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A Study on Inventory Management System in Bharat Plastic Industry, Ambattur

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I. Introduction

Inventory refers to physical stock of supplies which are saved as reserved source for smooth and proficient running of upcoming dealings of an organization at the least expenditure of funds blocked in inventories. It is also called the redundant resource of a company. A proper inventory control aims at lowering the cost of inventory, production and maximizing the profits of the firm. The following are the advantages of adopting the efficient inventory management

- lessening of investment in inventories
- appropriate and efficient use of raw materials
- Ensuring continuous production and maximum sales
- Maintaining sufficient stock of finished goods for smooth and timely supply of goods to customers and maintain their patronage
- Minimizing inventory costs
- Efficient and optimum use of physical as well as financial resources

II. Review of Literature

Juna and Mertinez (2002). In order to understand the possibilities of bringing down the number of debtors in the inventory section, 8872 Spanish firms were utilized. They have made use of small and medium-sized firms from Spain.

Lazaridis and Dimitrios (2005). Here they have come up with the need to manage the inventory well if not there would be problems of extra capital.

Rajeev (2008). 91 Indian Machine tool SMEs were made use for this study. In this they had verified the prevalent practices in inventory and the occurring cost for the same. This was expected to generate affirmativeimpact on the organization.

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III. Research Problem

This particular topic is chosen for the study since the inventory occupies a major position of Working Capital in a manufacturing and trading organization, thus calling for its efficient management and control of handling inventories. So the study attempts in unveiling the current scenario of the organization with respect to the inventory planning and control and its management.

IV. Objectives of the Study

- To identify the current inventory system adopted in Bharat Plastic Industries
- To determine the satisfaction level of the employees with the intervention of RFID (Radio Frequency Identification) in the inventory management.
- To inspect the level of satisfaction of the employees with the respect to the facilities available at the warehouse.

V. Research Methodology

This research is of descriptive type.Self-administered questionnaires were used to gather primary data. Secondary data was gathered from other research papers and articles with the help of online databases like EBSCO Host, JSTOR and Research Gate. Using simple random sampling, the data were collected from 109 employees of Bharat Plastic Industry, Ambattur. IBM SPSS Version 21 was utilized to analyse the data. The tools employed were frequency distribution and chi square test.

VI. Hypotheses

H_0- There is a felt association between respondents' experience and the important activities that affect the warehouse management system

H_0- There is no significant association between education of the respondents and the training given to handle the equipment used at warehouse.

H_0- There is no significant association between experience of the respondents and the satisfaction with the impact of RFID (Radio Frequency Identification) technology on the warehouse management.

H_0- There is no significant association between experience of the respondents and the impact of inventory management system.

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VII. Empirical Analysis and Results

Table No. 1: Demographic Profile of the Respondents

Demographic factors	Categories	Frequency	Percentage
Age	25-30 years	14	12.8
	30-40 years	38	34.9
	40-50 years	48	44.0
	50-60 years	05	4.6
	Above 60 years	04	3.7
Education	Under graduate	67	61.5
	Post graduate	11	10.1
	10th Standard	14	12.8
	12th Standard	13	11.9
	Uneducated	04	3.7
Experience	0-1 years	19	17.4
	3-5 years	18	16.5
	5-8 years	11	10.1
	More than 8 years	61	56.0
Sex	Gents	85	78.0
	Ladies	24	22.0

Inference

The above table identifies that there is a total of 44% between the age of 40 and 50 years of age. From the point of view of education, 61.5% are undergraduates. As far as experience is concerned, those who have a minimum of 8 years or above are 56%. 78% are gents.

Hypotheses Testing

Table 2: Association between experience and the activity considered important for effective warehouse management

Chi-square test

	Value	Df	Asymp sig(2-sided)
Pearson Chi-Square	25.322	12	0.013
Likelihood Ratio	29.122	12	0.004
Linear-by-linear Association	0.225	01	0.635
N of valid cases	109		

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Inference

From the above table, it is inferred that the p value is 0.013 which is less than 0.05. Hence, null hypothesis is rejected at 5% significant level and alternative hypothesis is accepted. Therefore, there exist an association between respondents experience and activities considered important for effective warehouse management.

Table 3: Association between education and training given to handle the equipment.

Chi-Square test

	Value	Df	Asymp sig(2-sided)
Pearson Chi-Square	6.703	4	0.152
Likelihood Ratio	5.764	4	0.217
Linear-by-Linear Association	0.061	1	0.805
N of valid cases	109		

Inference

In the table p value is 0.152. This value is bigger than 0.05. So H0 remains accepted and H1 is rejected. That is to say, there is no relevant association between education and training for handling the equipment used at warehouse.

Table 4: Association between experience and impact of RFID (Radio Frequency Identification)

Chi-Square test

	Value	Df	Asymp sig(2-sided)
Pearson Chi-Square	29.990	16	0.018
Likelihood Ratio	29.617	16	0.020
Linear-by-linear Association	0.069	1	0.793
N of valid cases	109		

Inference

The table presented above shows that the p value is 0.018. It is lesser than 0.05. Therefore H0 remains rejected for 5% significance and H1 gets accepted. That is to say, there is a deep association between experience of the respondents and the impact of RFID (Radio Frequency Identification) on the warehouse management.

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Table 5: Association between experience of the respondents and impact of inventory management system

Chi-Square test

	Value	Df	Asymp sig(2-sided)
Pearson Chi-Square	28.803	12	0.004
Likelihood Ratio	29.979	12	0.003
Linear-by-linear Association	0.931	01	0.334
N of valid cases	109		

Inference

According to this table p value remains 0.004. It is again lesser than 0.05. So H0 goes unaccepted and H1 gets accepted. That is there is a significant association between the experience of the respondents and the impact of inventory management system.

VIII. Findings

- 44.0 per cent of the respondents are from the age group of 40-50 years.
- 61.5 per cent of the respondents are under graduates in case of education.
- 56.0 per cent of the respondents possess more than 8 years of experience.
- 78 percent of the respondents are male.
- There exist a significant association between experience of the respondents and the activities considered important for effective warehouse management system.
- There is no significant association between education of the respondents and training given to handling the equipment.
- There exist a significant association between experience of the respondents and the impact of RFID (Radio Frequency Identification) on the warehouse management.
- There exist a significant association between the experience of the respondents and the impact of the inventory management system.

IX. Suggestions

- RFID technology cannot be utilized for packing liquid contents. Hence alternatives can be adopted.
- To minimize the defective rate, it is advisable to install multiple RFID throughout the process.
- Should adopt the inventory management techniques like EOQ, ABC analysis, JIT, VED, FSN etc, to run the firm with effective control over the system.

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X. Further Scope of the Study

The study can also be further compared with the industry behavior of other bearings companies and benchmark company in terms of their cost ascertainment, cost accounting procedure and their cost control methods.

XI. Conclusion

Each area of the Bharat Plastic Industries is evaluated independently to ascertain the inventory management system could afford the supplementary functions. Although there are some exceptional challenges that need to be overcome, inventory management system is still a promising technology for a proficiently operated warehouse and enables item level visibility throughout the supply chain at Bharat Plastic Industries.

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