

Supply Chain Automation and Optimization of Warehouse Inward Process

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Abstract: ***Purpose:** The purpose of this paper is to investigate how the warehouse inward process works. Understand the issues and improvements in the existing process and the design/methodology/approach. **Findings:** The results suggest that it can improve the warehouse's inward activity. **Methodology:** The paper reviewed existing in - depth insight into the modern inward process in warehouses, its problems, and the efficiency of traditional inward techniques. Find a way of automating and optimizing techniques that could be utilized for better utilization of warehouses in terms of money as well as inventory space and reduce the work force involved in non - productive work. **Findings:** The study concluded that the traditional inward processes are becoming more and more out of style and inefficient. Taking into account the business environment that are constantly changing, global supply chains, and technological advancements. It emphasized the risks to long - term performance associated to relying too much on the past practices [1].*

Keywords: warehouse inward process, process improvement, automation in warehouses, traditional vs modern techniques, optimizing inventory space

1. Introduction

Warehouse Goods Inward process entails delivering, unloading, and forwarding for storage of inventory in the warehouse.

To ensure accuracy, a predetermined system can be used, which will help track and compare what was received with what was originally ordered.

Having a well - defined and structured warehouse receiving process ensures stock count accuracy, fewer or no stock outs, and optimal inventory levels and storage.

The receiving process steps involve:

- Delivery of the products
- Unloading from the delivery trunk
- Inventory storage

Inwards Process:

The putaway warehouse process means the placement of inventory (goods) in their designated areas in the warehouse [5] after receiving. Put - away staff who are notified on the receipt of inflow do this.

A streamlined and efficient putaway process helps your business by making the putaway easier for the next set of inventory batches. In addition, it reduces the chances of inventory being lost or misplaced.

Statement of the Problem:

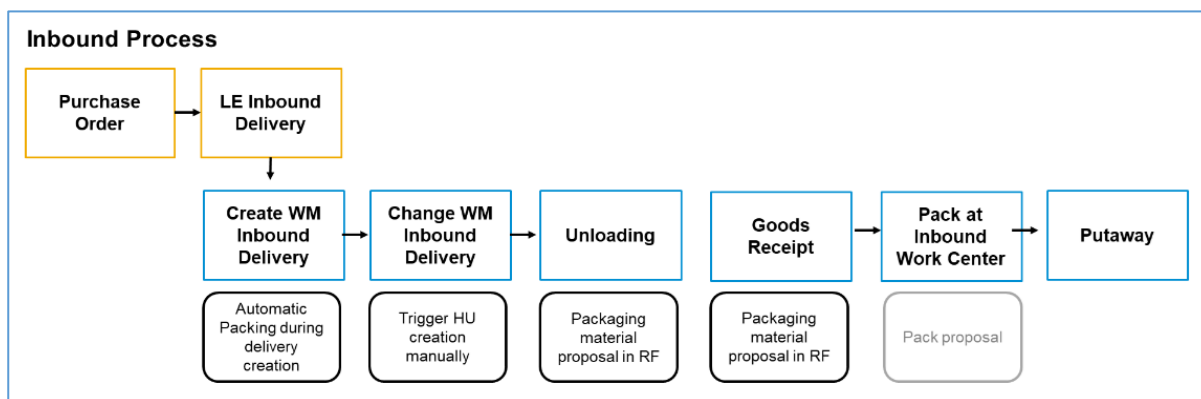
The supply chain [3] landscape (inward process) today faces an increase in the level of complexities and uncertainties, problems like product mismatch, discrepancies in product, quantity mismatch, goods quality, etc.

Flaws in the receiving process can lead to discrepancies in inventory records and actual inventory at hand, causing issues and challenges in order fulfilment.

Physically identifying the product in a bigger warehouse is tedious, and a lot of work force has utilized to search the material. Once the receiving and storing process of goods has done without flaws, 75% of warehouse issues can overcome.

Automated the Warehouse Inwards Process:

Automated Warehouse inward process (Flow - diagram):



Automated inward process:

To enhance this process, start by scheduling deliveries to manage the work force and space better. Implement a well -

defined system for inspecting and counting received goods to maintain accuracy and avoid discrepancies.

Use technology such as barcode scanners or RFID technology for faster and more accurate processing. Additionally, consider using a warehouse management system (WMS) [1] that can automatically update inventory levels and notify relevant parties in real time [4].

Establish a clear procedure for handling [2] discrepancies or damaged goods to resolve issues quickly and keep the receiving process flowing smoothly.

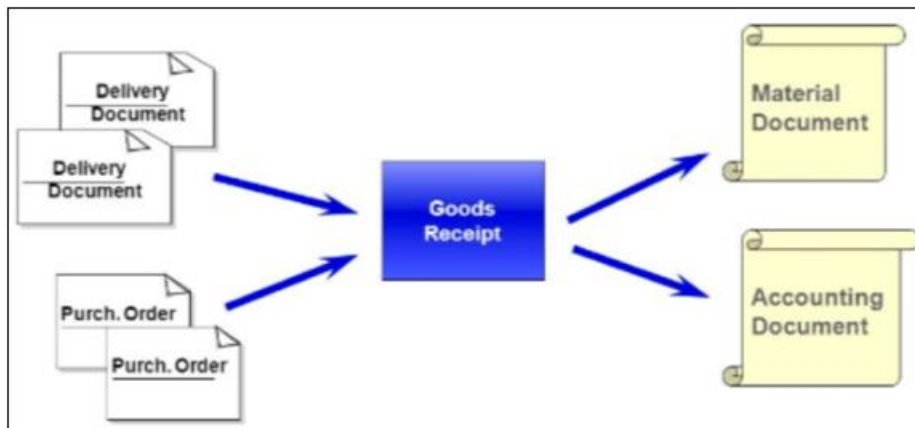
Storage process:

Begin by incorporating a Warehouse Management System (WMS), which can automate the putaway process by guiding workers to the optimal storage location based on space availability and item demand. Utilizing technology like

barcode scanners or RFID can also speed up the putaway process and improve accuracy.

The layout of the warehouse plays a significant role in ensuring that high - demand items are stored in easily accessible areas to reduce retrieval time later. Consider implementing a zone - based putaway system, which allows multiple workers to put away goods simultaneously in different areas of the warehouse, leading to greater efficiency.

Limitations of Traditional Inward Methods:



Traditional inward methods are based on the deliveries or orders. Example in retail scenario: If a carton box is 100 qty. of an order, the storekeeper will scan the order and inward the stock.

The problem here is that the stock inside the carton box may not be the same as in the order, there may be a stock mismatch, or there may be damage or discrepancies.

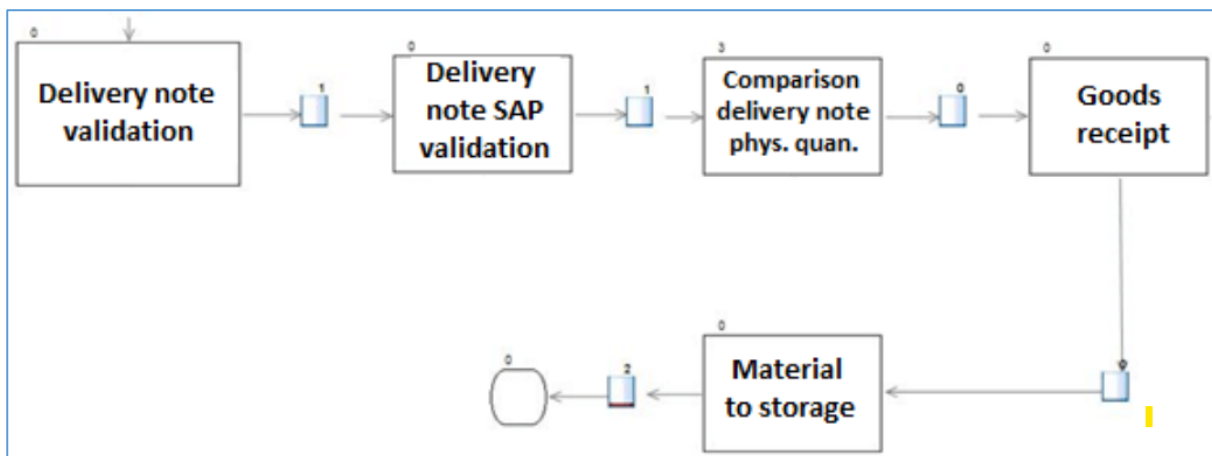
Manually, we need to check the goods and then segregate the proper stocks and store them in the warehouse.

The issue product has been manually created in a discrepancy note and sent to the respective vendor by manually checking the vendor from where the goods were received.

This scenario can create an inventory mismatch, system stock vs. physical stock.

Optimizing the Inward process:

Inward Process – Optimized:



An optimized receiving process aims to ensure that goods ordered from the suppliers can delivered in the right quantities, in good conditions, and at the proper time.

When you are receiving procedures that are faulty, your inventory records become inaccurate, making it challenging to fulfil your customers' orders.

Optimizing your receiving process will offer your business tones of benefits and save you a lot of stress and issues.

Ensure accurate stock counts:

When you have inaccurate inventory records, you will often disappoint your customers because of unmet expectations.

Having a precise count of your stocks can help you to prevent retail issues such as inventory shrinkage and stock outs.

Online shoppers want a positive customer experience, and ensuring accurate stock counts means customers receive a great customer experience.

In addition, it helps manage your sales predictions. For instance, creating a comprehensive receiving process flow chart to check if the right products can be received in the correct order helps; you know your inventory levels.

In addition, you can replenish a product that you predicted might be in demand or notify your customers when an item is available.

Prevent overstocking or under stocking of products:

When you do not have enough goods in stock to fulfil your customers' orders, you are experiencing a stock out. In contrast, overstock or dead stock refers to products that are not likely to be sold.

Overstock items are because items are expired, out of season, or not in demand.

When you accumulate a considerable amount of inventory that does not yield any returns, then you have dead stock. Often, dead stocks or stock outs can be caused by an inaccurate inventory count.

By implementing an ideal warehouse receiving process, you can accurately determine when your orders from the suppliers are incomplete or if you need to order more.

Provide an efficient inventory storage system:

An optimized receiving process can also affect how you store, manage, and track your products. It makes it possible to keep your inventory costs low while improving transit times and lowering shipping costs.

For instance, the Warehouse Management System (WMS) is a valuable tool for tracking supplies through the warehouse.

WMS is used to scan inventory when received, mark and record where the items are stored, and provide instructions on picking, packing, and shipping them when ordered.

2. Conclusion

The enhancement and optimization help the system to ensure that all goods ordered can arrive in acceptable quality and quantity. A predetermined system can be used that will help track and compare what was received with what was originally ordered.

The placement of inventory goods in their designated areas in the warehouse after receiving has done effortlessly with a minimum work force. Inventory tracking will be easy and can prevent errors due to lack of stocks and ensure all the items are available at the time of requirements.

Since your warehouse workflow becomes more organized and clean with a proper Putaway process, it helps the picking process to become more seamless, quick, and easy, requiring fewer human and technological resources.

You can leverage different types of Putaway methods, like based on purchase orders, based on SKU, or based on product types, depending upon your business needs and orders. This leads to efficient use of storage space and cataloguing and prevents delays.

References

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