

A REVIEW ON APPLICATION OF INVENTORY MANAGEMENT TECHNIQUES IN TEXTILE INDUSTRIES

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I. ABSTRACT

The performance of any organization depends upon its inventory controlling techniques. Every organization needs inventory for efficient running of their accomplishments. The purpose of inventory management is to ensure availability of materials in sufficient quantity as and when required and also to minimize investment in inventories so that smooth performance of production attained. The unavailability of raw material for production makes the process irregular and decreases the productivity and increases the inventory cost which directly affects the capital cost. This paper is mainly focused on to study how inventories in textile sector are managed across the world. India is one of the leading country for manufacturing of textile products. Textile industries are integral part of Indian economy. Due to expectation of low price, textile industries over stock their raw material inventory Thus it causes the damage to inventory of organization and leads to the increases in inventory cost and thus initial capital cost so there should be proper inventory management techniques for efficient running of textile industries.

II. **KEYWORDS:** Inventory, Textile Industries, Production, Working Capital

III. INTRODUCTION

One of the basic functions of management is to employ capital efficiently so as to yield the maximum returns. This can be done in either of two ways or by both, *i.e.* (a) By maximizing the margin of profit; or (b) By maximizing the production with a given amount of capital, *i.e.* to increase the productivity of capital. Inventory Control play vital role in increasing the productivity of capital. Inventory management or Inventory Control is one of the techniques of Materials Management which helps the management to improve the productivity of capital by reducing the material costs, preventing the large amounts of capital being locked up for long periods, and improving the capital - turnover ratio. The techniques of inventory control were evolved and developed during and after the Second World War and have helped the more industrially developed countries to make spectacular progress in improving their productivity (Murthy, 2007).

Inventory control provides tools and techniques, most of which are very simple to reduce/control the materials cost substantially. A large portion of revenue (65 percent) is exposed to the techniques, correspondingly large savings result when they are applied than when attempts are made to saver on other items of expenditure like wages and salaries which are about 16 percent or overheads which may be 20 percent. By careful financial analysis, it is shown that a 5 percent reduction in material costs will result in increased profits equivalent to a 36 percent increase in sales The word inventory means a physical stock of material or goods or commodities or other economic resources that are stored or reserved or kept in stock or in hand for smooth and efficient running of future affairs of an organization. The function of directing the movement of goods through the entire manufacturing cycle from the requisitioning of raw materials to the inventory of finished goods in an orderly manner to meet the objectives of maximum customer service with minimum investment and efficient (low cost) plant operation is termed as inventory control (Murthy, 2007).

The textile industry is primarily concerned with the production of yarn, and cloth and then the subsequent designing or manufacture of clothing and their distribution. There is such a diverse product and application range of textiles, the type of processing used is highly variable and depends on site-specific manufacturing practices.

IV. STATEMENT OF THE PROBLEM:

Inventories become identifiable serious problem in textile area thus deserves utmost attention. The reason of carrying inventories is to ensure regular supply of materials as and when required. Inventory control is a technique of maintaining stock at an optimum level. Insufficient inventories affects production process and mitigate sales volume. On the other hand, excessive inventories tie up working capital and boost up carrying costs. So the necessity is to strike balance between stock out and excessive stock. It is essentially important to maintain the inventory level in the textile sector which is a fast growing sector all over the world. India has 1227 textile mills with 29 million spindles. While yarn is mostly produced in the mills, fabrics are produced in the power loom and handloom sectors as well. The industry continues to be predominantly based on cotton; 65% of raw material consumed is cotton. One estimate is that in India over 60% of the spindles are more than 25 years old. Obsolete machinery leads to low output and poor quality of goods. As a result Indian textile industry is facing problems in facing global competition (Ksudhaman, The Hindu).

V. OBJECTIVE:

The present study is aimed to explore the researches on inventory related issues keeping in view the following objectives:

1. To make detailed research and literature review of inventory management techniques related to Textile Industry.
2. To survey the Inventory management systems presently established in the textile industry.

VI. LITERATURE REVIEW

Richard A. Lancioni & Keith Howard (Lancioni, 1978) presented their work regarding inventory management and concluded that inventory management techniques play a very important role in any business, the inadequacies in inventory can put into the trouble. If inventories are managed in an inefficient manner, it is likely to result in delays in production, dissatisfied customers, or curtailment of working capital.

Dan M. Becker- and Stephen Stanley (Becker, 1992) stated that with the application of the computer and some improvement in business management techniques it is indicated that there is an improvement in inventory control, which is evident as most analysts cite the decline in the ratio of inventories to sales in manufacturing. The improved inventory control implies a faster adjustment of inventories to changes in sales as well as a decline in the average ratio of inventories to sales. There are other goods-stocking sectors to consider besides manufacturing. The question of whether inventory control has improved is an empirical one; the resolution has important implications for the business cycle because recessions largely turn on the behaviour of inventory adjustments. The findings provide clear evidence of improved inventory control in manufacturing, both in finished goods stocks and in inventories of materials and supplies and work in progress

Donald S. Allen (Allen, 1995) examined that inventory management methods in the United States have changed significantly over the past decade, which leads to reduction inventory-to-sales ratio. Organisation driven entirely by lower inventories of materials and supplies rather than finished goods. Due to this these changes in inventory management techniques on business cycles is uncertain. Inventory management innovations are not a solution for all the business cycles. For long term these innovations in Inventory management leads to a faster production to changes in demand and thus reduces the boom-bust cycle in the economy.

Pollution Prevention In The Textile Industry Developed By: U.S. Epa/Semarnap Pollution

Prevention Work Group In this paper researchers presented their work regarding impact of proper inventory management on environment. Research concluded that properly controlling of raw materials, intermediate products, final products, and wastes is a significant way to minimize pollution. Wastes may consist of either raw materials that are out of date, no longer used, or unnecessary; or final products that are no more required or damaged. Including wastes in a inventory program can make them more recoverable. Improving inventory control ranges from simple modifications in the procedure of ordering materials to just-in-time (JIT) manufacturing techniques and thus reduces material expenses and reduce the waste that is generated, and its associated costs.

Mohammad Morshedur Rahman (Rahman, 2011) studied that the textiles Industry plays a important role in the economic development of Bangladesh. His study observed that profitability and Working Capital Management position of the Textiles Industry are not satisfactory which revealed that Correlation exists between Working Capital Management and Profitability. His study also shows that Working Capital Management has a positive impact on Profitability.

HA, Mwansale, FJ, Sichona, RRJ, Akarro (Mwansale, 2011) They observed inventory situation at Urafiki Textile Mills Co Ltd in Dar-es-Salaam, Tanzania and tried to utilise the Economic Order Quantity (EOQ) model that will be used to calculate the number of units of an item to order at a time and the re-order point (r), that is the level to which stocks of items are allowed to fall before ordering other items, for raw materials. The calculated EOQ for each raw material is compared to the actual ordered quantities of raw materials to check whether there is any relationship between them in operational cost reduction. Research shows that the relationship between the EOQs and the ordered quantities at Urafiki in terms of operational cost reduction was significant. Therefore, it is suggested that in order to manage inventory effectively, Urafiki needs to employ inventory control methods such as the EOQ model to obtain reasonable ordered quantities for its raw materials.

Dr. T. S. Devaraja (Devaraja, 2011), In this paper, researcher presented current scenario of textile industries in India. India is the world's 2nd largest manufacturer of textile products after China. It is the world's third largest producer of cotton—after China and the USA—and the second largest cotton consumer after China. The strength of this industry flows from its strong production base of wide range of fibres / yarns from natural fibre like cotton, jute, silk and wool to synthetic /man-made fibres like polyester, viscose, nylon and acrylic. The growth pattern of the Indian textile industry in the last decade has been considerably more than the previous decades, primarily on account of liberalization of trade and economic policies initiated by the Government in the 1990s. The relative ease of setting up clothing companies, coupled with the prevalence of developed-country protectionism in this sector, has led to an unparalleled diversity of garment exporters in the third world. Apparel is an ideal industry for examining the dynamics of buyer-driven value chains.

S. S. Abuthakeer, T. Pavithran, M. S. E. Vigneshraj, S. Vimalkumar (S. Syath Abuthakeer, 2017), This research paper deals with inventorial management in a textile industry manufacturing fabric from yarn. Textile industries have a trend to over stock their raw material inventory when the prices are low in anticipation of price hikes, this ends up causing loss to the industry in the form of spoiled inventory. A suitable inventory model and an effective resource utilization is expected to bring down the costs incurred thus increasing the supply chain surplus making it more efficient. In this paper researcher studied the existing inventory model

and new model was proposed to replace the qualitative inventory model with a quantitative one. Researcher used Economic Ordered Quantity (EOQ) to determine quantity to be ordered for proper inventory management and calculated reorder time, Inventory turnover ratio and days sales of inventory.

Syed Jamal Abdul Nasir bin Syed Mohamad, Nurul Nadia Suraidi, Raja Durratun Sakinah Raja Suhaimi (Syed Jamal Abdul Nasir bin Syed Mohamad, 2016) , This paper researchers did research on inventory management at a textile chain store in Malaysia. It specifically observed the relationship between inventory management and company's performance. The relationship between the inventory management and company performance was determined based on inventory days and return on asset (ROA) analysis. Researchers concluded that company should be able to improve the inventory management practice and lead to better performance in terms of profits, reducing inventory cost and maximize utilization of resources.

Abdulkerim Bireda (Bireda, 2012), In this report the researcher implemented various inventory techniques to one of the textile industry of Coimbatore. In order to overcome the limitations of the associate with the existing inventory management system. Researcher implemented EOQ (Economic Order Quantity) model, ABC analysis and JIT (Just in Time inventory approach). By implementation of these methods it was found that there was reduction in inventory cost and proper utilization of resources.

VII. CONCLUSION:

While going through the available literature it can be concluded that textile sector has challenging task to overcome the problem associate with the efficient Inventory level. Numerous researchers have shown interest in the field of inventory management in textile industries and have implemented applicable inventory techniques. After studying the various literatures, EOQ (Economic Order Quantity) model, ABC analysis and JIT (Just in Time inventory approach), VED(Vital Essential and Desirable) found to be very valuable tools which can be implemented in the textile industries.

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