

# **Smart Retailing**

## The Power of Digital Supply Chain Strategies





## Introduction

***"Everybody has a plan until they get punched in the mouth."***

***- Mike Tyson***

While the technological landscape of retailers is evolving rapidly, driven by advancements in Artificial Intelligence (AI), Machine Learning (ML), Internet of Things (IoT) and Automation, the digital transformation of their supply chains is a strategic imperative for them to remain competitive. This evolution is shaping rapidly as retailers are increasingly leveraging AI and ML to enhance customer experiences through personalized recommendations, predictive analytics, and efficient inventory management. The integration of augmented reality (AR) and virtual reality (VR) is transforming how customers interact with products, offering immersive shopping experiences. Towards this, retailers must adapt to the demands identified by increased consumer expectations, technology adoptions, and macro disruptions facilitating an overhaul of supply chain processes, to achieve operational efficiency and enhance customer experiences.

In this direction, digital supply chain strategies enable smart retailing by creating a holistic view of a retailer's end-to-end supply chain with real-time exchange of data. Towards this, smart retailing refers to the application of advanced technologies and data-driven strategies into retail industry functions and processes to personalize shopping experiences, streamline operations, and improve decision-making. Essentially, it aims to create a more efficient, responsive, and customer-centric retail environment. Moreover, leveraging a unified platform of advanced digital tools gives retailers much more control over their supply chains, allowing for adjustments that enhance agility and responsiveness. After all, ***"the real competition is between supply chains, not companies,"*** as emphasized by Martin Christopher, Emeritus Professor at Cranfield School of Management, UK.



# The Impact of a Digital Supply Chain

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A digital supply chain is an interconnected ecosystem that leverages technologies such as IoT, Advanced Analytics, AI, ML, Cloud Computing, and Blockchain. These technologies enable real-time tracking, predictive analytics, and seamless communication across the supply chain, facilitating retailers to meet customer demands promptly and accurately. They help retailers in gaining real-time visibility into health and responsiveness of supply chain processes. Market leaders like Walmart have successfully implemented digital supply chain strategies, employing IoT sensors, RFID tags, centralized data platforms, AI/ML, and advanced analytics, resulting in optimized inventory levels, reduced stockouts, lower fulfilment costs, improved delivery speeds, and higher on-shelf availability of products. As Dave Waters, a supply chain researcher and consultant says, ***“Don’t let the digital supply chain scare you. Big Data, IoT, Cloud, AI, Drones and Deep Learning are just ways to improve the supply chain.”***

One of the greatest features of a digital supply chain is harnessing data across the supply chain process and hosting it in a central location, providing retailers the ability to be more proactive in their decision-making by applying advanced analytics at various points in the process. It also involves incorporating various retail technologies into every aspect of the supply chain, wherein digital tools and automation capabilities enable retailers to eliminate manual interventions and move towards smart retailing. Digital transformation is usually driven by organizational needs such as greater agility, cost optimization, increased revenues, customer-centricity etc. For instance, McKinsey's research shows digital supply chains can cut costs by up to 30% and increase revenue by 10%. In fact, Amazon has revolutionized its retail landscape by implementing advanced digital supply chain solutions to achieve some of its key goals, like enabling real-time inventory tracking, efficient demand planning, and smarter logistics planning etc. This has resulted in faster and more accurate order fulfilment.



## Supply Chain Challenges of Retailers

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Retailers face unique challenges due to geopolitical unrest, trade disputes, extreme weather events, and the pressure on sustainability, causing disruptions in the supply chain. In addition, rising inflation, increasing energy prices, and labor shortages contribute to higher supply chain costs. The rapid changes in processes, compliance laws, and trade policies are impacting retailers' ability to secure cash flows. Moreover, retailers often face a slower response to market changes due to the unavailability of real-time data resulting in limited visibility across the supply chain. They also struggle to gain visibility into distribution, fulfilment and delivery, making it difficult to track goods and identify potential issues, which usually results in limited or no transparency. All these resonate with Elon Musk's statement, *"The supply chain stuff is really tricky."*

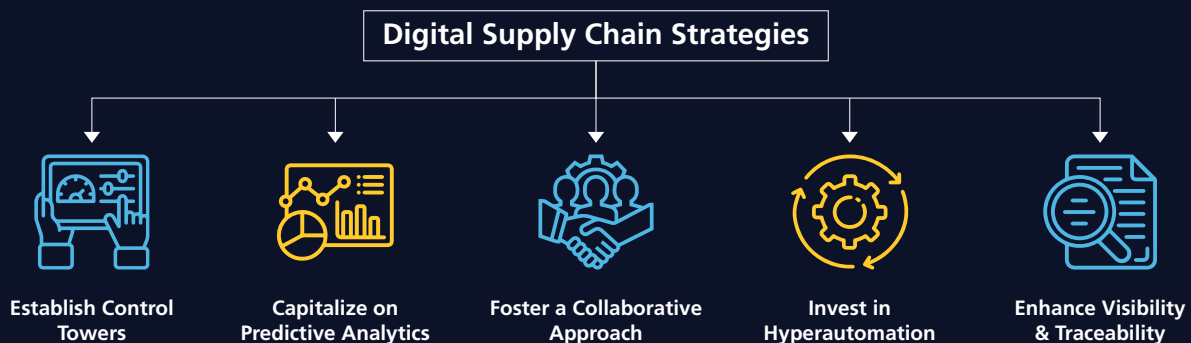
On the other hand, sudden surges in demand during holiday seasons and sales events are straining retail supply chains. Retailers face challenges in scaling their operations quickly to meet these demands to ensure they meet customer expectations and address potential scarcity. Maintaining clear lines of communication with both external partners and internal systems can help alert retailers of potential shortages in advance, allowing them to address issues and ensure a steady supply. However, with many retailers using multiple systems for different parts of their processes, they constantly encounter inefficiencies and communication issues within the supply chain.

With the rising demand for faster deliveries, increased transparency, accurate order fulfilment and improved stock availability, retailers are compelled to redefine their supply chain processes from a digital perspective. Additionally, the increasing expectation for a seamless shopping experience across multiple channels is pushing them to build an integrated supply chain solution. However, inaccurate and the lack of timely data across the supply chain results in failure to identify bottlenecks, potential risks and integration opportunities.

Thus, digitizing the supply chain facilitates retailers to quickly react to market dynamics and consumer demands. In fact, leading retailers are investing in retail technologies to mitigate the bulk of these challenges and reimagine their supply chain strategies by adopting a holistic approach to capitalize on new opportunities. Moreover, digitizing the supply chain is essentially a cultural shift for a retailer, necessitating effective change management strategy for its successful digital transformation.

# Digital Supply Chain Strategies

To navigate through these challenges, retailers should develop digital supply chain strategies for smart retailing. Towards this, the below framework with five key pillars emphasizes the importance of digital transformation through automation, predictive insights and improved data accuracy to foresee market changes, allowing retailers to quickly recalibrate their operations and processes.



## Establish Control Towers

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## Capitalize on Predictive Analytics

Advanced technologies such as Big Data and AI/ML can accelerate the decision-making process by improving supply chain efficiency through predictive analytics. Additionally, supply chain data can be analyzed to identify trends, patterns, and anomalies. AI/ML can be leveraged to predict future supply chain events, such as demand fluctuations, potential disruptions, and optimal reorder points. Retailers can utilize AI-powered demand forecasting to align with market changes and optimize inventory levels, reducing the risk of stockouts or overstocking and optimizing storage costs.





### **Foster a Collaborative Approach**

Collaboration remains the cornerstone of growth for retailers. It is imperative to improve collaboration between various stakeholders by digitizing the communication through Electronic Data Interchange (EDI), portals, messaging etc. Collaborative demand planning and forecasting by providing shared access to plans, schedules, and projections, allows stakeholders across different locations to communicate effectively. Similarly, collaboration with suppliers helps in building strong relationships through digital platforms that facilitate seamless communication. Digital tools with access to real-time data that facilitates seamless communication with all stakeholders will be valuable in building stronger relationships apart from ensuring better decision-making.

### **Invest in Hyperautomation**

Processes with repetitive tasks such as order processing, inventory management, warehouse tasks (picking, packing, sorting), fulfilment operations etc., must be hyper-automated using smart technologies and tools like robotic process automation, low-code/no-code platforms, AI/ML, business process management, and intelligent document processing. Hyperautomation enables retailers to reduce manual errors and labor costs, ensure faster order fulfilment, and save processing times, which can be dedicated to more important administrative tasks. Retailers can design an effective workflow that enhances the supply chain efficiency – such as an automated replenishment system that initiates orders when inventory levels fall below a defined threshold. Similarly, retailers can automate warehouse and logistics processes to improve operational efficiency and reduce labor costs.



### **Enhance Visibility & Traceability**

Adopting blockchain technology helps build transparency, tracking and traceability across the supply chain, enhancing trust among all the stakeholders. Retailers can ensure product authenticity and compliance with regulations, which records transactions and tracks materials more securely across the supply chain. Real-time visibility into inventory, shipments, and assets across processes can drive the overall supply chain

effectiveness for retailers. IoT sensors can then enable retailers to acquire real-time data at various points in the process, providing visibility into stock levels and movements and valuable information on potential delays, apart from ensuring optimized delivery routes.

Furthermore, supply chain strategies must be aligned with the overall business goals, both current and futuristic, like increased sales, better supply chain speed, decreased operational issues etc. This truly resonates with Jonathan Byrnes, an MIT Professor who once said, "[Many supply chains are perfectly suited to the needs that the business had 20 years ago.](#)"

## Conclusion

Adopting digital supply chain strategies is crucial for retailers to remain competitive and meet the evolving demands of consumers. It underscores the importance of a proactive and integrated approach to supply chain management and goes a long way in providing a better service to customers through greater visibility across processes and avoiding stockouts and other inconveniences. These strategies allow retailers to prepare for any eventuality and address challenges before they become major issues. They have also opened new possibilities for retailers to enhance their supply chain efficiency towards smart retailing.

Succinctly put, investing in digital supply chain strategies builds the required agility to adapt to market fluctuations, and ensure resilience and cost savings, as retailers invest in advanced technologies and upskill their associates.



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## Author Profile



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Dr. Girish Kumar serves as a Senior Advisory Consultant within the Industry and Domain Consulting Group for the Retail and Consumer Goods vertical at LTIMindtree. With over 26 years of experience, he has spearheaded transformative solutions for leading retailers and brands across global markets. Holding a Ph.D. in Strategic Retailing, Dr. Kumar specializes in aligning business and technology strategies to drive impactful outcomes.

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