenge is where to install such a machine. It could be placed in a centralized location where consumers may visit on a regular basis. Still, we would be depending on the consumers' time and convenience to be able to drop it off. Why not instead utilize the service of an already existing channel – the reverse logistics channel?

Under this proposed idea, each time a delivery is made to a consumer, the consumer can either opt to remove the packaging then and there and return it to the last mile deliver provider. Alternatively, in case it is a gift, or the customer



wishes to retain the packaging, the customer can return the packaging on a later date.

It need not just be packaging. A number of cosmetic brands have begun collecting empty used bottles, tubes, tubs, and other containers of creams, lotions, make-up etc. They usually ask for the bottles to be posted back. Again, when we have an available last mile service partner who visits the customer's doorstep, or why should the customer once again visit the post office and send it in an envelope?

Likewise, a few fashion labels have started taking back their old dresses. Though in most cases the garments must be dropped off at their outlet or couriered back.

However, if we make use of the reverse logistics channel, we could apply it to just about any industry. It would be particularly useful if organizations in the FMCG industry could have something similar onboard to take back empty jam, sauce, shampoo, and many other everyday used bottles, tubs, tubes, containers, and other forms of packing and packaging material.

This would help the environment in multiple ways. First of all landfill would be reduced. In towns and village where there is not proper waste segregation, the local authorities state they do not have adequate resources to be able to provide it. If a proper mechanism can be provided by businesses it could help pave the way to or at least create awareness and push consumers to segregate their waste. Secondly, it could reduce carbon footprint as the return trip by the last mile service provider would not be an empty one, but rather one with "empties".

The other benefits are to the economy and society. Consumers can earn cashback for their efforts or be able to redeem discount coupons. Because of the organized and formal operation process, it could lead to a more methodical work environment for those working in waste management. Their task would be eased as waste segregation at source would have already been done. The orderly manner of carrying out work would lead to greater efficiencies. In turn it could create the opportunity for more jobs in waste management and handling of transportation.

With a collaborated effort through business, consumers, and the government, this model could reap multiple benefits, for the environment, the economy, and society for a sustainable future. It would be a wonderful stepping stone for the decade especially on the efforts to reach the United Nations (UN) Sustainable Development Goals (SDG) by 2030. Setting the right example in sustainability for a cleaner, greener future starts today.



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## SUPPLY CHAIN TRANSFORMATION -DIGITIZATION TO DIGITALISATION

In transforming traditional supply chain to a Digital Supply Chain-DSC, First and foremost is to understand customer at all levels and the end consumer by utilizing data analytics and advanced technologies. Data analytics and advanced technologies enable companies to have greater visibility into supply chain risks and prevent / mitigate negative impacts in an improved fashion. Digital Supply Chain transformation need to ensure it works across all

elements of the demand stack including demand simulation, demand management, demand sensing, and demand matching. This requires an increase in internal collaboration and with key supply chain partners – suppliers and customers.

Today each supply chain capability is digitized however the data is not digitalized/ connected end to end to get one view to all stake holders. Today the challenge is the lack of real time supply chain data availability to make timely decisions. Capturing near real

*By* Pushpaveni Puttaswamy IT Architect, Dell Technologies

time and analyzing data to drive better decisions is the key to transformation. Technology implementation plans should be linked to digital transformation strategy. It is becoming more central to corporate technology strategy and have started to implement digital transformation with focus on increased data automation. Digital technology helps to improve supply chain performance, with a focus on demand stimulation and risk management, leading to revenue growth. Technology is enabling businesses to share data with internal and external departments, suppliers and customers to stimulate better and match demand.



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We are integrating real-time data from a wide range of sources to help demand simulation and forecasting. Supply chain team proactively collaborates with marketing/ sales and product development, as well as with suppliers and customers.

There is a need to continually evaluate the application of new technologies and data sources and integrate as appropriate. Utilization of data and analytics is important to effectively understand past performance and predict future demand and risks. The review and utilization of relevant advanced digital technologies is part of a continual improvement process. Transforming traditional supply chain to a Digital Supply Chain means adding new metrics to determine the success of digitalization efforts to drive change.

Technology spending will go up because of the increasing amount of big data where adapting new methods of Collecting data from factories, delivery systems, sales/bookings, manufacturing, production, IoT, sensors, etc is critical. Measuring and managing this vast data set is very important. Speed of Data is critical for any business to take action on that data hence it is necessary that data is as close to real time as possible to focus people on speed of execution. Identify supply chain data sources and reduce the time span between when the data first originated and when it is integrated into data lake. DSC approach is to incorporate existing and new sources of data and enable prescriptive analytics on both unstructured and structured data.

Supply chain associates are data oriented in their decision making hence the quality and degree of latency in the data availability impacts demand decisions.

Technology advancement is critical to supply chain transformation. In any strategy Business Benefits, Time to Market and ROI of transformation is mapped to the technology investments as part of digital transformation and degree of supply chain utilizing emerging relevant technologies. Supply chain's transformation is in its data cultivation and use of data to support its digital transformation. Digital Supply Chain technology investments should be aligned to strategy, supported by high-quality, lowlatency data, and measured based on their performance

impact.

One of the challenges is to use the data we already have effectively. There is a need to collate all programs underway to integrate data sources, turn unstructured data into structured data and improve data utilization. Need to establish programs that evaluate the use of our existing data to improve business performance directly and are continuously seeking to find and integrate new data sources.

Data Providers Data is persisted in one place – Data Lake which has different types of data like structured, unstructured, pictures etc. A data lake is a storage repository that holds a vast amount of raw data in its native format until it is needed for processing and standardization. It would have historic data sets based on legal data needs. Data lake is often regarded as a massive, easily accessible, flexible & scalable data repository usually built on commodity hardware.

Data in data lake can be transformed during consumption unlike data warehouse where data is often stored in transformed manner.

All sort of information exists

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within the organization can be ingested into data lake. An application or system containing the organizational information can act as a data lake source irrespective of the type of data it contains and the frequency with which data need to be ingested.

Data Integration layer acts as a gateway to data lake to and fro and help manage the inflow/ outflow of data from multiple sources. Following types of ingestion methods are common.

- Managed file transfers
- Direct database connectivity/replication
- Extract & Load
- Message queues

A very minimal data consolidation/validation takes place to ensure that data is correctly formatted and semantically validated.

#### Data Standardization & Information Governance

Data lake has various providers and consumers throughout organization and data confidentiality and security need to be maintained throughout. Set of processes and policies ensures that data is secure. Meta data can be defined & managed with set of tools and processes across data lake. Meta data also need to be maintained for operational processes in order to capture the lineage of information.

Business glossary and catalogue information can be defined and managed as a single source of truth for whole organization. This information can be defined, reviewed and published via workflow.

#### **Data Repositories**

Data lake consumes AS-IS data

from source systems. Once this data (Structured, Semi Structured, Unstructured) lands in data lake, it is immediately available for consumption. The raw data can be transformed for specific purpose and moved to processed data repositories within the data lake to cater specific reporting requirements, in addition this data can be transformed, modeled and moved to a data warehouse/ data mart for BI reporting or other analytical or visualization needs.

Data Scientists extracts sample datasets from raw data for analysis & decision making or use this data to carry out statistical modeling, data discovery and machine learning to synthesize raw data into actionable information.

Data lake also provides real time query capability. Master Data stored in data lake can be referenced throughout all sort of validation and operation within data lake.

## Reporting Layer Interaction with Data Lake

BI/Reporting and all other analytical application/systems will be connected with data lake to get the feed. A data lake can serve data to another data lake as well.

Data stewards, Data quality leads, Data & information Architects, Data scientists usually accesses the data lake's data on day to day basis. This access can be direct or via an application/tool. Data lake Tools will allow the search within data lake is accessible to everyone in organization (access permitted).



Pushpaveni is a business outcome focused IT Architecture / Technology oriented leader with 23+ years of progressive experience in Architecting (Enterprise / Solution / Integration Architecture) Supply Chain (APICS), insurance, Financial Services domain with **TOGAF 9 and Technology** Architect Certification. Strong architecture, technical leadership, and analysis and design skills with a background that includes complex **Application / Systems** / Data integration with bespoke / Custom software development in Cloud / **On-Premises.** 

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## CURATED ARTICLES ON SCM & PROCUREMENT

## *By* Bharath TR Supply Chain Consultant, Fhyzics

## CURATED ARTICLES

### 3 M's to cut Supply Chain Costs

Because of the changing customer expectations, companies don't have time to pause and think how to reduce the costs associated with the processes. Here's a tip to learn and adapt time-tested saving methodologies in your fast-growing supply chain.

https://www.inboundlogistics.com/cms/ article/3-m-s-to-cut-supply-chain-costs

### How to make supply chain "Antifragile"?

Do you think lean and JIT are the only philosophies to achieve greater efficiency? More methods are there to achieve excellence in SCM particularly after this COVID-19 pandemic.

https://www.inboundlogistics.com/cms/ article/How-to-Make-Supply-Chains-Antifragile

#### **Global supply chain in Post-Pandemic world**

We all know, how world is getting better after this pandemic, but let's take a moment and think how the supply chain will be looking like. What's your idea on this? <u>https://hbr.org/2020/09/global-supplychains-in-a-post-pandemic-world</u>

## How COVID-19 is changing packaging?

Guess, all our buying habits would have changed in this past 11 months pandemic. We've been experiencing contact-less delivery, sanitization of parcels received and much more. Have you ever thought, how companies look at this issue? <u>h t t p s : / / w w w.</u> <u>supplychaindive.</u> <u>c o m / n e w s /</u> <u>coronavirus-covid-</u> <u>pandemic-packaging-</u> <u>supply-chain-sealed-</u> <u>air/592759</u>



## Spare parts Supply Chain

Take a deep breathe...

Look at the products around you. Is there any product which you've decided to buy after looking at their service networks? Surely this'll be the question everyone would have asked to our sales representatives. How does this parts supply network behave? <u>https://www.managementstudyguide.com/</u> <u>spare-parts-supply-chain.htm</u>

Delivering the vaccine – Procurement Challenges

Before writing this paragraph, I came across some news stating that the facility for storing and transporting the vaccines for COVID – 19 is a huge concern. Do you think so? Then check this article.

https://scm.ncsu.edu/scm-articles/article/ delivering-the-vaccine-procurementschallenge

## How to spot supplier risk in communication?

Have you ever faced any problem with your supplier? If no, Congrats! You've done a great job. If yes, equip yourself to figure out the potential factors for the problems faced with your suppliers.

# SCM CROSSWORD #102

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#### Across

1. Increases throughput in a warehouse (2w).

2. Acronym of an unique number assigned to the finished goods.

- 3. Cylindrical container to store liquids.
- 4. Typically warehouse offices are on this floor.
- 5. Collective name for raw material, WIP and finished goods.
- 6. A facility for prolonged storage.

7. Elapsed time between the placement of an order and receipt of items (2w).

8. A reusable storage box for liquids.

9. Term refers to the movement of stock in a warehouse.

- 10. Process of grouping the related small components.
- 11. A process or equipment slows down the activities.

#### Down

- 12. Large and bulky items are stored here.
- 13. A facility for components in a factory.

14. Vehicles are loaded and unloaded here at warehouse.

- 15. The part of supply chain that deals with repairs.
- 16. Division of area in a warehouse.
- 17. Space between racks.
- 18. Activity on receipt of an order.
- 19. Works together with the forklifts.
- 20. Defective stocks are segregated in this area.

#### Legend:

2w - indicates 2 words separated by a space or a hyphen.

## https://supplychainminded.com/spotsupplier-risk-communication

## 10 Commandments of Inventory Management

When I gone through this article, I remember a person from whom I heard that "Inventory is heart of Supply Chain" and I felt that it is very true.

https://www.allthingssupplychain.com/10commandments-of-inventory-management

## Cardboard prices stayed flat as demand surged, but that might not last

Due to the recent increased online purchases, cardboard demands are getting inflated drastically. Wait! So, the prices would have increased, right?

No. Read the article below to know why? https://www.supplychaindive.com/news/ cardboard-corrugated-box-packagingecommerce-price-westrock-internationalpaper/592781

## Unique Challenges of Small Parcel in the 2020 Holiday Season

This is not limited to 2020. But, one of the major problems with the future eCommerce industry. Guess, you'd have found what we're going to discuss. Check out the article below https://www.allthingssupplychain.com/unique-challenges-of-small-parcel-in-the-2020-holiday-season

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