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Effect of Inventory Management Practices on Financial Performance

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Inventory Management, Business Performance, Stock out..

ABSTRACT
This research investigates the impact of Inventory Management Practices on Financial Performance by assessing how the value of stock held and the I nventory policies implemented influence the cost of products sold and profitability within the organization. The survey design method was employed for this study, utilizing annual audited financial reports. Field design in conjunction with descriptive statistics was also employed. The results of the study for hypothesis 1 indicated a substantial correlation between the value of stock held and the cost of goods sold from 2016 to 2024, with a p-value of 0.005 and an F-statistic of 23.96. Hypothesis 2 demonstrated a p-value of 0.001 and an F-statistic of 46.26. This indicated a positive correlation between inventory management and control policies and profitability. Cement manufacturing companies are advised to establish a policy framework to expedite the adoption of optimal inventory management methods, including Just-In-Time (JIT), Material Requirements Planning (MRP), and Economic Order Quantity (EOQ). The company should enhance supplier relations to the level of partnerships. This will enable the execution of programs such as Vendor Managed Inventory (VMI). The organization ought to diversify its inventory system to accommodate the specific requirements of manufacturing.

1. INTRODUCTION

Historically, inventory control was deemed unnecessary. Excess inventories were regarded as a sign of affluence. Management at that time deemed overstocking advantageous. However, contemporary companies have begun to adopt efficient inventory management (Susan & Michael, 2000). Managers increasingly require dependable and efficient control to minimize expenses and maintain competitiveness. Lyson (1996) asserts that inventory control improves profitability by minimizing expenses related to the storage and management of supplies. There are numerous justifications for maintaining inventory. Excessive inventory may lead to capital being immobilized, heightened holding costs, material degradation, obsolescence, and theft. Conversely, a scarcity of materials may result in product sales interruptions, deteriorated client relations, and suboptimal utilization of machinery and equipment. Inventory management is an essential component of supply chain management (SCM). Numerous studies in supply chain management during the past twenty years can be classified as "multi-echelon inventory theory" (Quayle, 2003). In recent years, supply chain management has emerged as a crucial method for augmenting a company's competitive advantage, rendering it a significant concern for most enterprises. There is a necessity for the implementation of an effective inventory management system in corporate organizations within developing countries such as India. Kotler (2002) defined inventory management as the comprehensive set of activities associated with the development and oversight of inventory levels for raw materials, semi-finished items, and finished products, ensuring sufficient supply while minimizing the costs associated with overstocking or stockouts. Inventory constitutes an expense for its proprietor. The maker incurs costs for materials and labor. The primary objective of the manufacturer is to sustain an inventory level that ensures optimal supply at minimal expense. Efficient inventory management is crucial for the functioning of any enterprise. Hankinson and Persson (2004) identify three distinct trends in the evolution of logistics solutions within the industry; one trend pertains to the enhanced integration of logistics activities across organizational boundaries, aimed at minimizing cost factors such as capital expenses for inventory and handling costs associated with flows..

Drury (1996) characterized inventory as a collection of items held by a business in expectation of future demand. Schroeder (2000) also endorsed this description, emphasizing that inventory management influences all corporate areas, including operations, marketing, accounting, and finance. He identified three incentives for maintaining inventories: transaction, precautionary, and speculative motives. The transaction motivation arises when there is a necessity to maintain inventory to fulfill manufacturing and sales demands. A company may opt to maintain surplus inventory to mitigate the risk of underestimating its future production and needs. This denotes a precautionary purpose, applicable solely when future demand is indeterminate. The speculative drive for maintaining inventory may lead a corporation to acquire a greater quantity of materials than usual, anticipating extraordinary profits. Procuring raw materials in advance during inflationary periods constitutes a type of speculative activity.

Donald (2003) asserts that maintaining stock is costly and that issues related to inventory management are nearly ubiquitous. In recent decades, firms have sought to enhance customer service while reducing inventory and accelerating material movement inside their supply chains. It is necessary to reassess contemporary perspectives on inventory management to highlight the expansion of e-commerce and the shift from economic order quantity models to dependent demand systems.

Stock management encompasses the planning of acquiring, receiving, handling, storing, and releasing supplies for manufacturing, accompanied by effective control mechanisms. Materials are industrial commodities that will be incorporated into another tangible product. Drury (1996) categorized materials for manufacturing into three classifications:

Inventory management within a company involves the identification of all stock goods. Inventory management largely involves determining the dimensions and positioning of stored products. Inventory management is essential at various places within a facility or across numerous sites in a supply network to safeguard the consistent and scheduled production process from the unpredictable disruption caused by material or commodities shortages. Effective inventory management determines how an organization's profit can be maximized. Profit maximization relies on cost minimization and revenue maximization. Maximization is an effective principle that necessitates augmenting earnings without escalating resource utilization. The significance of inventory management in an organization is in ensuring that the business's capital is not unnecessarily immobilized in stored materials, which may present opportunities for fraud and theft. The management aims to minimize stock losses resulting from store operations. Consequently, in a commercial organization, stock holds significant importance, as does the profit of the enterprise. Excessive or insufficient inventory levels can lead to business failures. A small business experiencing a stock-out of a vital inventory item may face production interruptions. Consequently, the administration of stockholding economics is aptly termed inventory management.

Consequently, it must be properly managed as it pertains to the business's profitability. Strategically executed and efficient inventory management can significantly enhance a company's annual revenue. This study aims to provide solutions to inventory management issues faced by industrial businesses. The inventory of a business significantly influences its success or failure. Ineffective inventory management can result in stockouts, leading to customer loss and diminished goodwill, ultimately decreasing firm profits and causing organizational collapse.

The fundamental purpose of this research is to analyze the significance of inventory management on the profitability of manufacturing industries. To have a comprehensive understanding of inventory management issues, numerous inquiries arise regarding the factors that contribute to the wastage of raw materials prevalent in most industrial manufacturing processes. Intermittently, the underproduction or overproduction of commodities and the underutilization of plant capacities lead to an unnecessary increase in overhead costs per unit of product. These factors stem from inadequate inventory management and significantly contribute to profit loss and business failure.

Articulation of the issues

Manufacturers in India are encountering significant variations in client demand due to the current economic swings. This indicates that the issues requiring resolution and the information essential for identifying the answer should be addressed prior to initiating any study. The ramifications include a shortage of essential materials, resulting in impulsive purchasing due to insufficient stock levels, specifically challenges in assessing the average stock quantity needed to meet production demands. Unwarranted immobilization of capital, alongside financial losses from theft, deterioration, and inventory obsolescence, necessitates maintaining excessively low stock levels to satisfy demand promptly.

The elevated expense of procured materials and the incidence of waste are significant factors that impact organizational efficiency, sales, and profitability.

Study Objectives

The primary aim of this study is to analyze the role of stock management as a critical instrument for profitability and growth within the manufacturing sector, and to assess the degree to which inadequate inventory of finished goods leads to sales losses and impacts profitability, by proposing solutions to the factors that hinder effective stock control in an organization. Additional objectives include minimizing inventory carrying costs to avoid production interruptions and mitigate the danger of shortages that could result in customer discontent, perhaps leading to a decline in the organization’s profits. To

conduct an analytical demonstration aimed at identifying strategic management practices that will mitigate high stock levels and, subsequently, the immobilization of capital in the cost of goods sold by evaluating the organization's inventory policy.

Research Hypothesis

Hypothesis One

Ho: There exists no significant correlation between the value of stock held and the cost of items sold in a manufacturing firm.

H1: A substantial correlation exists between the value of inventory held and the cost of items sold in industrial entities.

Hypothesis II

Ho: There is no significant effect of inventory management and control policies on the profitability of manufacturing firms.

The inventory management and control policy significantly affects the profitability of manufacturing firms.

Review of Literature

The Principle of Inventory Management

The implementation of an effective inventory control system is essential for organizations in developing countries such as India. Inventory management is characterized as a scientific discipline that involves the strategic maintenance of sufficient inventory levels inside an organization to satisfy demand (Coleman, 2000; Jay & Barry, 2006). Inventory refers to the stock or resources accessible inside an organization. Inventory systems comprise the policies that regulate and oversee inventory levels, establish the appropriate stock levels, dictate order quantities, and define the timing for stock replenishment. Inventory control involves the management of the storage, distribution, and availability of goods to maintain sufficient supply without surplus.

Inventory control refers to the provision of materials at the necessary time and location by maintaining an appropriate quantity and variety of stock. Inventory management encompasses the whole actions necessary for the acquisition, storage, sale, disposal, or utilization of materials. Inventory managers must replenish product as necessary and efficiently utilize available storage space to avoid exceeding capacity. They are responsible for maintaining accountability of inventory assets. They must adhere to the established budget and determine what to order, the method of ordering, and the timing of orders to ensure timely availability of stock at the optimal cost (Benedict and Margeridis, 1999). Consequently, inventory management encompasses the planning, organization, and regulation of material flow from the original procurement stage via internal processes to the service point via distribution (Smaros S.J., Lehtonen, J.M. Appelquist, P. & Holmstrom, J., 2003).

Inventory represents one of the most substantial and concrete investments for any retail or manufacturing entity. Effective inventory management tactics can significantly enhance profitability and determine whether a corporation flourishes or merely endures. The objective of inventory management is to maintain inventories at minimal expense while ensuring a continuous supply for ongoing operations. In inventory decision-making, management must reconcile many cost components, including supplier costs, holding costs, and costs associated with maintaining adequate inventory levels (Peterson and Silver, 1998; Zipkin, 2000). Miller (2010) defines inventory control as the process that manages the availability of items for customers. It synchronizes the procurement, production, and distribution operations to fulfill marketing requirements.

This function encompasses the provision of existing sales items, new products, consumables, spare parts, obsolete items, and all other supplies. Inventory allows a corporation to facilitate customer services, logistics, or manufacturing operations when acquiring or producing things cannot meet demand. Inventory plays a crucial role in the growth and survival of a firm; ineffective management of inventory can result in client loss and a reduction in sales. To achieve its organizational objectives, a corporation must fulfill customer wants. Customer demand has consistently been a crucial factor for a firm, not only to sustain sales but also to enhance them (Tersine, 1994; Potilen & Goldsby, 2003). Kotler (2002) asserts that inventory management encompasses all activities related to the development and oversight of inventory levels for raw materials, semi-finished goods, and finished products, ensuring sufficient supplies while minimizing the costs associated with overstocking or stockouts.

Inventory management generally involves determining the quantity and location of stored commodities. Inventory management is essential at various places within a facility or across numerous sites in a supply network to safeguard the consistent and scheduled production process from the unpredictable disruption caused by material or commodities shortages. The domain of inventory management encompasses the nuances of replenishment lead time, carrying costs, asset management, inventory forecasting, valuation, visibility, future price forecasting, physical inventory, available storage space, quality management, replenishment, returns of defective goods, and demand forecasting. Reconciling these conflicting demands results in appropriate inventory levels, a continuous process as business needs evolve in response to the broader environment (Ghosh and Kumar, 2003).

Magad and Amos (1989) say that the principal aim of inventory management is to enhance customer service. This is achieved by safeguarding against stockouts resulting from demand fluctuations in the marketplace. Kothari (1992) posits that the objective of inventory management is to enhance production efficiency. Inventory maintenance is intrinsically linked to production control, facilitating effective materials management. Magad and Amos (1989) contended that the principal consideration in developing inventory policy is cost minimization. The purpose of inventory management is to reduce inventory investment. An advantage of effective inventory management is enhanced managerial efficiency across all functional domains of management.

Concept of Profitability

Bourne, Kennerley, and Franco-Santos (2005) assert that performance evaluation has historically focused on financial metrics. In this respect, operational performance quantifies the alterations in the operations of tea processing enterprises or the results stemming from the implementation of inventory control systems. The performance of a business enables a tea processing company to evaluate its advancement towards established goals.

Atrill and McLaney (2006) assert the necessity of analyzing the costs associated with sustaining specific inventory levels, since much stock incurs holding costs, while insufficient inventory also generates expenses.

Lardenoije, Van Raaij, and Van Weele (2005) assert that financial metrics overlook market dynamics and the heightened complexity involved in the procurement of goods and services for business enterprises. They have an opposing view that companies must evaluate the intricacies of inventory procurement and management to enhance operational effectiveness. The study compels enterprises to devise a strategy for minimizing inventory while maintaining production levels and avoiding cost escalation.

The current study incorporates rather distinct variables. Dettoratius, Raman, and Craig (2013) assert that significant revenue is forfeited owing to stock-outs caused by inventory inaccuracies. Salawati, Tinggi, & Kadri (2012) examined the influence of inventory management on performance. They conducted an empirical analysis of the correlation between inventory management and corporate success using financial data from 82 construction enterprises in Malaysia from 2006 to 2010. They utilized regression and correlation techniques to analyze their results. Their discovery indicated that inventory management is favorably connected with organizational performance. Their study concentrated solely on the overall performance of the organizations, utilizing financial change as a performance metric.

Ogbadu (2009) posits that profit serves as a metric for evaluating performance. Manufacturing operational performance comprises several practices, so multiple performance metrics can be utilized effectively. Vastag & Whybark (2005) identify the primary metrics of operational performance as rejects and scrap, reworking, labor and machine productivity, product quality, inventory levels and turnover, unit production cost, manufacturing cycle time, and delivery speed and reliability. Numerous studies indicate that the effectiveness and efficiency of inventory control systems serve as metrics for procurement performance, which correlate with the operational performance of an organization in terms of competitive advantage, profitability, delivery of error-free goods and services, cost efficiency, and enhanced output levels.

Procedure

The study employed a survey design strategy utilizing financial yearly reports. Field design in conjunction with descriptive statistics was employed. This facilitates a comprehensive investigation of the chosen company for this research. It facilitates a suitable analytical comparison of the company's stock management process in relation to organizational profitability.

Results

Hypothesis 1

Ho: There exists no significant correlation between the value of stock held and the cost of items sold in a manufacturing firm.

H1: A substantial correlation exists between the value of inventory held and the cost of items sold in industrial organizations.

Table 2: Standardized Regression Analysis of Inventory and Cost of Goods Sold

Null Hypothesis (Ho)	R square	Adjusted R2	Decision
There is no significant relationship between the value stock carried and cost of goods sold.	0.940	0.920	Reject Ho

Source: Author compilation (2024).

Table 3: Coefficient value of the variable measured

ANOVA	Beta coefficients	t value	Sig.	F
Value Stock	0.215	4.121	0.005	23.96

Source: Author compilation (2024).

Table 3 presents a positive standardized beta coefficient of 4.121 for the cost of goods sold in relation to stock value. The variable is not statistically significant at either the 95% or 99% confidence levels. Table 2 indicates an R2 value of 0.92. The table indicates a robust correlation between stock value and cost of goods sold. The value of stock constituted 94.0% of the variance in the cost of goods sold. Given that $p > 0.005$, with a significance level of .005 and an F-statistic of 23.96, we reject the null hypothesis (H0). Consequently, the study indicates that a substantial association exists between the value of stock held and the cost of items sold over the years. The cost of products sold positively influences production value due to the value of stock and inventory that has been meticulously prepared and accurately documented, hence enhancing the organization's profitability. The stock value can influence the cost of items sold.

Hypothesis II

Ho: There is no substantial effect of inventory management and control policies on the profitability of manufacturing firms.

The inventory management and control policy significantly affects the profitability of manufacturing firms.

Table 4: Standardized Regression Analysis of Inventory Management and Control Policies Utilized and Profitability

Null Hypothesis (Ho)	R square	Adjusted R2	Decision
Inventory management and control policy employed by an organization has no significant effect on profitability.	0.939	0.929	Reject Ho

Source: Author compilation (2024).

Table 5: Coefficient value of the variable measured

ANOVA	Beta coefficients	t value	Sig.	F
Inventory Policy	5.69	2.203	0.001	46.26

Source: Author compilation (2024).

Table 5 presents a positive standardized beta coefficient of 2.203 for the impact of inventory policy on profitability. The variable is statistically significant at the 99% confidence level. Table 4 indicates an R2 value of 92%, demonstrating a significant influence of inventory policy on profitability via the cost of goods sold. Profitability exhibited a 93.9% variance based on the inventory policy implemented. Given that $p > 0.005$ with a significance of .001 and an F-statistic of 46.26, where $p < 0.001$, the null hypothesis (H0) will be rejected. Consequently, the results indicate a substantial association between the inventory policy used and the profitability level over the years.

2. DISCUSSION

This study's findings for hypothesis 1 indicated a substantial association between the value of stock held and the cost of items sold in the examined organization.

The latest evidence demonstrates the correlation between inventory policies and profitability, as influenced by the costs of items sold through effective inventory management. This enhances organizational efficiency, leading to enhanced performance and profitability through effective inventory management and control.

The results indicate a strong correlation between inventory management and organizational growth and profitability. The profitability of cement companies rises with proper inventory management, as inventory is a significant portion of the firm's current assets. The findings have significant implications for the inventory policies of cement production enterprises regarding profitability. The results aligned with previous findings from the research conducted by Ogbadu (2012).

3. CONCLUSION

The findings are based on two categories: qualitative and quantitative. The qualitative findings comprised theoretical studies on stock management and its impact on organizational growth and profitability. Inventory from the findings occupies the most strategic position within the working capital structure of most cement production companies. It represents the predominant element of current assets.

The significance of holding inventory will differ among companies. For example, if a company possesses a substantial cash reserve with limited appealing investment opportunities, has surplus storage capacity, and its products exhibit a minimal risk of deterioration or obsolescence, the company's costs are significantly low. A corporation burdened with substantial debt, limited capacity, and perishable products will have a high carrying value, positively influencing the cost of goods sold and impacting the firm's profitability.

The analysis indicated a weighted value in the inventory policy utilized. Inventory control methodologies, establishment of inventory norms, stock level subsystems, perpetual inventory control systems, and raw material price constitute the

inventory policy to be handled in the examined organization. The findings indicate that growth and profitability can be optimized by placing significant emphasis on inventory policy through various techniques to address issues related to inventory management. The standardized beta coefficient of 0.215 for the cost of products sold in respect to value stock indicates a positive correlation between the two variables.

This study on inventory management in the manufacturing sector will enhance and augment the current understanding of stock management. This firmly supports the cost of sales, carrying costs, and inventory policies, which have contributed to its robust growth and enhanced productivity capability despite the economic challenges in India. This research indicates a positive correlation between inventory management and the firm's profitability. As inventories are transformed into cash, the profitability ratios incorporated in the study increase. Effective inventory management policies by enterprises in this area enhance their profitability.

Prudent management of materials minimizes depreciation, theft, and waste while assuring timely availability, hence enhancing the financial performance of Lafarge Plc. specifically regarding the Cement Industry as a whole. Due to the issues stemming from inefficiencies, plant breakdowns, shutdowns, and material carrying costs, it is imperative to reorganize the materials management department and cultivate strong relationships with spare parts suppliers to mitigate losses from recurrent breakdowns and enhance profitability.

Inventory management has evolved significantly to address the increasing issues faced by business entities, recognizing that inventory is a unique asset. Lafarge plc's inventory management has been elucidated through a robust inventory policy designed to manage idle goods while eliminating unnecessary expenses and associated carrying costs.

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