Current Analysis and Improvement Proposal in the Warehouse Area, Case Study; A Company of the Textile Spinning

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Abstract. This article conducting a situational analysis and improvement proposal in the warehouse area in a business of textile twist in the state of Tlaxcala, which is to obtain current information on how the company manages the area described warehouse, in order to find areas of opportunity, both in their characteristics and physical conditions, as and related company busy activities, likewise has detected a steady organizational increased, this leads us to the need to improve or adapt the storage area needs to meet their needs. This analysis was performed in normal working hours, by interviews, questionnaires, observation methods in detail.

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1. Introduction

The pre-Hispanic world based its textile industry and the way they dress in their beliefs, their way of life and especially in the resources they had, with the arrival of the Spaniards were affected drastically, Spaniards, led by Hernán Cortés in 1521 and helped by their Indian allies overthrew the Aztec empire and behind him, all pre-Hispanic empires. Indians who remained homeless flocked to the new Spanish houses, where to be protected, covered, receive food and indoctrinate in the Christian faith, paid their stay with slavery, paying tribute to this process was called entrustment, for indigenous peoples, paying tribute was part of a fully accepted system had to deliver textile pieces like bales of cotton and fabrics (Page, 2012). For the year 1580, the high Mixteca had become the largest producing area of New Spain, joining him Oaxaca, Tlaxcala and Puebla, the fact of having introduced Mexico new fibers like silk and wool meant for Spanish import both suitable machinery as tailors who could train indigenous use of this, the loom pedals or colonial loom, greatly facilitated the work of textile artisans in the Valley of Mexico, the Bajio and the Puebla-Tlaxcala region (González, 2005)

A store is a service unit in the organizational and functional structure of a commercial or industrial enterprise with well-defined objectives receipt, custody, control, and supply of materials and products (García Cantú, 1996).

1.1. Material Flow in Stock

The flow of materials in the warehouse responds to one of its intrinsic characteristics because the stay of the products inside the store is temporary and everything that enters the facility must come out. This flow in the warehouse can be simple or complex, depending on each company's internal operations to be carried out with the goods, the amount of this and how to move it. The different material flows can be illustrated by simple flowcharts or flow diagrams.

1.2. Flow Rates

Flows are movements that are performed with the units entering the warehouse, inside and departure.

- Simple flow: To understand how these movements work, you can begin to illustrate the simplest flow exists, which occurs when provided, unfractionated, the same units of the freight shipping provider.
- Medium Flow: In this type of flow, they start to get complicated movements. It is commonly found in stores with combined generally with the simple supply of complete pallets or picking operations.
- Complex flow: There are stores that have different work areas depending on product types and consumption. Often, they have areas of intermediate manipulations and may need various operational flows that require certain complexity or highly complex. In this diagram, is an example of such facilities and load movements which may

occur in them is observed. Moreover, the larger the store, more travel must make handling equipment and staff, so it is also higher the final cost of operation. Centers with a lot of movement, it has to analyze the desirability of using automation so that the product is man, rather it is the man who goes to the product (ESMENA, 2018).

2. Literature Review

In literature, we can find alternatives that provide us with information or a guide that will allow us to detect in it the characteristics that help us to provide solutions to our problems, failures or feedback according to the needs of the area, which in this case is in stock of the company. The topics of information that may be useful to consider and give a possible solution to the current needs are mentioned.

Table 1: *Literature review* regarding *Inventory and Systems Warehouse*

Topic name
Inventory Systems 1. System continuous review inventory 1.1 Variable Demand and time constant anticipation 1.2 Constant demand and variable time advance 1.3 Variable Demand and variable time advance 2. Inventory System Periodic Review 2.1 Variable Demand and time constant anticipation 2.2 Constant demand and variable time advance 2.3 Variable Demand and variable time advance 3. Inventory Systems with theoretical distributions (Guerrero Salas, 2011). 4. Inventory Control System (Hubbard, 2002; Jacbos, & Chase, 2016) 4.1 ABC classification system 4.2 Classification Unit price 4.3 Classification of the total value 4.4 Classification by use and value 4.5Clasificación for its contribution to profits (Guerrero Salas, 2009). 5. Inventory Control 6. Control methods and techniques inventory management 7. The basic model of EOQ (CEP) 8. Reorder point 9. Inventories of inventory reserves or security 10. Inventory control just in time. (Emprende SME, 2016) *Warehouse* 1. Material Flow in stock • Flow rates • ABC rotation product 2. Distribution of products throughout the store according to their rotation (ESMENA, 2018). 3. Distribution of facilities 4. Logistics and location of facilities (Chase, Jacobs, & Aquilano, 2009).

Source: Authors, Own elaboration (2019).

In Table 1. Control systems, methods for inventory, warehouse issues to consider as literature review and analysis for the proposed application, in line with its distribution, classification and current characteristics of the company are mentioned.

3. Methodology

The methodology used in this study is delimited according to the type of research design and data collection, this research is descriptive, a series of questions are selected and each is measured independently so it will be described what is investigated, qualitative and quantitatively based by observing behavior of the medium in the storage area the research will analyze the current situation storage area, diagnose function characteristics, according to the above improvements according to the needs of the spin textile company will be proposed.

3.1. Design

The design of this research is based on non-experimental design, since their study is to analyze their variables and natural activities in real time, without any, affecting the development of the activities of the company intervention.

3.2. Techniques for Data Collection and Analysis

Source Document: gathering information through reports, physical, electronic records, and information provided by the company.

Direct observation: the systematic use of our senses to obtain data through a personalized visit to the warehouse, observing their processes, graphics, etc.

Interview: data collection by the interviewer to direct personnel responsible for the areas of interest to investigate to know in detail the operation thereof.

Tools: to identify what are the possible causes that produce the problem, deficiencies or reasons for a possible malfunction and monitoring storage area, the following will occur; Flowchart (methodology), diagram cause-effect.

In the following figure, the methodology performed in this investigation is shown; This methodology is divided into three phases: Phase I study, Phase II. diagnosis and Phase III. improvement, each phase will aim to identify the location corresponding to each of the phases for the current diagnosis of the area inventory, root causes, and therefore the proposed improvements and/or suggestions according to current needs the organization, each step is detailed in the following.

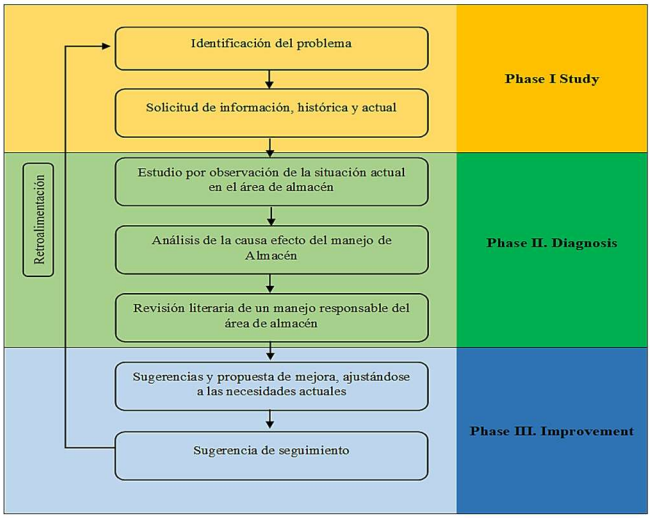

Figure 1. Flowchart Methodology
Source: Own elaboration (2019).

Development Methodology

Analysis Phase I.

It is important that the company carry out a proper functioning of the storage area, able to fit current organizational needs, which is submitted by business competition; however, it is advisable to study the conditions in which it finds its warehouse mishandling this could lead to not use their own characteristics, to develop appropriate work and monitoring the above agreement was analyzed to information historical and current company.

Phase II. Diagnosis

According to the study of general observation and within the company it allows us to see some situations where it is currently immersed. It is a small company in growth opportunity, with 12 years of experience in the textile industry.

Figure 2. Entry and access to the storage area.
Source: Company textile spinning, (2019).

Entrance, hallway area with obstacles without identification and delimitation

Figure 3. Output and access the storage area.
Source: Company textile spinning, (2019).

Exit, there are unlabeled materials and other materials

Identification of causes in the warehouse area

Following the visual diagnosis, according to the above figures, it can be said that; The store is designed without order, without specific delineation, lack of identification of materials increases the job search and the existence of other materials cause clogging of accesses, entrances, Outward, causing disruption in loss movements and time for adequate mobility, distribution, and optimization of space.

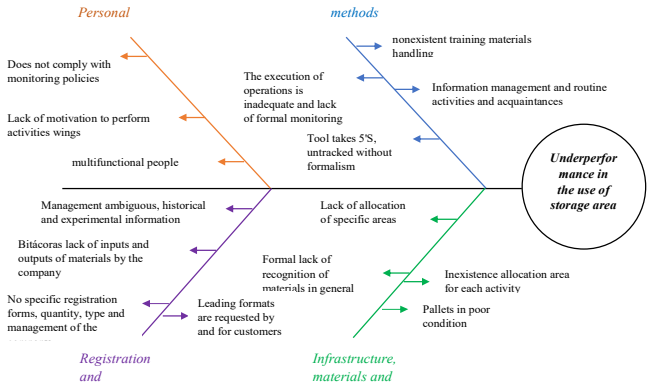

Figure 4. Analysis of the current situation of the inventory control system in the company, using the Ishikawa diagram.
Source: Own elaboration, (2019).

Shows the analysis of such factors as: Personal, Methods, registration and documentation, Infrastructure, materials and equipment, as well as each of the elements of the through Ishikawa diagram allows us to know the current situation the warehouse area leading the company, presented factors show deficiencies and characteristics that lead to poor monitoring and management of the warehouse area.

4. Results

According to observations in the warehouse area with respect to the diagram of Ishikawa, the company is immersed in a complicated situation, the features are shown according to diagram cause-effect developed in the warehouse area will allow us to bring in a better way handling management. The figure presented above shows

the current situation, the diagram shows the theoretical reasons why the storage area is not handled properly, do not track and do not have the staff to be responsible for the specific task, leading the shortcomings of the optimization of all resources.

5. Discussion

The purpose of this study is to provide a current review of warehouse area in a business of textile twist in the state of Tlaxcala, considering the background, information on the evidence, information obtained through the Ishikawa diagram, and the investigation of the literature review, the following is considered.

5.1. According to Historical Background

Qualitative or quantitative, digital and physical historical records of the company in any department show that all information is empirical, experimental and knowledge, people who perform tasks in store are staff who have dealt with the company since its inception, this it means they are the owners of the company who manages this process, also the train a specific staff to handle specific tasks in this area find it inconvenient because it would unleash responsibility have been for years, which have delegated so far is to have a support to support them in the work, we know that all activities of the storage area are important and essential, counting methods, systems and continuous revision is paramount likewise when a change is made or intends to make any, may have data that can be measured and to compare for future improvement and appropriate follow-up, therefore, the following is recommended:

- Have specific formats belonging to the enterprise
- Having logbooks, checklist, input and output formats belonging to the enterprise
- Having a Layout of the company, for each area and of course the storage area
- Organizational manuals and other important information attributing personnel management, processes in general, inventories, and monitoring its evolution within the company.

5.2. According to the Ishikawa Diagram

Ishikawa diagram helps us visualize a more explicit picture of the situation, according to what is represented in it, you must:

- Delegate specific responsibilities to be responsible for the review, control, management, and monitoring warehouse operation
- Recruitment or training of personnel for the tasks involved in warehouse
- Consider using the tools, methods, systems adapting to the characteristics and needs of the store
- Training for the use of materials and equipment and their work in the warehouse area
- Training using specific labels, designated areas, tasks, procedures, operations and processes performed in the storage area

5.2. According to the Literature Review

According to the investigation of the literary review of the proposed topics and after analyzing each piece of information is considered to be:

- a system, method, control for the best warehouse management, according to the needs of the company and select
- It is considered to consider making an ABC classification for materials overall design Lay Out for the company and warehouse, designation of specific areas of distribution and utilization thereof, implementation and monitoring processes within the warehouse; records, registration documentation for future improvements to the above will be according to the above-revised data were consistent with existing data and proper handling.

Suggested Monitoring and Feedback

Tracking tasks each of the processes in the company and in specific areas, have an important impact, since acquired, past or future data shall aim of being able to review when required and to make a comparison of improvement, also in case you want to perform other tasks current need, the information at hand, which will serve to business growth well.

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