



5 Intelligent Supply Chain Management Opportunities Leaders Need to Act on

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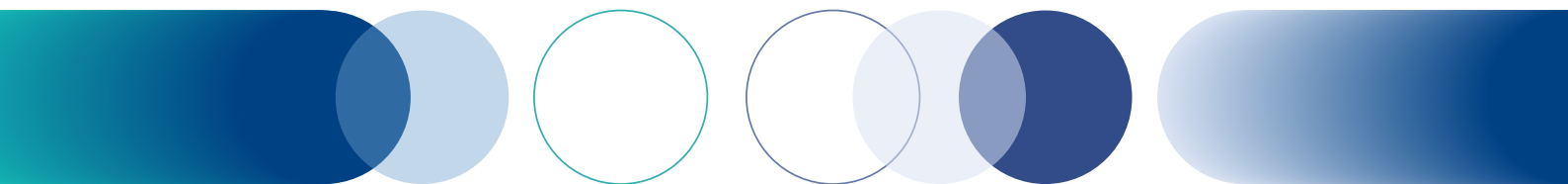
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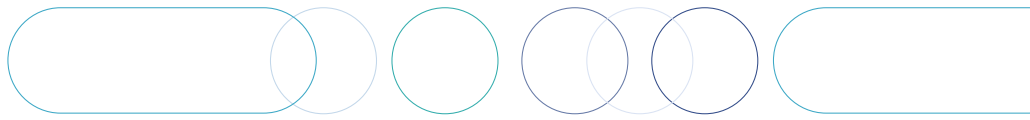
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Intelligence in Healthcare Supply Chain: Meeting healthcare necessities

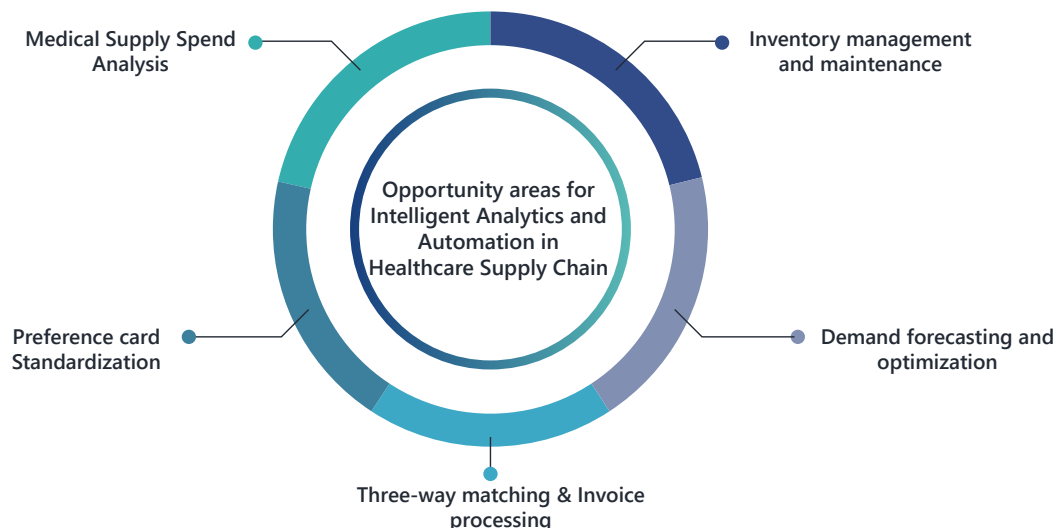
The pandemic posed significant supply chain challenges, halting assembly lines and factories around the world due to restrictions from lockdowns and travel bans. Businesses soon realized the impact and criticality of their supply chain. The pandemic's impact on the supply chain could be seen through rising costs, delivery delays, inventory shortages, and dramatic shifts in consumer behavior. Further, the healthcare industry was thrown off balance making it tough for the organizations to meet the health necessities.

Many businesses have realized the importance of automation technologies for efficient healthcare supply chain operations. Healthcare supply chains are critical for delivering high-quality, cost-effective products and services to patients as quickly as possible. Several advanced automation and analytics tools like Robotic Process Automation (RPA), Business Process Management (BPM), Artificial Intelligence (AI), and Machine Learning (ML) combined are facilitating organizations to automate workflows and healthcare supply chain processes resulting in improved decision making. With so many products, invoices, contracts, and physician preference

cards to sort through, is not surprising that organizations now face a challenge in extracting meaningful information. By taking advantage of the huge amount of data in the healthcare supply chain, intelligent analytics and automation can help cut costs, increase standardization, optimize processing time, operational costs, improve management of supplies, respond more quickly to unforeseen events, make more informed supply chain decisions, and deliver better patient care.

Opportunity: Transforming the supply chain through intelligent analytics and automation

Healthcare supply chains should promptly and efficiently provide quality products and effective services to organizations and patients. With recent disruptions throughout the world, there is a need to develop resiliency within healthcare supply chains. Managing the processes and operations of large and fast-paced healthcare organizations requires a smart, automated approach to ensure their success. Here are a few areas where transformation is crucial:





○ **Inventory Management and Maintenance**

It is becoming increasingly difficult and time-consuming to manage healthcare inventories manually. This is mainly due to the increase in patient volumes, variety of items needed, merged systems with varying processes, and the supply issues causing seemingly unpredictable stockouts. The best solution to this is the creation of a reliable system by healthcare providers, utilizing technologies to:

- **Enhance supply chain visibility**
- **Evaluate inventories in real-time**
- **Place orders automatically**
- **Analyze purchase/usage trends**

Furthermore, automation can be used to capture and update serial numbers, device categorization, contracts, and vendor catalogs, reducing the dependency on manual intervention. Not just this, hospitals will benefit by tracking orders against agreed-upon delivery dates, logging deliveries, informing departments when stock has arrived, keeping a live inventory of what is on hand, and reordering products before they run out. Additionally, AI-based automated solutions can extract and update drug details and expiry dates in Pharmacy Management Systems. Organizations can utilize bots to schedule and execute automated stock checks based on expiry dates to avoid the usage of expired drugs. Inventory databases can be tracked through automation for maintenance requirements, communication with vendors, and scheduling services accordingly. Routine monitoring activities can be scheduled periodically to ensure accurate

predictions regarding the arrival of packages and monitoring of the storage conditions of products and raw materials.

○ **Supply chain spend visibility**

In a healthcare organization, medical, surgical, and drug spending accounts for nearly 15% of operating expenses. Currently, healthcare organizations depend on manpower to sort through vendor matrices, tier-based pricing, rebates, etc. Moreover, pricing by vendors is often intentionally vague, making spend visibility nearly impossible for humans. Hence, streamlining procurement practices can result in a 17% reduction in spending, which can be achieved most efficiently with artificial intelligence. With purchase order history, AI solutions can compare the cost and clinical outcomes of products, and recommend optimal products based on these factors. Apart from reviewing vendor contracts, AI can also update ERPs and punchout catalogs once product changes are approved, helping organizations with contract reviews and updates.

○ **Prioritization of preference cards**

A number of health systems have physician preference cards outlining supply expectations for specific physicians and procedures. These preference cards are rarely evaluated and require substantial manual effort. With AI, organizations can prioritize preference cards that need to be reviewed based on volume and out-of-date records. This would allow the organizations to prioritize the preference cards based on usage and requirement. This saves costs and aligns clinical, finance, and supply

chain teams. Also, the utilization of predictive analytics can also help teams gain real-time visibility into supply usage, availability, pricing, returns, waste, and substitutions. This enables more spending toward strategic vendor partners and reduces supply variation.

○ **Three-way matching**

In simple terms, a three-way matching is the process of matching purchase orders (PO), goods receipts, and the suppliers' invoices to eliminate fraud, save money, and maintain adequate records for the audit trail. Currently, three-way matching is done manually from delivery to payment, making it time consuming and error-prone. Artificial intelligence can automate the entire process by working with optical character recognition, reconciling invoices/purchase orders, and receiving reports; to ensure that payments are accurate. AI automatically matches the invoices against each purchase order and Goods Received Notices (GRNs). This data can be processed according to a customized workflow and each transaction can be directed to the right person for approval. The status of all the processed purchase orders, invoices, and payments can be accessed on a single dashboard. This helps organizations optimize their cash management, reduce supply payment errors, and save valuable employee time.

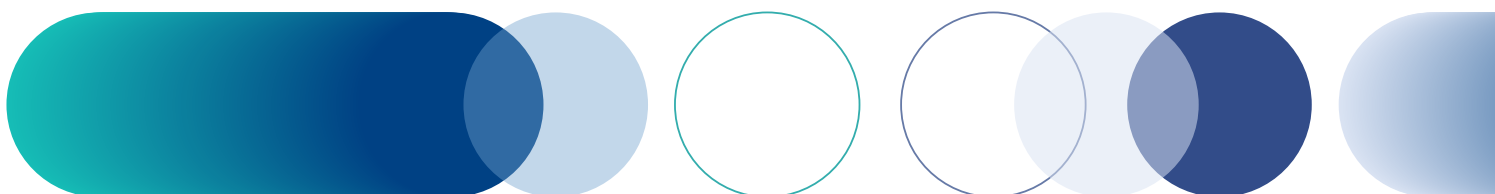
○ **Demand forecasting and Optimization**

Keeping a balance between supply and demand has been the primary focus of all the organizations. This requires a reliable

and enhanced forecast. With AI, data can be processed and analyzed to gain accurate and reliable predictions. This helps manage transportation, warehouse, and supply chain administration efficiently, saving costs. As a result, businesses can optimize their sourcing in terms of purchases and order processing. In addition, it can help to correct stocking levels within all types of inventory levels, minimizing waste.

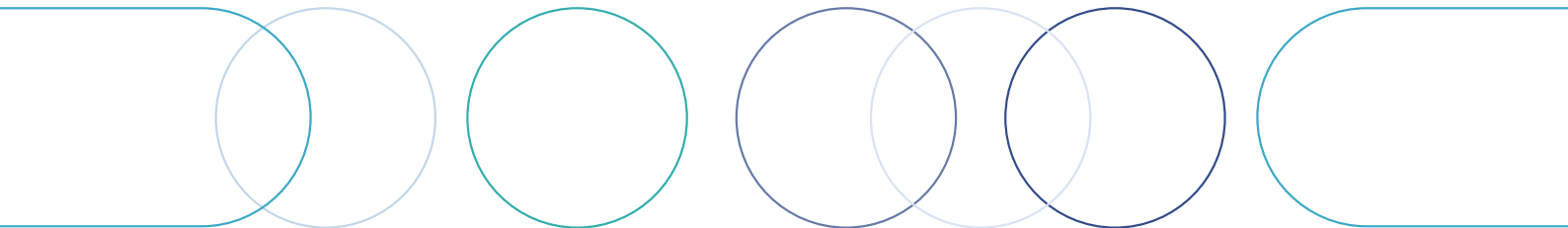
Would early adoption of intelligent supply chains be beneficial?

The adoption of intelligent analytics and automation in healthcare supply chain is a way to rethink how organizations can thrive in such a rapidly changing environment, build resilience, and capitalize on market opportunities as the global economy recovers from pandemic. AI provides a significant opportunity for improving the productivity and efficiency of human workers while lowering employee burnout. Increasingly, care pathways are re-designed regularly based on the needs of specific patient populations, and automation approach can be used to identify the right products at the right time. As more data becomes available on how products perform in healthcare practice, it becomes important to match products to clinicians' preferred preferences. Over time, this will increase the responsiveness of the healthcare system and improve consumer engagement. With supply chain having the second highest expenditures after labor in healthcare, overall operating costs would ultimately be reduced saving huge chunk of cash flow.



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