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How to Improve Your Warehouse Operating Efficiencies

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Abstract:- How to improve your warehouse operating efficiency helps to understand the critical factors that influence the productivity of the warehouse operations. As we know logistics is essential for supply chain in today's world to reach the products on time and in full (OTIF). To attain better OTIF rate, operating the warehouse to the fullest efficiency is critical. There are various types of warehouses, at different sizes (in Sq. ft), diverse operating models, several applications are available in the market. Warehouses of each industry types have their own uniqueness in operating model, and it comes its own complexity. Operating warehouses to the maximum efficiency is always challenging, constant automation with process and system re-engineering is needed to keep up the pace. Inefficient warehouse operations can bring the business to a standstill unless its upbeat to meet the needs of the customers. Warehouse applications complement to the performance of the deliverables from logistics perspective, fulfilling the customer service level agreements (SLA).

Keywords:- *On Time In Full (OTIF), Service Level Agreements (SLA).*

I. INTRODUCTION

In today's world we see 3 levels of warehouses like small, medium and large warehouses. The efficiency depends on how large your warehouses are in terms of cubic space, warehouse layout, number of doors, products, flow (inward/outward) efficiencies, operators, carrier management, detention period, product accessibility, system, automation, scanning capabilities, etc., There are various factors influence the operating efficiencies of the warehouses. We're going to consider a few necessities which are influencing factors in a warehouse efficiency like,

- Warehouse layout
- Accessibility of goods
- Task interleaving
- Load planning & staging
- Industrial devices – e.g., forklifts, VMU, Robotics and
- Volume of shipments/day against the capacities.

II. WAREHOUSE LAYOUT

How you layout your warehouse is critical, this depends on purely the size, volume, product size and arrangements, racking system or floor storage needed for your goods, storage and retrieval system desirable, inventory turnover frequency, number of operators travelling in an aisle, etc. influence the layout. This purely depends on the industry type you are dealing with, ensure proper analysis is done considering these factors when laying out the warehouse. Any inefficient layout design can influence in impeding the full operating potential. Efficient layout helps in optimal warehouse space utilization, helps improve the operating efficiencies.

III. ACCESSIBILITY

This is the key for the productivity improvement, proper accessibility within your layout plays a key role in stock placement and retrieval. Every operator should have an ease of access to the warehouse spaces. Every operating unit like pallet or cases or bags, should be operated for placing or retrieving it without any hinderances during their routing operation. There should be an ease, no hinderances to other operators on aisle at the same time. Any hinderance will only cause unnecessary delay in operations for the warehouse operators.

IV. TASK INTERLEAVING

What is interleaving? It is when a warehouse operator travels within a warehouse every travel should have a picking or placements. Your return travel would not be ideal with interleaving planning. No travel in a warehouse should be without a pick or a placement, if any would lead to warehouse operating inefficiencies. Hence planning for interleaving is important to a warehouse productivity for any level of warehouse either small, medium or high. Any system supporting your operations should supplement interleaving. If your warehouse application supports interleaving it can be automated. Having appropriate application with interleaving support will make the operations seamless and with efficient proposal of either picking or placements for return travel.

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V. LOAD PLANNING AND STAGING

Plan well ahead for any shipment before the carrier arrives. Appropriate planning is needed, so that goods can be loaded on time to the transportation carrier to avoid detention charges and to respond with quick turnaround time. When its truck load, generally its 2 types of loads, full truck load (FTL) and less-than truck load (LTL). Either loads can be an immediate loading to the truck or a planned staging and loading. Immediate loading for LTL is not generally applicable for certain industries, hence a day before or a shift before staging is recommended. Especially if there's a case pick scenario e.g., retail industry. By staging a shift or a day prior helps to load on time. On-time in full (OTIF) is a key metrics to achieve to be compliant as per the agreed SLA with the customers. Load planning helps to achieve the OTIF and to respond swiftly with proper preparation.

VI. INDUSTRIAL DEVICES

Devices like handheld, vehicle mount unit, barcode scanners, fixed industrial scanners, RFID, wearable solution, and applicable devices are proponents for warehouse application and help in seamless process integration. These devices help to quickly reach to the warehouse situation, bring into line warehouse movements in system to physical situation. These devices help in productivity improvement, provides visibility on the fly, move with devices as you go with capability to transact and capture the event occurred in the warehouse. Integrating these devices to the warehouse application is critical, needs compatibility and feasibility assessment check. Mobile devices are critical component for small, medium and large warehouses, helps in communication and collaboration, no modern warehouse can operate without these mobile gadgets.

VII. SHIPMENTS

Appropriate planning on number of shipments for a warehouse is critical to keep your productivity and operation to an optimal level. Either having the shipments exceeding your capacity or minimal would not help either way. Dock appointments are critical to plan as per your warehouse capacity. The other factors stated above like warehouse layout, load planning and mobility devices are influential on operations against the number of shipments.

No business can operate warehouse without these basic aids and criterions in place. Sporadic operation at will without any systematic won't help in this competitive environment. It's hard to operate at the operator's know-how rather system driven warehouse operations. High performance with mobile devices is fundamental necessity for better warehouse operation.

VIII. CONCLUSION

Supply chain fulfillment is critical due to vast expanding supply chain network in today's world. Warehouse plays critical role in fulfilling the supply chain needs across the network. Warehouse enabling to stock the products and supply the products as and when needed from the logistics perspective. Effective warehouse space utilization is critical for any business due to vast expensive real estate expenditures. Running the warehouse with high productivity, optimal space, quick turnaround is 3 key components for successful warehousing. Demarcating the warehouse as appropriate, constructing suitable layout for ease of inventory movements, implementing the right IT system and enabling and having the right process defined is the key for the warehouse operational success.

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