Report On

Improvement of warehouse & Distribution management

By

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An internship report submitted to the BRAC Institute of Governance and Development (BIGD)in partial fulfillment of the requirements for the degree of MASTERS IN PROCUREMENT AND SUPPLY MANAGEMENT (MPSM)

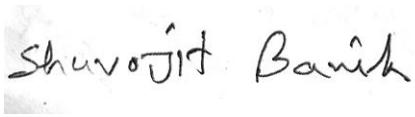
BRAC Institute of Governance and Development (BIGD)
Brac University
October 2022

Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

Student's Full Name & Signature:



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Student ID: 20382006

Supervisor's Full Name & Signature:

Muhammad Azizur Rahman
BRAC Institute of Governance and Development (BIGD
BRAC University

Letter of Transmittal

Muhammad Azizur Rahman

BRAC Institute of Governance and Development (BIGD)

BRAC University

66 Mohakhali, Dhaka-1212

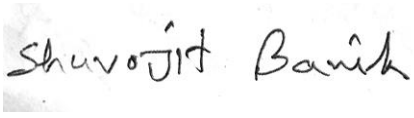
Subject: Submission of report on‘Improvement of warehouse & Distribution management’

Dear Sir,

With due respect and humble submission, I would like to take the privilege to submit my reportentitled **‘Improvement of warehouse & Distribution management’** as partial requirement to fulfillment of my master’s degree in Procurement and Supply Management (MPSM), BIGD, BRAC University.

I have tried my best to complete the report with the essential information and suggested proposition in an exceedingly vital compact and comprehensive manner as possible. I believe that this report will be meeting the benchmark of academic paper in best possible manner.

Sincerely yours,



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Student Full Name: ShuvojitBanik

Student ID: 20382007

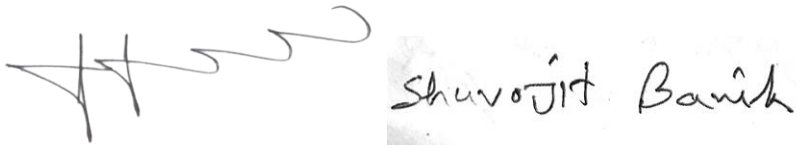
BRAC Business School

BRAC University

Date: September 24, 2022

Non-Disclosure Agreement

This agreement is made and entered into by and between EL-NINO Group and the undersigned student at Brac University.



Md. AnamulHaque
Managing Director
Commercial & purchasing
El-Nino Bd Limited

ShuvojitBanik
ID: 20382007
Brac University

Acknowledgement

I am thankful to almighty God who gave me the strength to complete this paper. Then, I would like to pay gratitude and want to give special thanks to respected academic supervisor Muhammad Azizur Rahman helping me in all ways to complete the Project. I also would like to pay gratitude to my respected workplace supervisor Md. AnamulHaquewho guided me time to time. I have learned a lot in detail while writing this report which helped me to know the even better. Also, I am grateful to El-Nino Bd management who gave me an opportunity to learn.

‘

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List of Acronyms

ERP Enterprise Resource Planning

FIFO First In First Out

SKU Stock Keeping Unit

H-M-L High price, Medium price, L-low price

5S Sort, Set in Order, Shine, Standardize, Sustain

GRS Goods Receipt Slip

RFID= Radio-frequency Identification.

SOP: Standard operating Procedure

Chapter 1

ORGANIZATIONAL OVERVIEW

Profile of the organization(El-Nino BD Limited): El-Nino BD Limited" is one of the most promising, comprehensive, and progressive import-export and logistics company since 2004; localizing its primary office in Bangladesh, and its official subsidiary branches in China, Honkong, Singapore, Dubai & USA. We are a Govt. approved Tier – 1 Contractor, Export, Import and supplier; committed to unparalleled quality assurance in terms of the service we showcase our expertise in, on the international stage- a business trait essential for long-lasting success in today's competitive market. EL-NINO is the one and only exclusive global partner of Govt. owned only E-Commerce online platform "ekShop". We are also delighted to announce that we are the world-wide authorized seller for world's renowned online E-Commerce platform "Amazon".

Products: We import variety of products like –

- Dyes chemical
- Garments washing powder
- Mobile accessories
- Chemical
- Electronic parts
- Lights
- Medical equipment

RESEARCH

1. INTRODUCTION OF THE REPORT/STUDY:

- **Research justification**: When I started my service in this company, my first job was to create GRS (Goods Receipt Slip). To produce this paper, I had to go to the warehouse and physically inspect the carrier shipment. After receiving the products from the logistics partner, the products must be placed on the ground by the inter-transportation service and weighed individually. He has two 4,500-square-foot warehouses, and the weight of the product is continuous, so this process takes a little while. The GRS paper was then uploaded to the company's main system via SAP by my senior staff.
- **Problems description** The main problems faced in warehousing and distribution. As you know, the loading and unloading process is done manually by day laborers. Many products are damaged during loading and unloading. In addition, different boxes are mixed when unloading, which is troublesome. Therefore, when delivering products to customers, it was necessary to search first and then deliver. This also results in huge losses every year.
- **Research scope & boundaries**: Working at El-Ninobd Limited, I learned a lot of the process of running a successful warehouse. I also investigated the regular employees and day laborers who work here.
- **Limitation:** there is some limitation like, in our ware house they didn't use any Bin card or identification number to identify different customer products. Also the labors were not too much skilled & the delivery system is delay due to unloading products, as a result customers were stuck the payment.

- **Purpose of the report:** The main purpose of this report is to find out the reasons for system losses in warehouses. To be exact:
- Find why warehouse faces system loss and possible solutions. .

- . Inventory control process by **El-Nino Bd** Limited.

- Increase smooth distribution network to avoid delays.

2. REVIEW RELATED LITERATURE:

For reducing system loss in warehouse, the main path which can be taken is lean inventory management. ‘Lean’ means a systematic approach to increase value in a company inventory by mark out and remove waste of materials, effort of people & time through continuous improvement in realization fullness.

Lean management movement is invented by Henry Ford, who applied this concept in 1920 in “continuous flow’’ in the assembly line process. Over the year, the concept got hyped and applied to nearly all industries.

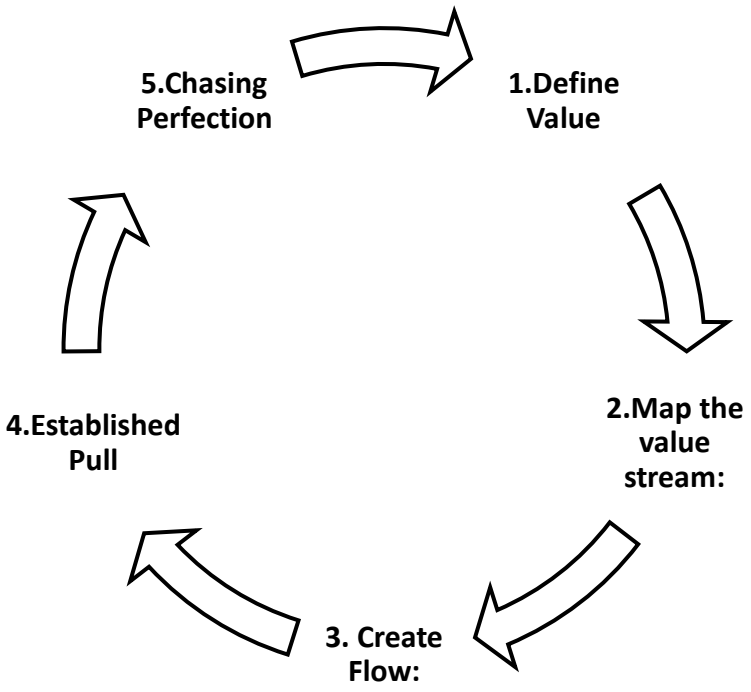
The process has five principles:

1. **Define Value:** To better understand the first principle that defines customer value, it is important to understand what value is. Value is what customers are willing to pay. Discovering your customers' actual or potential needs is paramount. Customers may not know or be able to articulate what they want. This is especially common with new products and technologies. Interviews, surveys, demographics, web analytics, and many other techniques help decipher and find out what your customers value. By using these qualitative and quantitative techniques, you can know what your customers want, how your product or service should be delivered, and what price they can afford.

2. **Map the value stream:** The second Lean principle is to identify and map your value streams. In this step, we take customer values as a guide and identify all activities that contribute to those values. Any activity that does not add value to the end customer is considered wasteful. Waste can be categorized into her two categories:

   No added value, but necessary, worthless and unnecessary. The latter is pure waste and should be eliminated, while the former should be reduced as much as possible. By reducing and eliminating unnecessary processes and steps, you help your customers get exactly what they want, while reducing the cost of producing that product or service.
3. **Create Flow:** After removing waste from the value stream, the goal is to ensure that the remaining steps flow smoothly without interruptions or delays. Strategies for facilitating value-adding activities include: Decompose steps, restructure production steps, balance workloads, create cross-functional departments and train employees to be versatile and adaptable.
4. **Established Pull:** Inventory is considered one of the biggest wastes in production systems. The goal of a pull-based system is to limit inventory and work-in-progress (WIP) items while ensuring the necessary materials and information are available for smooth workflow. In other words, pull-based systems enable just-in-time delivery and manufacturing, where products are manufactured exactly as and when they are needed. Pull-based systems always stem from end customer needs. By following the value stream and working backwards through the production system, we ensure that the manufactured product meets the customer's needs.
5. **Chasing Perfection:** Waste is avoided by accomplishing the first four steps 1) Identifying value, 2) mapping value streams, 3) creating flows, and 4) adopting pull systems. However, the fifth step of striving for perfection is the most important of all. This makes lean thinking and continuous process improvement part of the company

culture. Every employee should strive for perfection while delivering products based on customer needs. The company is a learning organization and must find ways to get a little better every day.



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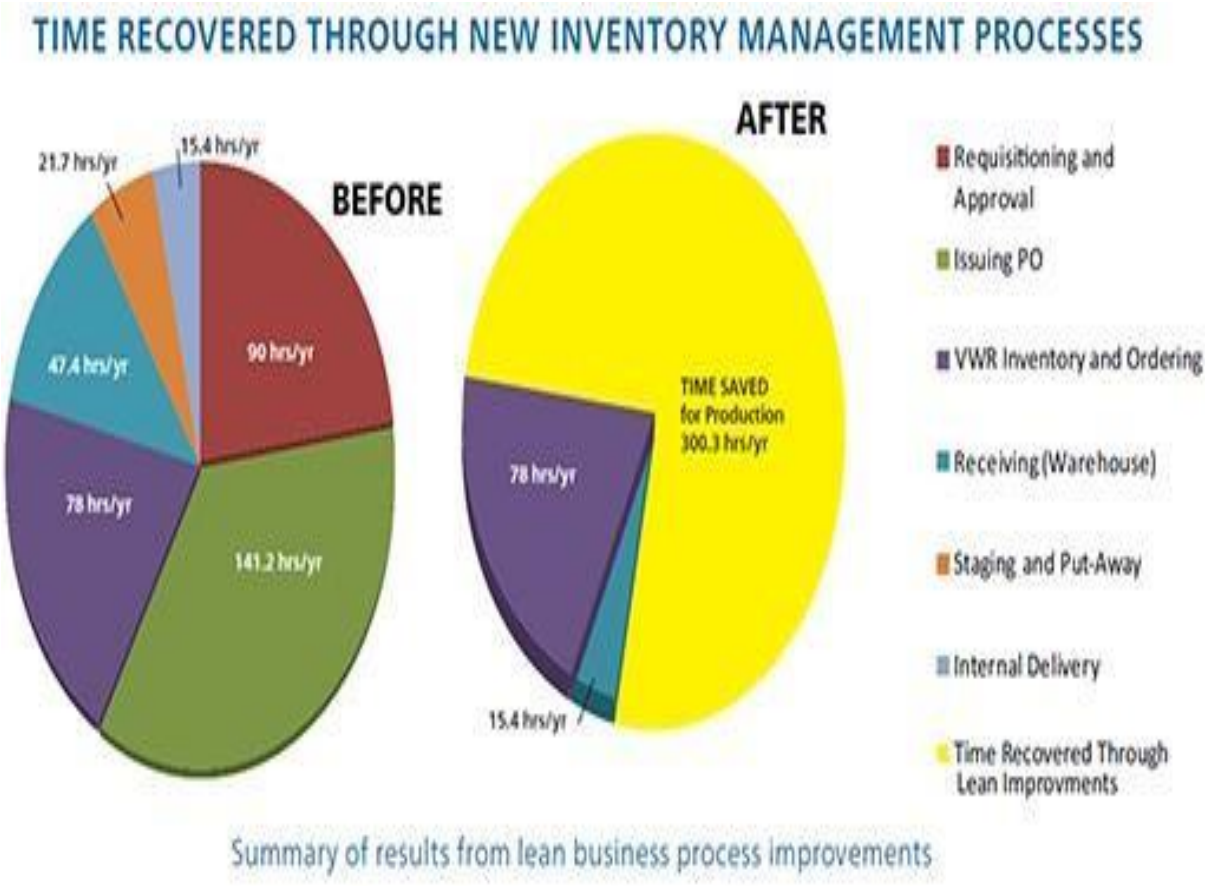


3. METHODOLOGY OF THE STUDY: Here I applied both primary & secondary data to realize that why system loss in warehouse and possible key to minimize it.

- Primary data: The primary data has been collected by me through my personal sources. I have interviewed twenty people from different organization but same path. All are doing warehouse related work.
- Secondary data: The data collected from different articles and newspapers. Maximum data collect from universal sources not from Bangladesh.
- Survey method: A questionnaire is included in the report appendix. I tried to find specific surveys to get the best possible insight.
- Questionnaire Design: A total of 20 people were interviewed with 6 questions. I asked a rating-based question on a scale of 1 to 5. 1 decoded the lowest and 5 decoded the highest. The question types are:

  - Likert scale

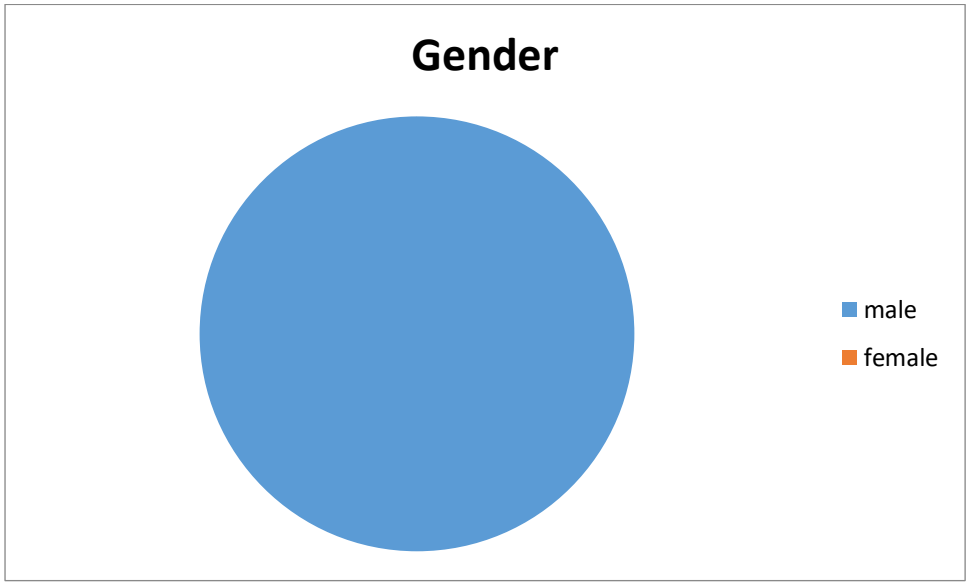
- Nominal scale
- Order size
- Interval scale

➢ Collecting data: Represent all data obtained from the questionnaire survey in a graphical model.

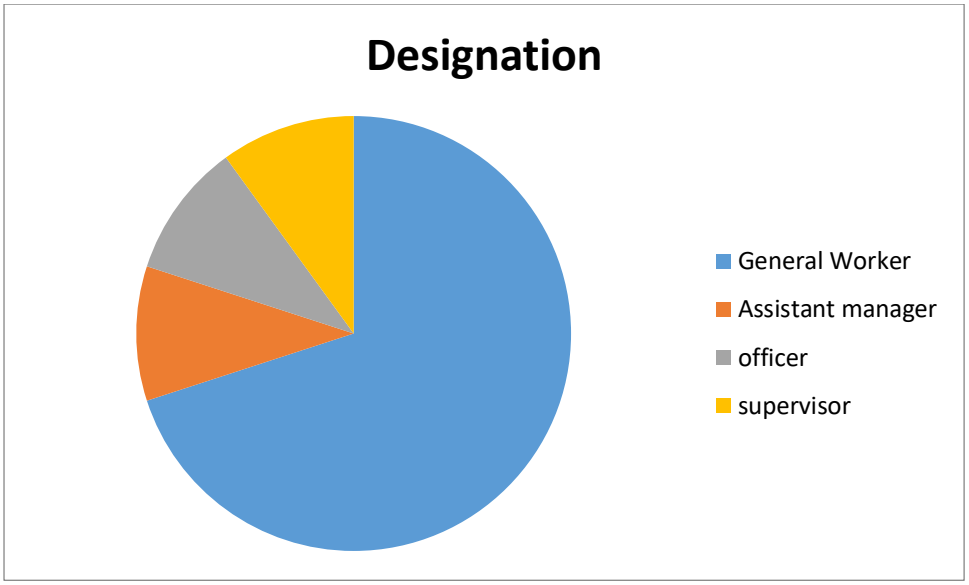
3. ANALYSIS AND ILLUTRATION OF THE DATA:

Arisen on the observation response I've given the illustration beneath:

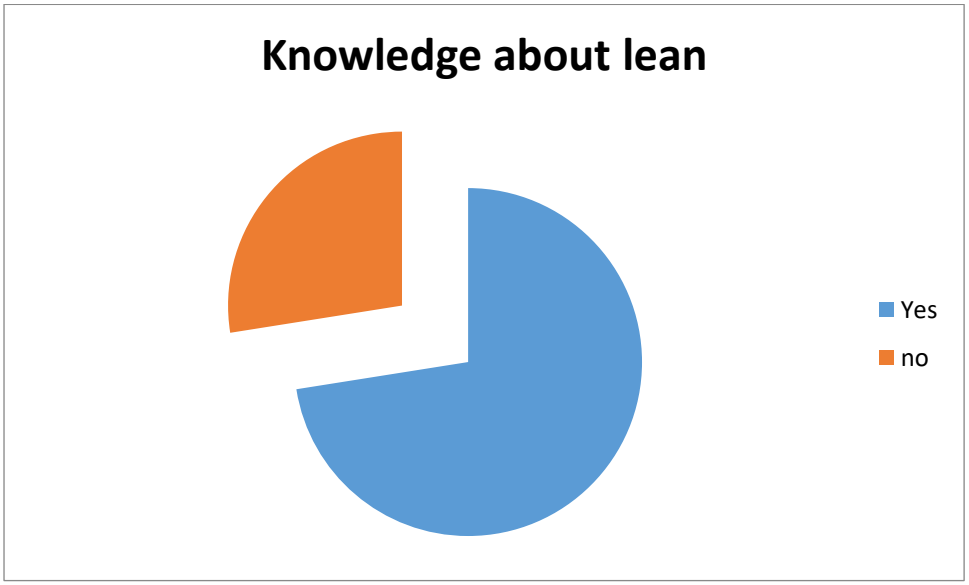
A) All participate as are outright involved to the store are masculine.



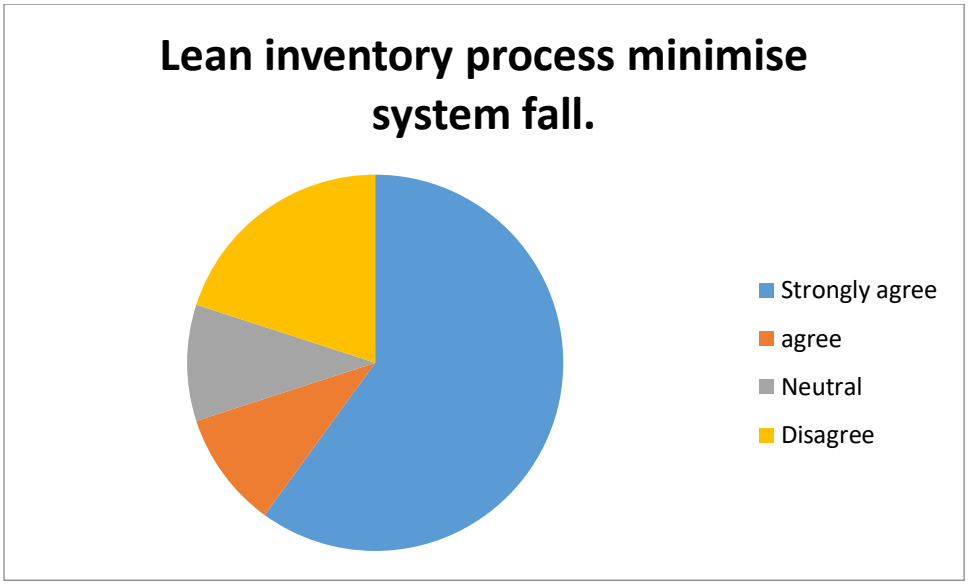
B) 10 general worker, 2 assistant manager, 3 officer & 5 supervisor



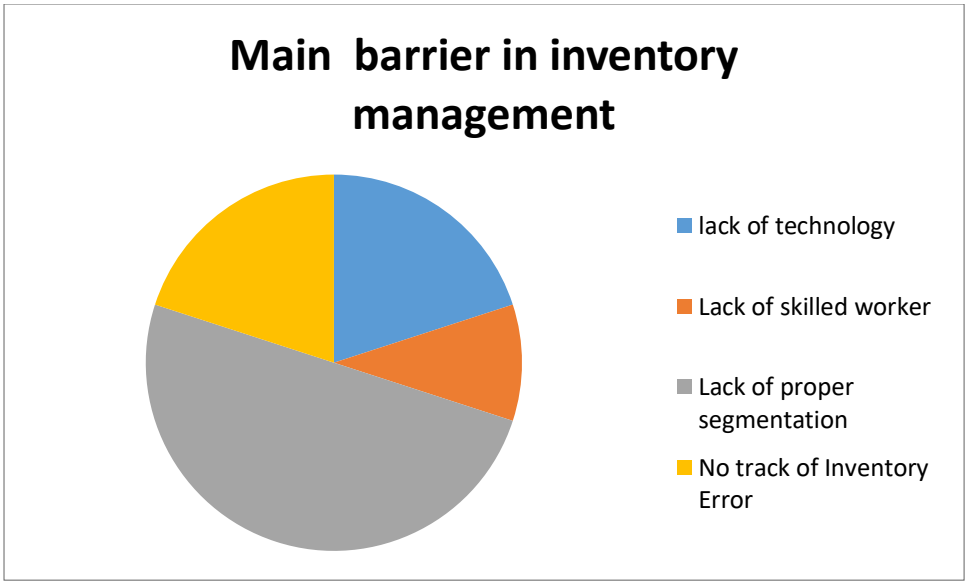
C) 72.50 % people know about this & 27.50% people don't know about this.



D) Strongly agree 60%, agree 10%,Neutral 10% & disagree 20%.



E) 50% says lack of proper segmentation, 20% say lack of technology, 10% say lack of skilled worker & 20% say no track of inventory error.



4. FINDING THE STUDY:

From my research I've found the main obstacles in the warehouse & distribution system is-

- **There is no proper layout inside the warehouse:** I found the main problem in layout. There is a very poor layout inside warehouse. All goods are store in same place, also some unnecessary goods filled up. Its hamper the full system.
- **Lack of new technology:** The warehouse runs by traditional way. There is no new technology used, that's why many problems come that hamper the profit of the company.
- **No track on inventory & distribution:** There is a track on inventory or distribution error. No way to calculate or track the error.
- **Too much time consumed in distribution because of less experienced labor:** Due to inexperienced labor, a lot of time wasted in good loading & unloading. It's a reason for delay distribution.
- **No tracking:** No tracking or BIN card use on carton. That's why problem comes on quick delivery.

There are some main findings which find out from my research. For that, a flow is losing in products receiving & distribution system. It's a huge loss of money every year. Also a products bottleneck creates on warehouse.

5. RECOMENDATION:

According to main objective of my research report, I have tried to find out main causes for system loss in a warehouse & distribution system. There some recommendation to improve the warehouse & distribution system for a smooth process-

- Apply lean inventory culture in every warehouse. Every product should be categorized in perfectly so that they can be easily found & convey to the customer whenever they are required. In addition, no improper items will be kept inside warehouse. Products of different states (solid, powder & liquid) will be kept in different spot. As a result, warehouse floor will be clean & no chance to get any accident due to improper items.
- Apply new technology & new system to the warehouse (e.g ERP). Machines with new system like forklift can be used to load or unload products from truck. Machine's can be used for pile & observe the warehouse.
- Taking record of the inventory error which inventory is wasted- what amount inventory is wasted – how it is wasted every details should be observe, so that in future inventory error can be avert.

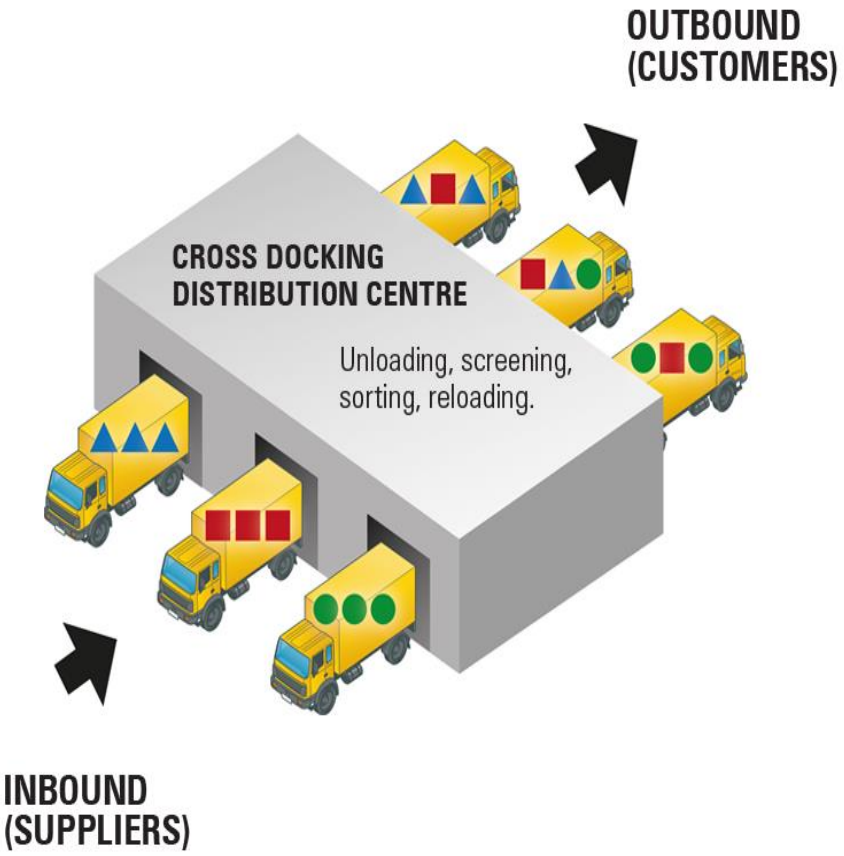
- Use BIN cards to every products.BIN cards which are referred as inventory cards or stock cards use to find products in the warehouse. It's reducing the products loading time for delivery.

- Use ABC analysis, its means value of inventory items based on their needs in the business.

SKU means stock keeping unit & is an alphanumeric code, usually 6 to 8 characters long that helps to track a stock inventory by providing information on key characteristics such as size, color, type etc. SKU number can be created manually or POS software.

- First in, first out (FIFO) also can used for avoid bottleneck.
- H-M-L analysis is also used. It means, high priced items, Medium price items & low price items.
- For the smooth products delivery, cross docking is another thing. We can use it for fast products delivery. Cross docking usually occurs on warehouse distribution terminal where trucks can continuously come & go. There are often two sides for inbound and outbound shipment with a middle area to sort & pack inventory. Simply products are received in the inbound dock from the truck & moved to the middle area for sort & inspection. After that products are directly put on outbound transport to deliver to customer.

Some shipment 24 hours in a cross dock before they are sent out their last destination.



Chapter 6

Result: From this research, we find out the reasons for system loss in the warehouse. Also make some solution that implement to our EL-NINO warehouse. After the implementation the system loss reduce, create a sustainable inventory & distribution network. As a result profitability increased. Mainly we use 5's in our warehouse. Now I describe how we implement that-

- **Reduce system loss & inventory control process:** First and foremost, Lean Warehouse Management focuses on evaluating cost centers within a warehouse facility to identify and mitigate inefficiencies. It starts with system design. This keeps fast-moving SKUs close to the ground. Then arrange the racks in a way that minimizes wasted space. In lean management, he sees inventory management as one of the biggest areas where it can be optimized. Many technological tools support this process, from barcodes and RFID tags to robotics. They are managed centrally with the help of commodity management software.

  The next step in building a lean ecosystem is to minimize product movement and employee contact. This is because the risk of items being spread or misplaced increases. Saving time is one area where the real benefits of lean warehouse management lie. Meeting tight deadlines, ensuring smooth operations during peak loads, and delivering defect-free items on time are advantages in the market.

  Lean warehousing is therefore a holistic approach to improvising output. Here are the basic principles with a brief explanation:

- **Muda**: Muda means "waste". According to the Toyota Production System, there are seven types of waste represented by the acronym "DOWNTIME." they are: D-Defect, O-Overproduction, W-Waiting, N-Unspent Talent, T-Transportation, I-Stock, M-Motion, and E-Excess Processing. As you can see, it's a waste of talent. is also taken into account. This waste not only reduces production output, but also increases the risk of operational disruption. Of the many methods available to eliminate waste, the industry-acclaimed 5S method.
- **Muri:** Muri means "overload". This is a somewhat paradoxical scenario as it represents overexploitation. When human resources and equipment are stretched beyond their capacity, they become overloaded. Suppose he runs 14 hours on a machine that can run him 12 hours without a break. Breakdowns are becoming more common. If an employee has to work 14 hours a day, productivity regularly drops. Therefore, it means eliminating waste more than necessary. A standard approach to running machines and maintenance schedules is used to avoid overburdening. Additionally, the employee is placed within reasonable workload limits and her SOP is established to ensure optimal efficiency.
- **Mura:** Mura means "unevenness". Refers to variations that exist inside and outside an organization. Within an organization, discrepancies in picking times, packing times, bundling, and shipping are examples of internal variations that affect operations. External factors may include fluctuations in demand, changes in demand for particular items, and competitor activity. As such, Mura tends to deviate from the smooth flow of activities. Solved by standardizing designs, processes and responses. This allows employees t

work with predictability and reduces deviation errors. Estimated responses also prevent delays in decision making. You can't eliminate bumps completely, but you can minimize their impact through planning and standardization.

Now, I describe how we implement 5's in our warehouse-

1. Seiri: Sort is something called Seiri. Mainly indicate the useful things & isolate them from rest. The items which are store for a long time or the wrong items came from china or buyer did not want to take some goods are cleared through discount. The goods also sold in local market if buyer available or goods declared unfit or damaged are scrapped after rake up useful things. Also we find some items that make trouble while working. Personnel movements are also included in the sorting phase. A proven method is videography to analyze these activities.
2. Seiton: Seiton means raise. The main focus is rebuilding efficiency. As first all products arranged in a accessible manner. They kept near floor & near gate. Warehouses are then mapped and all areas are tracked along with the items stored. Naming the area and labeling each shelf will make planning easier. After each item has been placed in relation to its storage area and corresponding shelf, interior floor marking is performed. This will gyre internal transportation with less hazard. Also, workers can moves fast within the foretaste. Keeping all trolleys in one place, distribute them in lower groups so that workers do not carry those full days. On the other hand racks are arranged in such way that workers can access without bending.
3. Seiso: Seiso mean clean up or shine the warehouse premises. The people think that warehouse cleanness is not necessary because of clients are not going to walk or buy in warehouse. One thing I would like to point out is the fact that dirty surfaces increase the risk of accidents and injuries. Potential hazards from dirty surfaces and floors cannot be recognized. The next step is to provide trash and disposal equipment

where needed. Also, building an internal trench is recommended when storing explosive or hazardous chemicals.

3.Shiketsu: Shiketsu mean standardize the process. This is the most important phase of implementation. We should list all areas where we have identified scope for improvement. Once improvement is visible, we can look at the process as a whole and roll out similar processes in other parts of our work. Standardization also reduce overall system as employees no longer have to make decision on their own. The most common form on standardizing processes and decision is the use of kanban. Kanban is visual pull technique that uses indicators as signals to take specific actions.

4.Seiketsu: Shiketsu means to endure. This is an obvious but tricky step. After standardization, there is a risk of recurrence due to several factors. For example, staff turnover can cause new employees to start working indiscriminately. Even if it is not properly documented, employees consciously or unconsciously, will began to relax the revised practices. To keep the benefits well, we can use the documents and video created in the previous stage. These are used to train both new & existing employees. Conducting surprise audit and maintaining audit reports is a simple yet effective way to ensure that best practice learned are maintained.

When I started my job in EL-Nino, I saw there is a big problem in distribution. A huge time gap was create between products in-house & distribution. As a result a bottle neck create in warehouse. For that reason, customer didn't get the products timely & sometimes they cancel order & many times company faces big loss in past. After my research, I'm trying to solve this problem by implementing some methods. Now I'm describing how I do this for a smooth distribution channel.

1. Firstly I saw there is problem in products in-housing, after in-housing workers didn't understand the products of different buyer. I thought I have to do something for solve this issue. Then I was implement a tool called ''BIN cards''. Bin card are referred as inventory cards, which is use to find the products in warehouse. In this way workers

can easily find different buyer products in quick time. As a result, products loading in time, for this products delivery lead time decreased & we are delivering products in a responsive manner. But it was not too much easy to adopt. We had working on it for few months & arranged a seven day workshop for training.

2. In our company, products came from china several times in a week. So, sometimes warehouse supervisor was confused which items delivery first or Sometime supervisor deliver goods for maintain relation with buyer. For this reason buyers expectation wasn't match. After research that, I was proposed FIFO, it means first in first out. Implementation of FIFO, we fulfill buyer expectation& deliver goods to correct person in correct time. Also it can avoiding products traffic.

3. When came products from china, we are categorized the in H-M-L analysis, it means high prices, medium priced & low priced items. From H-M-L implementation, workers knew the priority level of products, as a result the damage of products decrease.

4. I saw that, some bulky products load & unload by labor is time consumed & paid a big amount to labor. Then I recommended a fork lift. After purchase forklift, this problem be solved.

5. There is another problem which is instant shipment of products. Because of our products came from china, some buyer want instant delivery. This type of issues, firstly products carry to our warehouse, unload them, sorting for different buyer, measure weight then again load & delivery. It's time consuming also increase logistic expenses. To solve this problem, I develop cross docking for fast delivery, in this process trucks can continuously come & go. There are often two sides for inbound & outbound shipment with a middle area to sort & pack inventory. Simple products are received in the inbound dock from the truck & moved to the middle area for sort, inspection & weight measure. After this products are put on the outbound transport to deliver to customer. Some shipment 24 hours in a cross dock before they are sent out their last destination. By implementing this, logistic cost reduced &creates a responsive delivery process.

7.CONCLUSION: The main purpose of this research report to identify the system loss & time loss in warehouse & products distribution. Also come with some verifiable solution to fix it. I am very thankful that I have come up with some possible solutions which decrease system loss,

improve warehouse management & distribution. As a result company earns a extra money & reduce their damages. Also products bottleneck cannot hamper the smooth delivery process.

APPENDIX:

Sample Questionnaires for research:

1. What is your Gender?
    a. Male
    b. Female.
    c. None of above.
2. What is your designation in this company?
    a. Manager
    b. Assistant manager
    c. Worker
    d. Supervisor
    e. Supplier

3.Do you have knowledge or idea about lean inventory management?

a.Yes

b. No

4. Do you agree lean management can will decrease system loss inside the warehouse?

a. Agree

b. Disagree

c. Strongly agree

d. Neutral

5. What are the major obstacles nowadays for a warehouse management system?

   a. Shortage of new technology.
   b. Shortage of proper segmentation.
   c. Less track record of inventory.
   d. Shortage of trained
   e. Labor.

References:

1. Intrieri. (2015, January 08). Lean Inventory: Using Lean Initiatives To Manage Inventory. Retrieved from https://cerasis.com/lean-inventory/
2. Company Profile. (n.d.). Retrieved from https://www.bergerbd.com/index.php/company-profile/
3. Picincu, A. (2019, April 17). The Importance of Warehousing in a Logistics System. Retrieved from https://smallbusiness.chron.com/importance-warehousing-logistics- system-74825.html
4. Robinson, A. (2019, April 06). 7 Innovative Warehouse Management Technologies to Adopt. Retrieved from https://cerasis.com/warehouse-management/
5. Hector. (2018, March 06). Lean Warehouse Management and Why You Need It. Retrieved from https://articles.cyzerg.com/lean-warehouse-management-and-why- you-need-it
6. https://theleanway.net/The-Five-Principles-of-Lean

7. https://www.cin7.com/industry-terms/lean-warehousing