

Inventory Management System

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Abstract: Inventory Management System mainly aimed at developing desktop basing application named Inventory Management System for managing the inventory system of any organization. The Inventory Management System (IMS) refers to the system and process to manage the stock of organization with involvement of Technology system. This system can be used to store the details of the inventory, stock maintenances, update the inventory basing on the sale details, generate sales and inventory report daily or weekly basing. This project is categorized individual aspects of sales and inventory management system. In this system we are finding completely different downside affecting to direct sale management and buying management. Inventory Management System (IMS) is very important to confirm internal control in business that handle transaction revolving around goods without correct Inventory control, an oversized outlet might run out of stock on a important item. a decent inventory management system can alert the distributors once it is time to record. An automated inventory Management System helps to reduce the errors whereas recording the stock.

Index Terms: Inventory, organization, SSE, Registry

I. INTRODUCTION

This project Inventory Management System (IMS) could be a complete desktop based application designed on .Net technology working with visual Studio package. The primary aim of the project is to develop Inventory Management System Model software system within which all the data relating to the stock of the company or business are going to be presented. it's an intranet primarily based desktop application that has admin part to manage all the inventory and maintenance of the inventory system.

This desktop application relies on the management of stock of a business. the application contains general organisation profile, sale details, Purchase details and also the remaining stock that are given in the organisation . There is a provision of updating the inventories additionally. This application additionally provide the remaining balance of the stock as well because the details of the balance of transaction.

Each new stocks are made and entitled with the named and also the entry date of that stocks and it may be updated any time once needed as per the transaction or the sale is returned in case. Here the login page is made so as to guard the management of the stock of organization in order to stop it from the thread and misuse of the inventories.

II. RELATED WORK

.Empirically analyzed the relationship between inventory management and firm performances along with capital intensity. For this purpose they took a sample of eighty two construction firms in Malaysia during the period 2006–2010. Using the regression and correlation analysis method, they deduced that inventory management is positively correlated with firm performances. In addition, the results indicates that there is a positive link between inventory management and capital intensity.[4]

Made an in depth study of practice followed in regard to inventory management system in the engineering goods industries in Punjab. The analysis used a sample of eleven companies for a period of five years that is, 2004–2009 and was done using panel data set. The adequate and timely flow of inventory determines the success of an industries. She concluded that size of inventory enhanced marginally over the period as com-pared to a hike in current assets and net working capital. Inventory constituted half of the working capital which was due to overstocking of inventory as a result of low inventory turnover especially for completed goods and raw materials. Rise in sales and favourable market conditions lead to the rise in inventory levels. It was also inferred that sales increased more compared to inventory.[5]

They highlighted the association between inventory management practice and business performances of small scale enterprises, in Kisii Municipality, Kisii County, Kenya. They used a cross sectional survey study based on a small sample size of seventy ninre SSEs. The study inferred that inventory comprised the maximum part of working capital and improper management of working capital was one of the major reasons of SSE failure. The empirical result disclosed that a positive significant relationship existed between company performance and inventory management practices with inventory budget having the maximum influence on business performance ensued by self-space management. The study suggested by following effective inventory management practices business performance can be enhanced.[2]

Under-took an indepth study of inventory management practices followed by Indian cement company and its affect on working capital efficiencies . The study also investigated relationship between profitability and inventory conversion days . The study , using a sample of the top 5 cement companies of India over a period of ten years from 2001 to 2010, concluded that a considerable inverse linear relationship was existed between inventory conversion period and profitability.[3]

Found that a well plannes and executed inventory management contributes positively to a small or medium sized companies profitability. They studied the association between inventories conversion period and profitability and the impact of inventory management on SMEs profitability. They took a sample of twenty six Tanzanian SMEs , and used the data from financial statements for the period 2006–2011. Regression analysis was adopted to determine the impact of inventory conversion period over gross operating profit . The results cleared out that the significant negative linear relationship occurred between the inventory conversion period and profitability.[1]

An analytical study was conducted on ” Inventory Management in Commercial Vehicle Industry In India” . A sample of 5 enterprises was selected for study. The study concluded that all the units in the commercial vehicles industry have significant relationship between Inventory and Sales . Proper management of inventory is necessary to maintain and improve the health of an organization . Efficient management of inventories will improve the profitability of the organization.[6]

III. DESIGN AND FRAMEWOKRK

Inventory Management System is designed with many modules, separated by their specific roles and functions. This part, the function of each module will be explained by step. There are six modules for this system.

3.1. Definitions / Setup

This module is the most important part in the system. Because if the definition of the enterprise is not implemented correctly to the system , it will not work efficiently . To have a success full, operational system, introducing the company to the system is a necessary. And this is the first step of implementing the system to the companies.

In this module , there are 4 sections , which are men-tioned below .

3.1.1.User Setup

3.1.2.Location Hierarchy

3.1.3.Categorization

3.1.4.Suppliers and Maintainers

3.1.1. User Setup

In User Setup Menu , System Admin can able to create , edit or delete user from the system. System admin can choose the role of the user from the pick list on the bottom.

3.1.2. Location Hierarchy

The Lo-cation Hierarchy section is the place where you can set the ownership hierarchy of the enterprise. System admin can create one sub unit under another by choosing a unit in it .

3.1.3. Categorization

In this section, a categorization of the inventory in the enterprise will be created. First step is the main categorization. The second step is related to titles, and the last one is the specific keyword. User can add sub categories under each category after choosing it.

3.1.4. Suppliers and Maintainers

In this section, System Admin can define inventory suppliers and the maintainers of each suppliers. To define maintainer, user can choose related supplier, and add maintainers under it.

3.2. Inventory Management

This Module is the center for all process about incoming inventories. Module has two sections.

3.2.1.New Registry

3.2.2.Instant Registry

3.2.1.New Registry

If this inventory is ready to record, then this is the section to use. First step in this is to print a new bar code for the new inventory. The system pops out an alert. After this alert, there comes the next page, where the user will have a button to print to confirm the bar code by scanning it in to the field.

After confirming the bar code, the next page will have an information form. There are Category , Supplier , bar code number (auto entered) , serial numbers , price , receipt date and extra info fields to be filled . Then, the next step is product specification part. The first part has the title group of related inventory category. The user can switch between titles and also choose related specifications from the second list.

3.2.2. Instant Registry

This section allow user to print several bar code when the inventory is not ready for record. For example, it cannot be possible to bring label printers everywhere . So the user can print as much as needed , the system can create empty fields in the database to be filled in inventory registration processes . When these bar codes are scanned , register page comes for complete the register , and the normal registry flow continue.

3.3. Service Management

Interior maintenance may not be sufficient , or may cause warranty problem , when inventory have technical problems . In this situation, they may need to be fixed by authorized maintainers. This module is for management of exterior main-tenance.

There are 3 search fields in this section with Bar code No , Serial No parameter to reach the inventory or User Name parameter to reach the inventory of a specific user . After reaching the inventory, the window below comes to take the action.

When the inventory is returned from the service firm , user reach the table below to close the record . User can write the information , process done to the text fields and closes the service record , which will be seen in service history from that moment . Also user can use the " User Name " search box to reach a specific user , and list the inventory on users debit . Then the same program flow can be used to take actions.

3.4. Maintenance Management

This module is for interior in-ventory maintenance flow . There are 2 sections : first is to create new maintenance request for device user , the other is maintenance task listing for related workers.

The user has to fill the required fields and then the request will be an active task for maintenance staff and will drop in their task table that they have on their interface if a staff members are assigned to the tasks . Otherwise, the tasks will drop into tasks pool . Then staffs deal with the problem, and closes the task after writing info about action taken .If the problem gets fixed before maintenance arrive, the user also can close the task .

3.5. Debit Management

This module sets the relationship between users and inventories. Basically, assign an in-ventory to a user, and performs other operations based on debiting.

3.6. Deposit Management

This module manage the barrowed items . Assign the inventories to desired person. There is also a chance to list deposited inventories in this module. It is a manner of tracking it.

IV. DESIGN

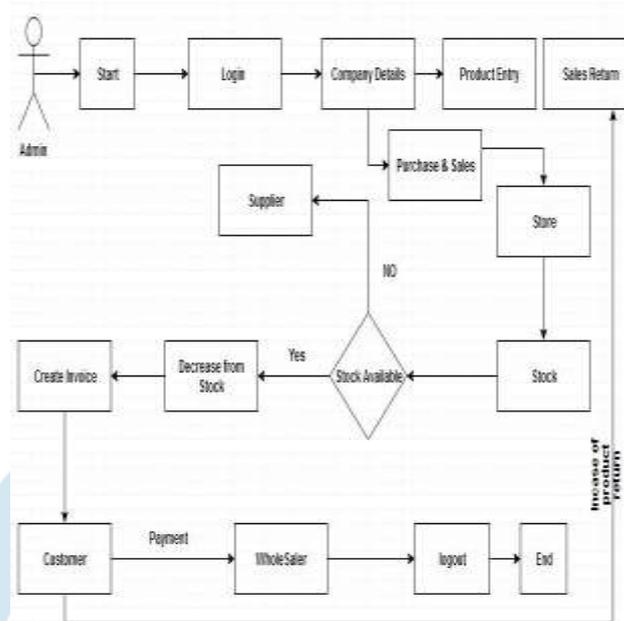


Figure 1 Flow Diagram

V. CONCLUSION AND FUTUREWORK

Inventory management system is essential to every companies , having inventories. Companies need to have stocks, but in such amount to avoid out of stock and overstock situations . Inventory management can improve company’s inventory control existing situations and decrease costs for the company. Agent system , in turn , proposes the automation of this process ,it can support several forecasting method and it react to changes in the environments . In this paper , the existing inventory management situation is analyzed, two fold improvement is proposed to use inventory management with the aim to decrease company’s inventory level and holding costs by avoiding overstock and to apply the agent system in order to automate the inventory management process and to timely react to demand deviation from the fore casted demand by making corrections in replenish-ment policies. According to experiment , it can be concluded that timely reaction to change in the environment can propose better results. This can be done by a human or decision support system comparing the fore casted demand with real and making corrections in orders , or this can be done by an agents as it is proposed here. The next step of the present research will be the application of achieved result of demand fore casts, safety stock and reorder points into simulation software in order to achieve more accurate results

REFERENCES

- [1] Madishetti, Srinivas & Kibona , Deogratias. (2013) . Impact of inventory management on the profit-ability of SMEs in Tanzania. *International Journal of Research in Commerce & Management*, vol.4,iss.2,pp.1–6.
- [2] Nyabwanga ,Robert Nyamao & Ojera, Patrick. (2012) .Inventory management practice and business performance for small scale companies in Kenya. *KCA Journal of Business Management*, vol.4,iss.1, pp.11–28.
- [3] Panigrahi, Ashok K. (2013) . Relationship between inventory management and profitability. An empirical analysis of Indian cement companies. *Asia Pacific Journal of Marketing & Management Review*, vol.2,iss.7, pp.107–120
- [4] Sahari , Salawati, Tinggi , Michael & Kadri , Norlina. (2012). Inventory management in Malaysian construction firm: Impact on performance. *SIU Journal of Management*, vol.2,iss.1, pp.59–72.
- [5] Soni , Anita. (2012). Inventory manage-ment of engineering goods industry in Punjab: An empirical analysis *International Journal of Multidisciplinary Re-search*, vol.2,iss.2, pp.247–261.
- [6] Srinivasa Rao Kasisomayajula (2014) “ An Analytical Study on Inventory Management in Commercial Vehicle Industry in India ”, *International Journal of Engineering Research*, Vol.3, Iss.6, pp.378-383