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A STUDY ON OPTIMIZING INVENTORY MANAGEMENT AND EFFICIENT DISPATCHING

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ABSTRACT

This paper addresses the crucial relationship that exists between inventory optimization and dispatching processes in relation to an organization's needed improvement in operational efficiency and customer satisfaction. Strategic management that highlights a perfect balance between supply and demand reduction of holding costs, and improvement in service levels through better control is one major consideration. The paper describes the comprehensive practice of order management for daily sales orders and inventory. It discusses very important activities in the process, such as inputting of sales orders, dispatch analysis of orders, updation of Uniware inventory, and BOM updation. It finds recurring problems associated with it, which include entering wrong data, delay in communication, and excessive volumes of orders. The organization will avoid this using efficient practices supported by advanced technology for timely delivery of quality products. Results indicate the strategic role of effective inventory and dispatching in assistance to organizational sustainability goals and market competitiveness.

Keywords: inventory optimisation, dispatching procedures, supply chain management.

I) INTODUCTION

It is in the present business context that competition can be accorded a competitive advantage and that customers' satisfaction levels can be met through effective inventory management and dispatching management. Inventory Optimization IO Strategic management of inventory levels where alignment between supply and demand is achieved, holding costs are minimized, and service levels are maximized. It is particularly meaningful for businesses operating in industries where their products must be fresh and on hand, like the natural and organic skin and hair care business. If companies manage to optimize their inventory efficiently, this will ensure less waste, maximum productivity, and, subsequently, a stronger bottom line.

Inventory optimization primarily targets appropriate stock balance in order to ensure delivery when needed but in an efficient manner, with no holding cost and at the right time before products go bad. It needs full knowledge about demand patterns, lead times, and the inventory turnover rate to be optimized. The business organizations respond in time to changes in the market and their customers through adequate inventory control practices without placing their stocks at risk of massive stockouts or overstocking. The disaster effects of poor inventory control include the one where the sales are missed, increased carrying costs, and the loss in customer trust.

Dispatching is the most important process that involves the organizing of goods to be delivered out from the warehouses to customers or retailers. This function will ensure that goods are shipped to customers in the right quantity and on time. Time is a critical component in meeting customer expectations. Efficient dispatching will not only lead to a satisfied customer but also contribute towards the effective supply chain at large. All this and much more with e-commerce and fast delivery expectations require increasingly accurate and timely dispatch.

Efficiency of Inventory management and dispatching: Improved efficiency of the organization would optimize the operational aspects and help customer satisfaction increase. Organization is dealing with environment-friendly products relating to skin and hair care. Demand for such environment-friendly products has grown rapidly, and such organizations have to fulfill this ever-growing demand through efficient inventory management and enhancing the level of dispatching.

Inventory optimization at an organization cannot be overemphasized. With such a voluminous line of products that includes essential oils, shampoos, and skincare products, at all points of time, the organization should ensure optimal stock levels. An optimized inventory system would help an organization a lot in ensuring availability of products and minimizing excess inventory that might otherwise lock in capital and result in potential waste, especially for perishable products. An approach of ABC analysis will tend the organization to managing only the most critical stock items on which it will be able to use its resources appropriately.

Besides inventory optimization, good dispatching processes are central in delivering good customer service. It will help build a loyal and trusting customer base due to prompt and accurate delivery of their products. In an efficient dispatching, the movement of goods involves not only their physical but coordination of other logistical elements including routing, scheduling, and inventory, among others. All these processes call for optimization of organization so that fresh, quality products timely reach the customers, and cost reduction operations with a higher consumers' satisfaction rate.

It also gives organizations ways through which they can enhance their operational efficiencies in management and dispatching of the inventory. Complicated solutions like erp systems, or enterprise resource planning, and WMS, or warehouse management systems, help the organization to automate its tracking of the inventory, demand forecasting, and scheduling of its dispatch. Proper use of such tools helps the organization to gain real-time visibility into its levels of inventory, streamline the process of order fulfillment, and prevent errors in the process of dispatching.

In fact, optimizing inventory management and dispatching at an organization would actually simplify the issue in such a way that the whole essence of the same would be making a seamless supply chain so it would resonate well with the values of an organization which may be both sustainability and customer-centric. The right thing at the right place at the right time and dispatched to customers is exactly the most efficient and most effective way of responding to consumer demand but building a good reputation as a provider of natural and sustainable products.

So, efficient dispatching has become an important requirement for better operational efficiency and also for increasing the level of customer satisfaction within an organization. Controlling the inventories in a strategic manner and optimizing the process of dispatching will permit the organization to save its costs and improve service levels by holding its ground in this really dynamic market of natural and sustainable skin and hair care products. Since consumer expectations change, keeping organisation commitment to processes, in the process of optimization, will increasingly play a role in sustaining ongoing success and growth.

II) LITERATURE REVIEW

One of the most indispensable factors that ensure operational efficiency for many kinds of industries, most emphatically, manufacturing and retail sectors, is inventory management. According to many, definition of inventory is the goods and materials held by a business to be resold or used in production **(Chopra & Meindl, 2016)**. Supply and demand balance with the right cost control measure and smooth running of cycles in production and sales are absolutely reliant on an accurate inventory management system **(Slack et al., 2020)**.

There are several categories of inventories: raw material, WIP, and finished goods. Each one makes a specific contribution to the production and distribution process. Raw materials are inputs into manufacturing; WIP represents semi-processed products, and the finished goods are those that are ready to be sold or dispatched.

Inventory Management Techniques There are a number of inventory management techniques that have been developed to enhance the level of inventory and the cost associated with the inventory. Economic Order Quantity (EOQ) is another model widely used. EOQ is a formula used to compute the most likely order quantity that reduces both holding and ordering costs as revealed by (**Krajewski et al., 2019**). Just-In-Time is another current popular technique that eliminates and minimizes waste that is common in most organizations through the provision of goods when needed in the production process to reduce the level of inventory.

Additionally, under the categorization system of the ABC Analysis, the items in inventory are categorized based on their value. While 'A' items have high value and low volume, further controls are much stiffer for these stock items, while the 'C' items, on the other hand, would be those with low value and high volume may require looser controls **(Gupta & Starr, 2017)**. This is an effective way of managing inventory efficiency since the most critical stock items come first in management **(Wild, 2017)**.

In the current modern supply chain, technological solutions that include ERP systems have emerged as a significant tool in managing inventories. The ERP system links several functional areas into one by real-time data manipulation for optimized demand forecasting and control of the inventory.

With the advancement in techniques, demand uncertainty, lead time variability, and supply chain disruptions severely challenge inventory management. Too much of inventory involves huge holding costs with wastage, while low inventory results in stockouts along with lost sales and customer dissatisfaction **(Christopher, 2016)**.

The other risk is that of obsolescence-the products become obsolete before they are sold, particularly in fast-changing consumer preference-based industries. Proper demand forecasting and planning for the inventory help mitigate these risks.

Dispatching refers to the allocation of goods or work orders to be transported or processed at a specified time and location **(Groover, 2016)**. In logistics and inventory management, dispatching is one of the most crucial considerations with regard to product delivery to the customers in an efficient and timely manner. Effective dispatching systems can optimize routing and reduce travel times and transportation costs (**Murty, 2018)**.

Role of Technology in Dispatching: The developments in the digital space, in terms of automatic dispatching systems and the software that optimizes routes have made possible much better dispatching processes than ever before. These tools track shipments in real time, make deliveries at optimized distances and fuel saving, and make dynamic scheduling changes based on considerations of traffic, weather, and more **(Coyle et al., 2016)**.

Furthermore, WMS solutions usually also incorporate dispatching modules; the integration of such modules within the WMS would enable streamlined co-coordination of the levels of inventory and outgoing shipments. Companies can increase their speed of order fulfillment while maintaining accurate stock levels by incorporating inventory management tools with dispatching systems **(Richards, 2017)**.

Efficient dispatching is directly linked to efficient inventory management. Poor inventory management results in delay in dispatch because either the stocks are not available, or the stock records are not as per requirement, or products are not available in the market. In contrast, efficient dispatching suggests that the companies are supplying products within the given time limits for the production of goods and it is a direct indicate of the success of good inventory management **(Stevenson, 2018)**.

Implementing both processes may make the processes even smoother while reducing costs, which will improve customer satisfaction and supply chain resiliency. Indeed, research shows that firms that take an integrated approach to managing their inventories and dispatching activities are better positioned to respond to disruptions in supply chains and demand fluctuations **(Mentzer et al., 2007)**.

The application of data analytics and machine learning has made inventory management and dispatching scenarios revolutionized in terms of demand patterns forecast and suggested optimal dispatch strategies. Indeed, such technologies are increasingly applied to the inventory level being well tuned with the dispatch schedule such that products are ready for shipping when needed, as presented in **Ivanov & Dolgui, 2020)**.

As the businesses begin to focus more on sustainability, these processes such as in inventory and dispatching have been enhanced to reduce their environmental impacts. Circularity in supply chains, for example, reduces energy waste, carbon emissions, and the amount of time resources idle without use. For the case at hand, sustainable dispatching aims at minimizing emission arising from transport by routing efficiently through the application of eco-friendly vehicles, according to (**Rogers et al. 2020)**.

III) OBJECTIVES

To ensure the accuracy of sales records due to entry of orders daily and in real-time inventory updates.

To enable effective logistics by accurately noting daily dispatches and effective flow of goods.

To maintains accurate inventory levels through regular inward entries and Uniware stock updates.

To give an online track on production output through recording daily entries, maximizing the visibility of operations.

To support the performance analysis of keeping records of bills of material (BOM) and production data.

IV) METHODOLOGY

This paper uses an integrated management approach to the daily sales orders, dispatches, and inventory of the firm to smoothen the activities of its manufacturing and logistics processes. This approach is designed to line up such functions for effectiveness, increase productivity, and lead towards proper decision-making. Activities underpinning this methodology include the following.

1. Managing Daily Sales Orders and Dispatches

Following that, there is initiation of the process through making every day recording of sales orders, being an integral part of the task to ensure correct sales records and verify if it is possible to track fulfillment of the order. Each order entered in the course of activity is documented in a programmed way, so that the time limits associated with the dispatch are managed alongside expectations in respect of the customers order. Since the order is documented real-time starting from its initiation till the time of dispatch, the very handling of resources and response to the customers becomes very effective. The same thing aids an organization in predicting the demand, achieving an optimum level of management of the stock levels thus reducing the delay associated with the order fulfillment.

2. Ordering Dispatched Capturing and Analysis

Once the order is entered in the system and dispatched, this is captured in an outward file. The file captures all the essentials for details that include type, quantity, recipient's information, and time of despatch. Capturing such data enables the analysis of outsourced logistics against delivery and dispatch times so that the right orders are dispatched

in time to the right customers to the delivery destination. By keeping such a record, the company would be able to monitor the out-going inventory levels so that any discrepancy of the recorded stock versus actual stock would be avoided.

3. Inventory Stock Update in Uniware

The company has thus followed Uniware, a cloud-based inventory management system, in order to maintain real-time visibility of the inventory.

In this regard, all the transactions-included in both dispatch or receipt of the product-stocks are updated in real time. This will automatically update the live stock level, hence the probability of stockout and overstocking is minimize. Because of Uniware, tracking of products at different locations, and replenishment planning are most efficient, thus supply chain processes are optimized.

4. Updating Inward Products

The company ensures that the entry of all shipments related to raw material or finished goods is updated live in the system. In this regard, inward product entries are very instrumental for keeping live stock records and will afford easy planning of production. With up-to-date information regarding inventory newly received, the production team will thus be able to predict the availability of the material, thereby avoiding interruptions in the production process due to lack of material. Inward product entries also ensure that the firm is always abreast with the current inventory levels, thus ensuring the firm maintains the optimum stock levels and prevents any manufacturing disruptions.

5. Creation of BOM

For any manufactured product or a batch a BOM is generated. A BOM is an arranged list of materials, components, along with their required quantities for production. Hence, by such stringent monitoring of the BOMs, it will be ensured that all the required components would be in hand even at the beginning stage, and, thereby the delays would be avoided and the run out or shortage at the last minute. Correct BOM further aids to utilise proper cost tracking, and thus the company can make a reasonable estimation regarding both the production costs as well as the usages of the resources.

6. Permanent Updating and Maintenance of Production Record

The company maintains and keeps a minute to minute record of the production related raw materials consumed, work-in progress and the finished good inventory. Such records help trace the degree of production efficiency and indicate bottlenecks or opportunity areas in production. With real-time monitoring of performance, adjustments can be made in schedules, and production runs can be optimized to ensure the manufacturing units are productive at all times. Accurate records of production help to keep correct inventory because it goes directly in proportion with the production output.

The proposed methodology will ensure that the company's manufacturing and logistics processes remain integrated with accurate data moving quick through the pipelines of the sale, inventory, and production. Using advanced tools like Uniware for real updates and tracking combined with strict inward and outward movement records will help the company optimize its operations.

V) Discussion

The study revealed various areas where the efficient operation of inventory and dispatch management was threatened. These included:

- **Errors in Data Input:** Data input through human hands is often characterized by errors of sale records, thus leading to problems at times in order fulfillment and stock management.
- **Communication Breakdown:** Lack of effective communication means that sometimes, the teams (sales, inventory, and dispatch) mostly missed or duplicated some of the orders thus making the operations inefficient.
- **Order Volumes:** Very high orders volumes triggered the system resulting in delay in processing and dispatch hence affecting the satisfaction of customers.
- **Record-Keeping Inaccuracies:** Wrong information in dispatch for instance the address of the recipient in the details of the recipient caused problems in delivering thus affecting customer satisfaction.
- **Uniformity of Record:** Too many dispatches affected the accuracy and updating of outward files, which led to operational disorder
- **Inventory Control:** Lack of accurate records of inward products recorded led to an imbalance of stock resulting in issues in production planning and inefficiency in manufacturing.
- **BOM Changes Control:** BOM changes were not controlled well, which resulted in interference in the production line and once-in-a-while caused delays and used material shortages.
- **Performance Monitoring:** Lack of proper or correct recording also denied monitoring the production performance impacted based on decision-making.

From these issues, several major learning were extracted:

- **Accuracy is the thing:** Full record keeping helps order fulfillment smooth without the unhappiness of the customer.
- **Order Status Tracking:** In real-time, tracking of pending orders, processed, and ordered helps to enhance the fulfillment of customer expectations.
- **Proper Communication with the Customer:** Better management of a customer's expectations and increasing confidence can be developed through updating them regularly regarding their order status
- **Order Prioritization:** Orders can be prioritized based on the size or urgency, thus ensuring that such orders are fulfilled in time and ensures proper resource allocation
- **Data-Driven Decision Making:** The sales orders data assist in determining the sales patterns, thus it aids in the proper usage of the available stock for the optimization of the stock
- **Cross-Functional Coordination:** Team collaboration makes sure the orders are supplied on time and does not allow operational bottlenecks
- **Accuracy and Responsibility:** Error-free record-keeping avoids over shipment or shortages, while keeping a good audit trail for discrepancies
- **Outbound Tracking:** An outward file will enable the tracking of the goods sent out in real time and will strengthen the stock control
- **Replenishment and Production Planning:** On-time inward postings of the product allow for the replenishment levels to flow continuously and help assist with continuous productions
- **Basis of Production Planning:** A good BOM will ensure that the production units have all materials they need so that there is no possibility of a delay in production.

Basis the understanding and learning from the problems, here are suggestions based on efficiency enhancement of the organization's operations

- **Improve Infrastructure Digital:** Invest in best-in-class inventory management and ERP systems to minimize entry errors and maximize the use of real time inventory management
- **Innovate and Differentiate:** Continuous innovation and differentiation in products must be one step ahead of the competition through new and innovative formulations and technologies.
- **Leverage Data Analytics:** Data analytics can be leveraged to derive consumer behavior insights and sales trend which aid in improved inventory planning and forecasting.
- **Strength CSR Initiatives:** Develop existing CSR programs further, expanding into other community and environmental project initiatives to reinforce the brand values of the organization.
- **Employee Training and Development Upgrade:** Create training on the usage of digital by employees, customer service skills, and sustainability practices.
- **Supply Chain and Logistics Upgrade:** Bottleneck the supply chains, for example, increasing supplier numbers and designing far more efficient routes to ensure time shipment
- **Supply Chain Resilience**: Enhance relations with suppliers and logistics partners ensuring disruptions to supplies are kept at a minimum
- **Customer Retention:** Develop a loyalty program to reward repeat customers and customized promotions in place to retain existing customers.
- **Interdepartmental Collaboration:** A culture of team building is to be brought about by workshops and cross-functional problem solving with a team
- **Monitoring and Review of Communication Practices:** A mechanism should be put in place to review the communication practices so that the issues can be addressed and coordination between departments enhanced.

Addressing the identified challenges through these learnings and recommendations will enhance inventory and dispatch management, leading to improved operational efficiency and greater customer satisfaction.

VI) Conclusion

This study highlights the significant impact of a well-integrated approach to inventory management, order processing, and dispatch operations on overall operational efficiency and customer satisfaction within organization. By streamlining each stage of the manufacturing and logistics processes—from managing sales orders to updating stock levels, monitoring production, and utilizing Uniware for real-time inventory tracking—the company is better positioned to meet customer demands, minimize stockouts, and prevent overstocking. This integrated approach not only improves resource utilization but also strengthens decision-making by making real-time data available across functional areas.

The challenges identified, such as errors in data input, communication gaps, record-keeping inaccuracies, and insufficient control over BOM changes, underscore the critical need for accurate data management, robust communication practices, and effective cross-functional coordination. Each of these factors plays a crucial role in ensuring timely and efficient order fulfillment, enhancing the company's capability to monitor and optimize production performance and inventory control.

To address these challenges, the study suggests adopting advanced digital infrastructure, leveraging data analytics, enhancing CSR initiatives, and promoting interdepartmental collaboration. Training employees in digital tools and customer service, along with improving supply chain resilience, will support sustained growth and operational efficiency.

Ultimately, implementing these recommendations will enable organization to enhance its manufacturing and logistics processes, resulting in improved customer satisfaction, strengthened brand value, and a competitive edge in the

skincare and wellness industry. This research thus emphasizes the value of an integrated, data-driven approach in fostering a responsive, resilient, and customer-centric organization.

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