

A RESEARCH ON MATERIAL HANDLING IN WAREHOUSE

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ABSTRACT:

Material handling in simple term which is nothing but movement of raw goods from the hometown place to the point of use in manufacturing, and also transfer of finished products from factories and to sales outlet. The purpose of this survey is to analyze the level of understanding about material handling among employees and to evaluate the factors to be considered for better material handling in the warehouse. A statistical method is used to determine the sample to ensure that the size of the sample is represented for the whole population. The respondents comprised 54 respondents, i.e. 19 males and 35 females. The questions were formulated as statements and respondents had to give opinion and views based on their perspective and Likert scale was provided for scaling the response. Data analysis such as Frequency Distribution and Mean have been undertaken for interpreting the results. The results show that there should be improvement in the whole material handling system. This study talks about the importance of the quality education in the material handling in the warehouse and gives you a wider knowledge about this.

KEYWORDS: Material handling, Material Management, Shipping and Receiving, Sustainable development, Loading and Unloading, Warehouse Operation, Manufacturing, Quality Education.

INTRODUCTION:

Material handling process plays a major role in every warehouse and it is also more important to have an effective Material handling process or way to be followed for the company's growth. The aim of this study is to know the current material handling flow and to suggest the suitable ways to handle the materials effectively and to get rid of problems facing in warehouse as well as employees. If you have an effective Material handling therefore it results in increase in profitability of an industry which gains the companies reputation in the market. In this study we understood that employees were not convinced about the current Material handling process, hence therefore the solution have been suggested, as it is more important to make their employees feel good in their work place. Similar researches have been conducted by many authors (Benita, 2021; Monica, 2021; Kumar, 2020; Kumar & Shree, 2019; Monica & Supriya, 2019; Mahesh & Uma Rani, 2019; Mahesh, Gigi, & Uma Rani, 2019; Robert & Monisha, 2019; Kumar & Shree, 2018).

REVIEW OF LITERATURE:

Perttula and H. Laitinen, et.al (2003) This study is to examine about occupational accidents at construction site and is to define all kinds of accidents in material handling.

Ragunathan, S., and L. Karunamoorthy (2006) Has studied about “Reconfigurable Robotic Gripper” studied about pneumatic technology which has been designed and developed for grasping fabric materials in garment industries automation. The motive of this is to have low inertia, full flexibility and high modularity to the picking of imp materials.

Jiang, Bernard, et.al (1986) Has studied about a large percentage of back injuries is the result of manual materials handling tasks. It should be designed to eliminate workers risk.

Yau and Wen Sheng, et.al (2020) Has studied about” The warehouse automated material equipment adoption” he introduced Buffer Allocation Problem. To resolve this issue several methods have been proposed including simulation modelling.

Erzincanli and S. Erhal, et.al (1998). Has invented “The application of automation for handling nonrigid products”. Though non-rigid products have some where unpredictable and unstable behaviour from the individual physical properties which made end effectors difficult to control with non-rigid materials.

Karwowski and Waldemar, et.al (1987). Has introduced knowledge based expert system for analysis of manual materials handling tasks. It determines maximum weight which can be handled industrial workers, evaluating the risk of injuries, maximum acceptable loads of lifting and also advice for manual handling task.

Walraven and Lynne Louise (1989). Has studied about “Identification and analysis of manual materials handling tasks within a commercial warehouse”. The performance will be assessed under working conditions through observational methodology of data collection.

Ferreira and Tremaine Pierre (2015). Has studied about introducing (AGV) based material handling system for industrial system, which has cost effectiveness, job efficiency and safety aspects.

Dell and Geoff (1992). Has studied about "Information processing in designing manufacturing systems with material handling." This work related to an automated method to generate accurate thermodynamic and kinetic data.

RESEARCH METHODOLOGY:

Research methods are the strategies or techniques utilized in the collection of data or analysis in order to evaluate or uncover new information for better understanding of a topic.

DATA ANALYSIS and INTERPRETATION:

1. Frequency Analysis

Table 1.1 Analysis of Age

Age of the respondents			
s.no	Age group	Frequency	%
1	20-30	15	27.8
2	31-40	8	14.8
3	41-50	17	31.5
4	50 above	14	25.9
Total		54	100.0

Interpretation:

The chart 1.1 indicates the frequency and percentage values of age distribution. It is understood that from table the majority of the respondents are in the 41 - 50 years range (31.5%) and the lowest aged ones are in the age range 31 - 40 years (14.8%)

2) Analysis of Gender:

Table 1.2 Analysis of Gender

Gender of the respondents			
s.no	Gender	Frequency	%
1	Male	19	35.2
2	Female	35	64.8
Total		54	100

Interpretation:

The chart 1.2 indicates the frequency and percentage values of gender. It is interpreted that that majority of the gender type are female (64.8. %) when compared to male population (35.2%).

3) Analysis of Annual Income

Table 1.3 Analysis of Annual Income

Respondents annual income			
s.no	Annual income	Frequency	%
1	1.5 L – 2 L	6	11.1
2	2.5 L – 3 L	21	38.9
3	3.5 L – 4 L	27	50.0
Total		54	100.0

Interpretation:

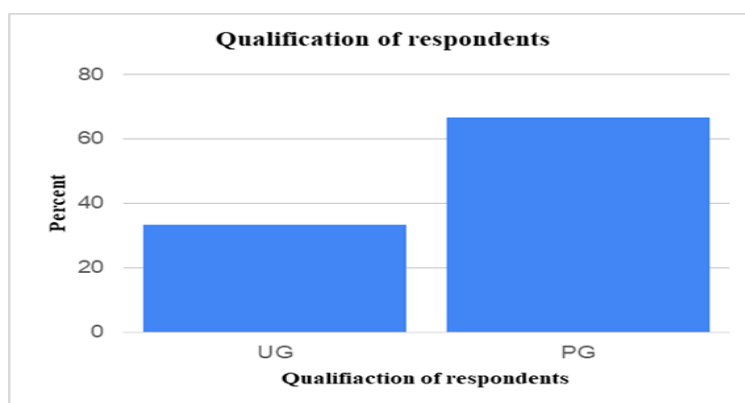
The chart indicates the Frequency and Percentage value of annual income. It is understood from the table that Majority of People annual income is less than 3.5 L – 4 L (50%). Almost 6% of the people have an annual income in the range 1.5 L – 2 L (6%), which is the lowest range recorded.

4) Analysis of Qualification

Table 1.4 Qualification of the Respondents

Qualification of Respondents			
S. No	Qualification	Frequency	Percent
1	UG	18	33.3
2	PG	36	66.7
Total		54	100.0

Chart 1.4 Qualification of the Respondents



Interpretation

From the table 4.4 we understand that 66.7 % of the respondents have post graduate qualification and 33.3% have UG qualification.

2) Mean Analysis Table 2.1 Mean Analysis

	N	Mean	Rank
Implementation of alternative method in material handling	54	3.055555556	2
Natural calamity creates problems in handling material	54	3.185185185	1

Interpretation

From the table 4.19 indicates the mean analysis of questionnaires. The mean from the questionnaires is between 1 to 4. The maximum of questions has got the mean 3. This shows that the respondents are somewhat disagree with the questionnaires.

CONCLUSION:

The study was conducted to understand **A STUDY ON MATERIAL HANDLING IN WARE HOUSE** in EBM papst. Factors which influence Material management in a warehouse were studied and comprehended through employee questionnaires. Mismanagement & possible cases of improving the efficiency in the material handling process were suggested and presented to the company. It was also observed that material/ resource planning software is having strong positive linear relationship with MATERIAL HANDLING. So, a well-structured Material handling software combined with an empowered workforce with their problems (identified) addressed shall definitely mean improve the material handling efficiency in EBM papst and improve residence time.

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