Lim Siang Huat Pte Ltd

Business Case: Optimizing Warehousing and Transport in Food Logistics

General Information

Lim Siang Huat Pte Ltd would like the teams to conduct fact finding, collection and analysis of data with the objective to streamline their order fulfilment process, reduce their carbon footprint and integrate green practices throughout their supply chain. This includes not only optimizing warehousing operations, but also integrating sustainability efforts into transportation and distribution processes to reduce environmental impact. Overall, the ultimate goal is to achieve energy conservation and emission reduction while leading the food logistics industry towards sustainable development.

1. **Products**
   The items under the study are mostly food items such as canned food, sauces, frozen and chilled products, flour, staples, and beverages. Items will be picked and packed into carton boxes for dispatch. The end customer can place their orders either through our salesperson or our online website. For orders placed before 2pm, the customers expect next day delivery. For orders to other fulfilment centres, the goods are picked and placed on the pallet before the pallet is shrink-wrapped.
1. **Warehousing & Transport**
   As a distribution house, we have incoming shipments of stocks on daily basis. These stocks must be unstuffed and checked by our warehouse team before they can be put into inventory and stored in the warehouse. Currently, we operate both B2B and B2C e-commerce platforms, but B2C deliveries are managed by the e-commerce department outsourcing logistics. B2B locations range from distribution centres to minimarts, coffee shops, hotels, cafes, and restaurants. On average, we deliver about 700 orders per day.
2. **Order Fulfilment Process**
   Below are the key steps in our current order fulfilment process. However, in the event of unforeseen circumstances, additional trips may be required to exchange or collect back defective or incorrect goods.
   - Customer Service to key and process the orders
   - Orders will be sent to the handheld device for the pickers to do batch picking
   - Goods will be packed in carton boxes, placed on pallets, with the order number written on the box
   - Our Sales team and drivers will match each order against paper invoices prior to delivery. Orders are further sorted by drivers according to zones.
   - Drivers to deliver to the respective locations based on the route plan. There might be a need for them to collect cash upon delivery, and a must for them to bring back the signed invoice for acknowledgement.

Issues Encountered

Lim Siang Huat Pte Ltd conducted an analysis of customer needs and existing order fulfilment process. The team also looked at case studies from other relevant companies to identify current challenges and issues.

1. Workload varies day-to-day.
2. The option of next day delivery before and after cut-off time means order processing, picking, packing, and labelling must be done in a highly efficient manner.
3. Chilled and frozen products consume more energy and generate more CO2 emissions during transportation due to stricter temperature and delivery requirements.
4. Delivery Route Optimization – The initial sorting of orders according to postal code is not sufficient for the drivers. The sorting functionality needs to be improved so we can reduce time spent on manual sorting.
5. Order requests can come in various formats such as WhatsApp messages, phone calls, emails, or Excel files downloadable from the retailer's portal. This makes the entire ordering process very cumbersome and manual as the information must be entered into the system one by one. To reduce our carbon footprint, we need to standardize and automate this process in order to avoid errors such as wrong packaging or wrong delivery address.
6. Deliveries are full of paper, for example invoices and Proof of Delivery (POD). All of these should be digitized to save paper costs and trees.
7. Customers usually call asking for an ETA for their orders. Real-time updates are therefore necessary to reduce number of customer service calls and prevent redeliveries due to missed or late deliveries.

Requirements

To provide recommendations or solutions based on the information provided:

1. As part of streamlining the order fulfilment process, we need to rethink the order process to manage the flow. Create a step-by-step ordering process and explain why you think it best fits our business needs.
2. Electric vehicles have been added to our operations, but most vehicles are still diesel powered. Do provide some recommendations or alternatives on how to balance carbon constraints and minimized costs as the company transitions to all-electric vehicles. This also applies to cold chain logistics.
3. Warehousing provides a significant opportunity for decarbonization and there are many activities. We currently use batch picking and electric forklifts to make the picking process more efficient and faster, and pack our orders into recycled cardboard boxes. Analyze the entire process from picking to packing, and comment on the merits and problems. What other practices can you implement based on your observations?

Open House

The Open House will be on:

2nd May 2023, Tuesday – 2pm to 5pm
3rd May 2023, Wednesday – 2pm to 5pm
4th May 2023, Thursday – 2pm to 5pm
5th May 2023, Friday – 2pm to 5pm
6th May 2023, Saturday – 10.30am to 11.30am
8th May 2023, Monday – 2pm to 5pm

Contact person : Charlene Ong

Email : charlene@lshworld.com

HP : +65 93883498

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