Business Case: Optimizing warehouse activities and inventory management for Block C Warehouse

General Information

The goal is to establish a streamlined and efficient warehouse process for the receiving, storing, picking, packing, and moving of white goods. This process will ensure minimal delays, reduce errors, improve inventory accuracy, and support continuous improvement initiatives, integrating inventory management seamlessly throughout the operations. At the same time, to put in place a new workforce development program to meet the training needs of our associates.

1) Receiving Process:

Current Process:

- White goods arrive at the warehouse, typically in bulk shipments from suppliers or manufacturers.
- The goods are unloaded from the transport vehicle and inspected for damages or discrepancies against the shipping manifest.
- Once verified, the items are labeled and entered into the inventory management system.

Proposed Process Improvement:

- **Automation of receiving:** Use barcode scanning or RFID technology to automatically capture item data and update the inventory system in real-time.
- **Integration with inventory management:** Real-time data from the receiving process will update stock levels automatically, minimizing the risk of data errors and ensuring that inventory records are accurate from the start.

Continuous Improvement Focus:

- Implement a feedback loop from inventory management to highlight discrepancies between received goods and expected items.
- Use the data gathered during receiving to predict and adjust for seasonal or demand-based fluctuations in stock levels.

2) Proper Storing Process:

Current Process:

- After receiving, the goods are moved to storage locations, often in large pallets or sections within the warehouse.
- Products are stored based on size, type, or category, but the system lacks detailed space optimization.
- White goods, often bulky and fragile, are sometimes stored inefficiently, leading to underutilization of warehouse space.

Proposed Process Improvement:

- **Space optimization:** Implement a dynamic storage system based on the product's dimensions and weight. White goods, such as refrigerators, washing machines, and dishwashers, require a dedicated area that maximizes vertical and horizontal space.
- **RFID/Barcode Tracking:** Each item's location is tagged with RFID or barcode labels for quick identification and retrieval. The warehouse management system (WMS) will provide real-time visibility into inventory location, preventing errors and reducing time spent searching for products.
- **Automation:** Introduce automated storage and retrieval systems (ASRS) for high-demand items to reduce manual handling and improve speed.

Continuous Improvement Focus:

- Regular audits and performance reviews will be conducted to identify underperforming storage areas. A lean approach will be applied to continuously optimize storage configurations.
- Use data from sales and stock levels to adjust the layout periodically, ensuring the most in-demand goods are easily accessible and reducing the chance of damage.

3) Export Out of Warehouse (Pick, Pack, and Move):

Current Process:

- When orders are placed, warehouse staff manually pick items from the storage areas.
- Each item is packed according to customer specifications, and goods are prepared for dispatch.
- The final export involves transporting the packed items to the loading dock, awaiting shipment to customers.

Proposed Process Improvement:

- **Automated picking systems:** Implement voice-directed picking (VDP) or pick-to-light systems to reduce picking errors and speed up the process. This allows workers to pick products more efficiently, improving accuracy and reducing the time spent searching for items.
- **Packing optimization:** Integrate packing stations that automatically size packages and suggest the most cost-effective packaging materials, which can reduce shipping costs and prevent damage.

- **Integrated transport management system (TMS):** The export process will be integrated with a TMS that schedules and tracks shipments in real time, reducing delays and improving communication with logistics partners.

Continuous Improvement Focus:

- **Performance monitoring:** Analyze pick and pack times to identify inefficiencies. Regular assessments will be used to adjust workflows and ensure that only the necessary staff is assigned to high-demand products.
- **Feedback loops:** Data from the packing and export processes will be reviewed periodically to identify recurring issues, enabling process improvements and employee training.

Integration of Inventory Management:

- **Centralized Inventory System:** Integrate all receiving, storing, and export processes with a centralized inventory management system (IMS). This system should allow for real-time stock tracking, automated alerts for stockouts or overstocking, and predictive analytics based on historical sales data.
- **Cross-Department Collaboration:** Continuous communication between receiving, storing, and export teams will be essential to ensure smooth inventory turnover and minimize bottlenecks.
- **Data-Driven Decision Making:** Utilize data analytics from the IMS to forecast demand, optimize stock levels, and plan for seasonal peaks, ensuring the warehouse maintains high efficiency and minimizes excess inventory.

Workforce Development

- To meet the training needs of our associates for easy to access training at the own pace and time.

Conclusion:

This business request case outlines the need for continuous process improvements across three key warehouse functions—receiving, storing, and export. Through automation, real-time integration with inventory management systems, and a focus on data-driven decision-making, the business can enhance operational efficiency, reduce errors, and ensure the timely movement of white goods from warehouse to customers.

Issues Encountered

The current warehouse operations are facing inefficiencies due to improper storage practices, the absence of a comprehensive inventory management system, and the lack of scanning technology. These issues result in:

1. **Inefficient Storage:** Products, especially large white goods, are stored without proper consideration for handling requirements. This leads to overcrowding in certain areas, wasted space, and difficulties in retrieving items, resulting in delays, increased labor costs, and a higher risk of product damage.

2. **Lack of Inventory Management:** The warehouse operates without a centralized or automated inventory management system, which leads to inaccuracies in stock levels. Manual tracking of goods is prone to human error, causing discrepancies between actual stock and recorded inventory, which can lead to stockouts, overstocking, and delayed order fulfillment.

3. **Absence of Scanning Technology:** Without barcode scanning or RFID systems, tracking and managing products is cumbersome and prone to errors. Manual data entry slows down operations, increases the likelihood of incorrect item picking and packing, and complicates the integration with other systems like order processing and shipping.

Together, these challenges hinder operational efficiency, increase operational costs, and negatively impact customer satisfaction due to delays and errors in product handling, fulfillment, and inventory accuracy. There is a clear need for a robust storage solution, the implementation of an integrated inventory management system, and the adoption of scanning technology to streamline warehouse processes and improve overall performance.

Requirements

1. Design warehouse flow
2. Provide specific inventory management system and develop scanning process for the warehouse.
3. Recommend a new approach to workforce development.

Open House

The Open House will be on:

5 Tuas Ave 3, 639405

28 April 2025, Monday, 2pm to 4pm

29 April 2025, Tuesday, 2pm to 4pm

08 May 2025, Thursday, 2pm to 4pm

09 May 2025, Friday, 2pm to 4pm

Contact person: Daniel Sia

Email : Daniel.sia@bokseng-ipl.com_ Mobile: 9023 7762

Team leader to send email to the contact person in advance regarding the number of persons going to the open house.