



THE EFFECT OF INVENTORY MANAGEMENT PRACTICES ON OPERATIONAL PERFORMANCE IN AUTOMOTIVE INDUSTRY, INDIA

Venkatesha M

Senior grade lecturer, CP Dept, WPT, S J P Campus, Bengaluru-560001.

Abstract

This review has analyzed the impact of stock administration rehearses on usefulness at India. The review zeroed in on a hole that hasn't been investigated previously: the impact of inner construction. Quantitative and blended examination was utilized on both essential and optional information. The discoveries have shown that stock administration practice has lessen creation costs, limits scrap and items, forestalls deficiencies and stock out costs, limits machine vacation, diminishes the length of conveyance time, and meets client prerequisites. Along these lines, there is a positive association between stock administration rehearses on usefulness.

Keywords: *Inventory Management System, Strategic Supplier Partnership, Information Communication Technology (ICT), Inventory Management Practices.*

Introduction

Inventory control is vitally important to almost every type of business, whether product or service oriented. A proper balance must be struck to maintain proper inventory with minimum financial impact on the customer. Inventory control is the activities that maintain stock keeping items at desired levels. In manufacturing since the focus is on physical product, inventory control focus on material control. The term inventory includes raw materials, finished packaging, spares and other stocked in order to meet an unexpected demand or distribution in the future. Inventory means physical stock of goods which is kept in hands for smooth and efficient running of future affairs of an organization at the minimum cost of funds blocked in inventories. The fundamental reasons for carrying inventory is that it is physically impossible and economically impractical for each stock item to arrive exactly where it is needed exactly when it is needed.

Inventory management is the integrated functioning of an organization dealing with supply of materials and allied activities in order to achieve the maximum co-ordination and optimum expenditure on materials. Inventory control is the most important function of inventory management and it forms the nerve centre in any inventory management organization. An inventory management system is an essential element in an organization. It is comprised of a series of processes which provide an assessment of the organizations inventory. Inventory generally refers to the materials in stock. It is also called the idle resource of a company. Inventories represent those items which are either stocked for sale or they are in the process of manufacturing or they are in the form of materials which are yet to be utilized. Inventory is a detailed list of those movable items which are necessary to manufacture a product and to maintain the equipment and machinery in a good working order.

Review of literature

Ahmed Taher et al (2012) Overall the pharmacists influence 39 percent of all purchase decisions for pharmaceuticals with higher levels of influence in lower social class neighborhoods. Approximately one out of four pharmacists was classified as an Influencer. In developing countries, the pharmacist plays a key role in which medicines patients ultimately purchase. Marketing activities directed toward the



pharmacist may provide an important opportunity to maximize the pharmaceutical firms' return on marketing investment.

AmrikS.Sohal (2000) OzPharm (the name of the company and other specific details have been disguised to protect confidentiality), Australia's leading pharmaceutical manufacturer, is a world leader in the application of advanced manufacturing technologies (AMTs) to the manufacture of pharmaceutical products. In response to high quality requirements and declining profitability, OzPharma decided to focus its product range and invest substantially in research and development and AMT. With a vision for a "paperless" factory and a commitment to total quality management, OzPharm has successfully introduced computer integrated manufacturing (CIM) technologies to their manufacturing facility. Improvements in process and product quality have secured OzPharm's competitive position and reaffirmed its strategic direction for the future. This paper examines OzPharm's approach to the implementation planning, installation and assessment of the technologies used. Specific emphasis is given to the company's most complex CIM venture, and the difficulties, lessons, limitations and benefits gained from AMT.

Andrea J. Cullen & Margaret Taylor, (2009) The paper yields five composite factors that are perceived by users to influence successful e-commerce use. "System quality," "information quality," "management and use," "world wide web – assurance and empathy," and "trust" are proposed as potential critical success factors. Of these, all respondents ranked information quality, system quality, and trust as being of most importance, but differences in the rankings between purchasing and selling respondents are evident. The empirical study is limited to a single supply network, and although the findings seem intuitively to be of relevance to other sectors and supply contexts, there remains an opportunity to test this through further research. There is also an opportunity to extend the survey research, particularly into the wholesaler organisations that operate in the sector of study. The managerial implications that result from this research provide practical guidance to organisations in this sector on how to ensure that e-commerce systems for B2B buying and selling are used successfully.

Anup Kumar et al (2015) The results demonstrate that lagged effects can lead to changes in efficiency scores, rankings, and efficiency classification. So, using static DEA models in dynamic environment can be potentially misleading. Using impulse response analysis, it has been seen that shocks given to marketing strategy in MR affects more at each of the decision-making unit's (DMU's) compared to other variables, further the authors could also investigate the dependent variables (output) shocks to input variables.

Ana R Vila-Parrish, et al (2006) Pharmacy material managers are challenged with developing inventory policies given changing demand, limited suppliers, and regulations affecting supply. Pharmaceutical inventory management and patient care are inextricably linked; suboptimal control impacts both patient treatment and the cost of care. We study a perishable inventory problem motivated by challenges in pharmaceutical management. Inpatient hospital pharmacies stock medications in two stages, raw material and finished good (e.g. intravenous). While both stages of material are perishable, the finished form is highly perishable. Pharmacy demand depends on the population and patient conditions. We use a stochastic 'demand state' as a surrogate for patient condition and develop a Markov decision process to determine optimal, state-dependent two-stage inventory and production policies.



Objectives of The Study

1. To study the Inventory Management System followed in the automotive companies
2. To analyse the procedure for strategic supplier partnership adapted in the companies
3. To identify the information of communication and technology in automotive companies.
4. To recognize inventory management practices adapted in automotive companies

Statement of the Problem

The lack of good inventory management had adversely affected the enterprise. Poor inventory management had resulted over or under stock of inventory and this leads to interruption of operation and increasing cost. A misplaced inventory, design solution can be to incorporate clearly written standard operating procedures for checking in and storing inventory items, bar coding technology that identifies an item’s location and instituting periodic physical inventory counts.

Scope of the Study

This study was mainly concentrated on inventory management adopted by the company. The mode of selecting the vendors, managing the orders and further process for satisfying the requirement are analysed. The company’s purchase procedure will influence more on the level of inventory of the company. So, the study of the inventory management has vital role to understand the efficient system of the company.

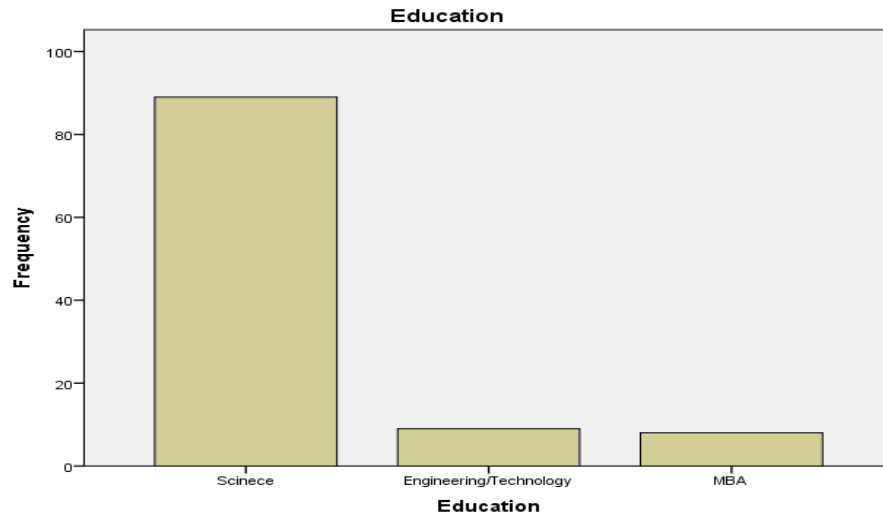
Research Methods

Research refers to a search for knowledge. It is a systematic method of collecting and recording the facts in the form of numeric data relevant to the formulated problem and arriving at certain conclusions over the problem based on collected data. In the research design we have used descriptive, data collection has been both primary and secondary, sampling procedure is simple random sampling as well as size of sample is 106 and scaling Likert practice have been done.

Results and Discussion

Table and Graph 1: Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Science	89	84.0	84.0	84.0
Engineering/Technology	9	8.5	8.5	92.5
MBA	8	7.5	7.5	100.0
Total	106	100.0	100.0	

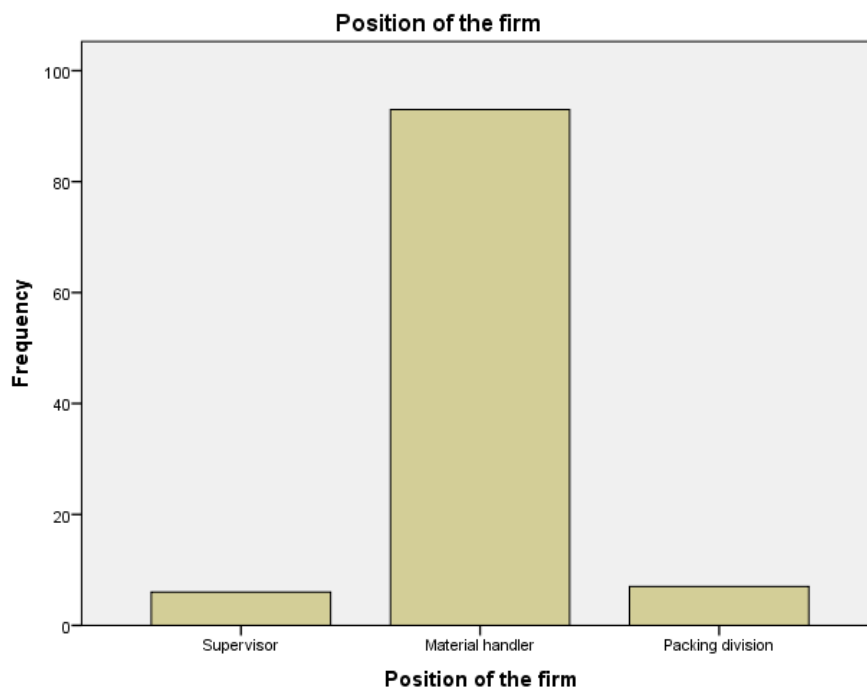


The above table shows that 84% of respondents are of science background, 8.5% of the respondents are of Engineering background, and 7.5% of the respondents are of MBA background.

Table and Graph 2: Position of the firm

	Frequency	Percent	Valid Percent	Cumulative Percent
Supervisor	6	5.7	5.7	5.7
Material handler	93	87.7	87.7	93.4
Packing division	7	6.6	6.6	100.0
Total	106	100.0	100.0	

The above table 2 shows that there are 87.7% are material handler, 6.6% are packing division people and 5.7% are of supervisors.





		Frequency	Percent	Valid Percent	Cumulative Percent
	<=5	96	90.6	90.6	90.6
	6 to 10	4	3.8	3.8	94.3
	>10	6	5.7	5.7	100.0
	Total	106	100.0	100.0	

Here in the above 3 table 90.6% are of =>5 years of experience, 3.8% are of 6 to 10 years of experience, and 5.7% are of >10% experience.

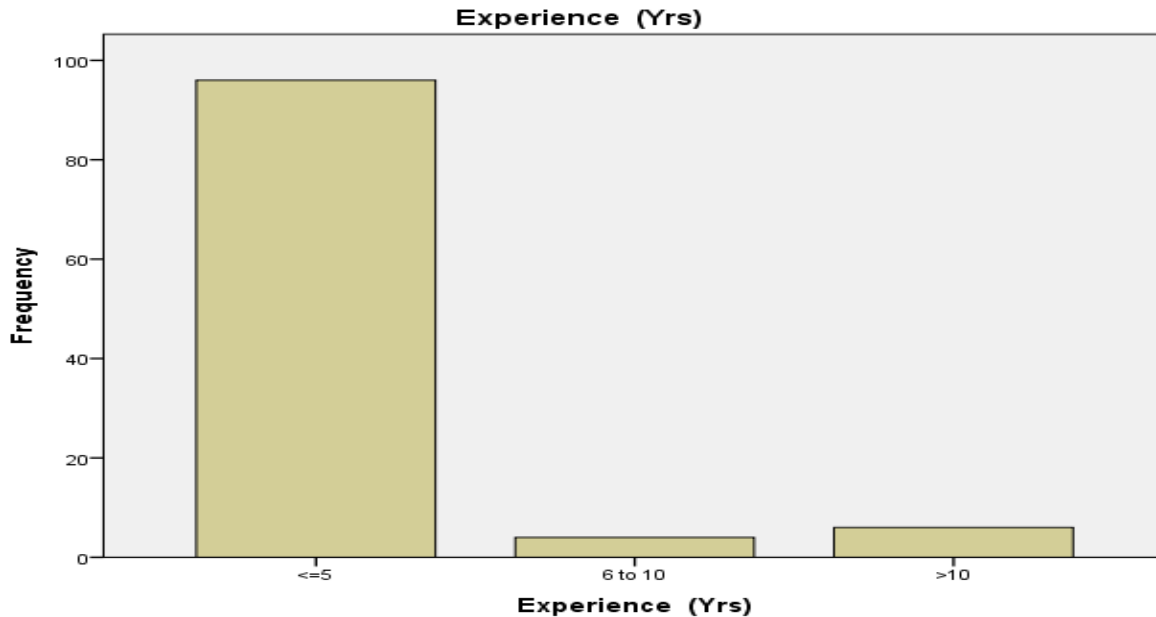


Table 4: F-test for Education Vs Independent Variable

		Sum of Squares	df	Mean Square	F	Sig.
Inventory Management System	Between Groups	1.139	2	.570	.524	.594
	Within Groups	111.955	103	1.087		
	Total	113.094	105			
Strategic Supplier Partnership	Between Groups	.492	2	.246	.203	.816
	Within Groups	124.612	103	1.210		
	Total	125.104	105			
Information Communication Technology (ICT)	Between Groups	.140	2	.070	.046	.955
	Within Groups	157.897	103	1.533		
	Total	158.038	105			
Inventory Management Practices	Between Groups	4.152	2	2.076	1.505	.527
	Within Groups	142.112	103	1.380		
	Total	146.264	105			



From the above table it is analysed that the calculated value is greater than level of significance (0.05). Therefore, null hypothesis is rejected and alternative hypothesis is accepted. Hence there is significant relationship between Demographic variable and independent variable.

Table and charts 5: Association between Competitive advantage and IVModel Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.547 ^a	.299	.272	1.00691	.299	10.788	4	101	.000

a. Predictors: (Constant), Inventory Management Practices, Information Communication Technology (ICT), Inventory Management System, Strategic Supplier Partnership

b. Dependent Variable: Competitive Advantage.

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	43.750	4	10.938	10.788	.000 ^b
	Residual	102.401	101	1.014		
	Total	146.151	105			

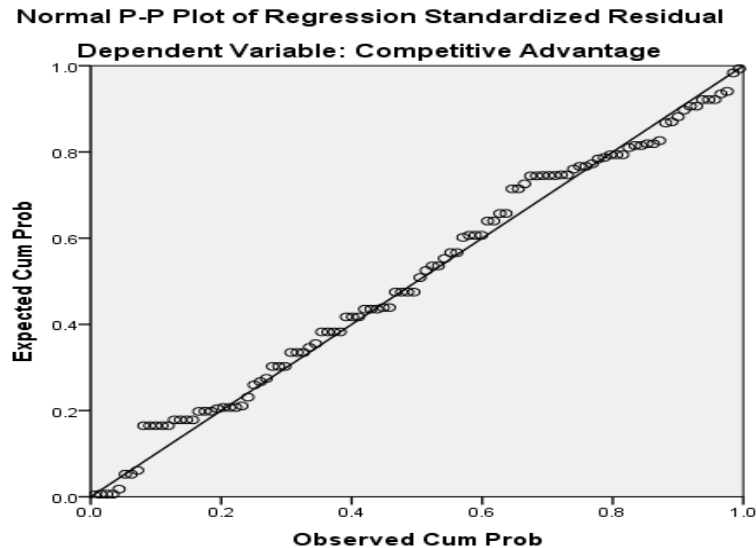
a. Dependent Variable: Competitive Advantage.

b. Predictors: (Constant), Inventory Management Practices, Information Communication Technology (ICT), Inventory Management System, Strategic Supplier Partnership.

Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.		
					B	Std. Error
1	(Constant)	.813	.434		1.874	.064
	Inventory Management System	.034	.108	.030	.317	.752
	Strategic Supplier Partnership	.091	.117	.084	.782	.436
	Information Communication Technology (ICT)	.332	.106	.345	3.126	.002
	Inventory Management Practices	.220	.098	.220	2.244	.027

a. Dependent Variable: Competitive Advantage



Based on the result generated, the significant value is 0.000 and it is lower than 0.05 so reject null hypothesis. Hence, there is a significant difference between the variables.

From the above descriptive table, we have find out some suggestions. The listed table represents the inventory financial plan need to be well planned. High level of reliance is lesser than 0.4 value so it can be further improved in better way. The company needs to follow standardized procedures to upgrade mutual information distribution. From the derived data all other factors in the company are well standardized, review of inventory levels, available of adequate stock at all time, demand forecasting, appraisal inventory altitude and reorder level of stock. An indeed necessary for an organization to understand their inabilities in the inventory management and further work on it to reach large markets.

References

1. Amrik S. Sohal, (2000) "Computer integrated manufacturing in the Australian pharmaceutical industry", *Integrated Manufacturing Systems*, Vol. 11 Issue: 7, pp.444-453.
2. Andrea J. Cullen, Margaret Taylor, (2009) "Critical success factors for B2B e-commerce use within the UK NHS pharmaceutical supply chain", *International Journal of Operations & Production Management*, Vol. 29 Issue: 11, pp.1156-1185.
3. Anup Kumar, Kampan Mukherjee, Amit Adlakha, (2015) "Dynamic performance assessment of a supply chain process: A case from pharmaceutical supply chain in India", *Business Process Management Journal*, Vol. 21 Issue: 4, pp.743-770.
4. Benita M. Beamon (2006) "Inventory management support systems for emergency humanitarian relief operations in South Sudan", *The International Journal of Logistics Management*, Vol. 17 Issue: 2, pp.187-212.
5. M.Bevilacqua et al (2015) "A Changeover Time Reduction through an integration of lean practices: a case study from pharmaceutical sector", *Assembly Automation*, Vol. 35 Issue: 1, pp.22-34.
6. Christian L. Rossetti et al (2011) "Forces, trends, and decisions in pharmaceutical supply chain management", *International Journal of Physical Distribution & Logistics Management*, Vol. 41 Issue: 6, pp.601-622.