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## Inventory Management System

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**ABSTRACT:** Inventory Management System is software which is helpful for the businesses operate hardware stores, where storeowner keeps the records of sales and purchase. Mismanaged inventory means disappointed customers, too much cash tied up in warehouses and slower sales. This project eliminates the paper work, human faults, manual delay and speed up process. Inventory Management System will have the ability to track sales and available inventory, tells a storeowner when it's time to reorder and how much to purchase. Inventory Management System is a windows application developed for Windows operating systems which focused in the area of Inventory control and generates the various required reports.

**KEYWORDS:** Inventory management system, Operation management, Production, Quality management.

### I. INTRODUCTION

In smaller firms, the products in comparison to larger companies with more room may go directly to a stock area instead of to a reception area, so that the good can be finished goods instead of raw materials or parts if the company is a wholesale dealer. The goods then are taken out of the storage areas and transported to manufacturing premises where finished goods are manufactured[1]. The completed goods may be returned or delivered directly to consumers in warehouse facilities where they will be stored prior to shipping. Stock tracking uses a set of details to chart goods as they are travelling, including lot numbers, serial numbers, goods prices, amounts and dates of travel. Close to 60% of the cash is expended on the stock in a company. In order to organize and calendar the imaginative movement along an integrative route for a mechanical effort, Materials Management is planned with coordinating, securing, extracting, and supplying the necessary content of right quality, right volume, at the right moment[2].

Stock management is essentially the process that an association is supplied with the goods and firms it needs in order to meet its purposes of procurement, storage and content growth. Stock management frameworks are important for managing and monitoring inventories of organizations[3]. Continuous operations must be quantified with time and accuracy as stocks are regularly one of the main existing tools in the financial statements of a company. Stock is a rundown of goods and services that are kept in stock by a corporation or certain items and materials they. The holding stock is perceived to be a profit. In various locations of an office or within separate areas of a supply chain, stock administration is required in order to cope with the customary and arranged path of production against the arbitrary chaos of material or commodity breakdown[4].

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## II.LITERATURE REVIEW

The aim of this study is to investigate the best way of handling stocks so that Company X can suggest this, in which case they can handle their loss and benefit more effectively. The researchers addressed four types of literature reviews to make the study more systematic.

### *1. Inventory Management:*

Organization has its own inventory, in which the inventory is handled by separate manner by each company[5]. However, the invention's objective is similar if the inventory still needs to be available for use and the prices of inventory have to be minimal. Inventory control applies to all tasks involved in inventory production and management: raw, semi-finished or finished, such that sufficient materials still have to be available and the form has to make sure that the costs for over or under inventory are consistently minimal. Inventory management. The task of inventory management is to maintain the requested stock level for any individual product or item, which is to be dependent on the goods, clients and product processes that the inventory plans and controls. Moreover, on the basis of the importance of the company's balance sheet inventory is an advantage of the companies' balance sheets, where there has been a substantial rise as many companies are experimenting with such policies by minimizing investments in fixed assets, manufacturing, stores, offices, equipment and machinery[6].

### *2. Relationship between Inventory Management & Company Performances:*

The efficiency of the company relies on several variables: revenue, promotion, good human capital, lower manufacturing costs and a good inventory of success depend on either. It focuses on one of the factors inventory control in this study. Inventory management is a vital aspect of an organization because mismanagement of inventories undermines the profitability of the company, when too much inventory space is used, financial pressure is generated and the risk of injury, spoilment and losses is increased. The corporation has to be able to generate the highest benefit at the lowest expense to achieve good business results[7].

### *3. Inventories Days:*

Inventory Days can be specified to calculate the total number of days needed in the inventory for turnover, meaning how long it takes for the company or companies to produce the next order. The most numerous inventory days will be suffered because of over inventory inventories and because of long term inventory storage, obsolescence and expiration, the expenses of spoilage and, without doubt, further market errors are triggered by surplus stores or stocks[8].

### *4. Return on Asset (ROA):*

The aforementioned return on assets in a diary is a rate that is measured as a net gain after tax divided by total assets and a rate measure for the company's operational performance based on the revenues generated by the company from its total assets. The study used ROA because inventory turnover is another consideration in addressing profitability pressures due to competitiveness or reduced price consumer demand[9]. Where the rate of return required to sustain current performances is benchmark, which is capable of calculating the benefit contribution necessary for new investment, it can be used to determine hurdle rates that any new investment must achieve for the approval listed, at least for sustaining current performance arid.

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## 5. Inventory management techniques:

Inventory management is important for an undertaking as it is tailored to minimize costs or raise profitability while meeting consumer needs, ensuring that balanced inventories are retained at the right quality, quantity or position at the right time. The literature on inventory management technology will be discussed in this section.

### 5.1 Economic order quantity:

Logical organization of inventory management is important so the organization can decide what to order and how much to order. This must be attained through calculating the Economic Order Quantity (EOQ). The sum of the currency request includes contact in order to recover their stock at an optimal spot. For example, the agreement will take place every month, every fifth, half year or year. This encourages businesses to have reduced restricted to negligible expense within their circulation centers. In this respect, the EOQ and the Re-Order Point (ROP) are the required tools for associations to use when they seek to improve the management of stocks[10].

### 5.2 Just in time technique:

JIT technique is a Japanese philosophy, the rationality of assembly that implies good quality and quantity in the right place and at the right time. The use of JIT technologies results in improved productivity, performance and efficiency, increased communications, and cost and squandering reductions. JIT is prepared to address the application for a moment without the need to exaggerate, either in the wish to tackle the application or as a concern of improvable functions.

### 5.3 Vendor managed inventory:

Vendor Managed Inventory is an effective method of handling inventory and order fulfillment. The trader is entirely responsible for recharging the stock in the light of the prompt utilization of all buying data (retailer). This concept builds consumer reaction by decreasing the void in the free market and thus allows consumers to accomplish their desires by benefiting from the desired item if necessary. The network accomplices of the shops must express their views of importance, need and duty to create the daily destinations. The most critical factor for successful use of vendor management inventory is upstream knowledge shared with vendors such as the existing stock level and the precise deals.

### 5.4 ABC Analysis:

ABC's asset management strategy is based on the fact that a small package of actions will typically resolve the cash calculation of the overall inventory. It is seen as part of the age process, and from a small part of the money figures of shops, an immense amount of items will happen. Therefore, things with a higher regard to stock management are more firmly regulated than things with a lower regard. ABC analysis is an important method of action in accordance with the Pareto Theory about the stock arrangements for an enterprise. The administration of A items is depleted of most corporate attempts and oversights. C stuff gets the simple reasoning, and B stuff is in the centers. The ABC strategy is based on the following criteria: 70-80% of the annual consumption of the company and just 10-20% of the total products stocked. B things account for 15%–25% of the annual usage and 30% of the total stock, and C things describe 5% of the annual use and half of the total inventory.

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## III. CONCLUSION

In summary, Inventory Management systems are a vital instrument for companies when tracking their inventory. Usually, Inventory Control Schemes are used by companies to either market a product or produce a product for purposes of paying for all the physical products that allow for a sale of a completed product, or parts for producing a product. The complexity and amount of a business assist dictates whether such a device is required or not, since it can be very extensive and expensive. Major organizations with thousands of pieces must have a mechanism in place to track their properties mainly. Time/time for distribution, planning and the use of scale economies are three main reasons for an inventory management scheme.

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