Supply Chain Management System

OBJECTIVE:

This Supply Chain Management System project mainly deals with automating the tasks of maintaining and transacting the goods. In the Warehouse System inventory management is the key process. This process includes the activities such as maintenance of stock details, maintenance of receipts and items etc. It is a tedious job to maintain all these details manually. Hence we opted to automate the Warehouse Management System.

Goals

- To automate the WMS in an easy and efficient manner.
- To make the jobs of admin, sub-location, retailer easy and trouble free.
- To make the application user friendly.

Objectives

- To acquire up to date details about inventory.
- To know the status of the Warehouse System.
- To reduce the errors those are occurred in the manual system.
- To generate the reports as per the management requirements.
- To help in ordering of required items.
- To provide maximum services to the users.

Proposed System

Proposed system are those that are automated, so that it is easy to retrieve the responses from the system fastly and updating the details once the response or services are provided to the end-users upon their request without any difficulty and saves time.

Advantages of the System

Effective supply chains give businesses a competitive advantage in the marketplace and help mitigate

risks associated with acquiring raw materials and delivering products or services. By implementing supply chain management systems, businesses are able reduce waste, overhead costs and shipping delays in a scientific way. The benefits of this systematic approach impacts areas ranging from product quality to order turn-around times.

Quality Assurance

Many manufacturers in the U.S. have relocated their operations to countries such as China, India and Russia in an effort to cut production costs. This has caused experienced domestic personnel to opt for other job assignments. As a result, product quality within the supply chain has become a pressing issue. Defects and rework attributable to poor systems are raising the costs of doing business. One of the advantages of supply chain management is that it incorporates quality techniques, such as quality management systems, to improve operations.

Inventory Buffers

In almost every type of business, there is variability in customer spending. This requires companies to manage their inventories in a way that minimizes holding costs while providing enough flexibility to meet customer demands. If inventory levels fall too low, businesses may have to pay overtime to produce products or lose out on revenue by making customers wait or shop somewhere else. Supply chain management systems typically include inventory buffer levels that are pre-determined with careful analysis of historical trends.

Shipping Options

As e-commerce continues to grow globally, buyers have more options to order products than ever before. Shipping options need to keep pace with the demands of the marketplace, which requires companies to readjust their supply chains to meet customers' preferences. Whether it is small parcel shipping or larger bulk orders, shipping in a quick and accurate fashion is key for business success. Supply chain management systems help companies determine the optimal ways to ship while reducing costs to the lowest possible level.

Risk Mitigation

Managing risk is a key responsibility for business leaders, and supply chain management systems allow for the identification of critical risk factors in an organization or with their suppliers. Whether it is product quality, compliance with applicable laws or operational safety, management must mitigate risk in an effective manner. Supply chain methodologies assist management with organizing risks and ascertaining the potential for internal or external failures. Without effective supply chain management systems, many companies are exposed to legal risks and liabilities.

BACKGROUND:

Supply chain Management System automates the job of warehouse system. It mainly includes four Modules.

1. Administrator
2. Sub-Location In-charge
3. Retailer
4. Supplier

The Administrator has the privileges to maintain different types of Products, Suppliers, Sub Location In charges Databases in the warehouse. He is concerned with registration of Suppliers, Sub-Location In-charge, and Addition of Products.

The Sub location in charges has privilege to maintain Products which are transformed from Administrator and registration of Retailers and all operations on these two databases.

- The Retailer has privileges to maintain Products at the corresponding Retailer.
- The supplier has privileges to maintain parts Database and he can add parts and delete parts.

Existing System

In the existing system the supply of product and manage the raw material and finished goods was done manually. The records are managed manually. The process of order tacking, stock checking, job work, purchase, sale etc are done manually. The documents are kept in one file folder and the folder is physically moved from one officer to another. During this process, documents can become misplaced or lost.

All of this takes time and costs productivity, efficiency and money. Since the existing system is manual one, request for any particular transaction is made using specific forms, for specific purpose designed and approved by the management or higher authority.

In the existing system, business process has been conducted via paper handling, status meetings and phone tag. This detracts from doing real work, reduces accountability, and drives up cost.

Drawbacks in existing system

The drawbacks of existing system are listed below:

Drawbacks of the existing system

1. It is manual, so maintain the whole system is very difficult to maintain large amount of details, performing large number of routine transactions manually is very difficult.

2. Preparing reports by extracting data from various requisites is time consuming and a difficult one.

3. Wastage of human resources, more manpower is used to do the needful.

4. Wastage of time, time consumption is more when the transaction is done manually.

5. Data redundancy, the same information may be duplicated and stored in several files.

6. This redundancy Leeds to higher storage.

FUNCTIONAL REQUIREMENT:

Module Description

ADMINISTRATOR:

Supply chain Management System maintains the following master details for various purposes.

i) Suppliers Details

ii) Sub location in charges Details

iii) Retailers Details

iv) Parts Details

v) Products Details

Sub-Location Incharge:

Supply chain Management System receives the stock in a validated manner against Purchase Order & Receipt No. Warehouse management receiving process includes all the items necessary to receive, from unloading the trucks to recording the account. Supply chain Management System can perform the following receiving tasks.

i) Purchase order

ii) Gouds goods

Shipment:

Supply chain Management System provides you a number of functions to maintain the flow of goods in warehouse.

The following tasks are caused under this module.

i) Transfer inventory

ii) Put inventory on hold

iii) View inventory balances

iv) View inventory transactions

Billing:

Warehouse billing process allows the retailer to generate new bills and also allows viewing of existing bills.

Reports:

The reports process allows the user to produce the reports necessary for day to day warehouse operations. The standard reports are:

i) Inventory Reports

ii) Purchase Order Reports

iii) Administrative Reports

NON-FUNCTIONAL REQUIREMENT:

Scalability - This provides, we can add the new features of the software as if required, without affecting the present features.

Flexibility – The proposed system allows the flow of multiple forms such as purchase request form, purchase order form across the entire organization.

Robustness – Bulk volume of file transaction can take place. There is also a communication capacity for sending and receiving may number of files. Secured transmission using unique password for each user is provided.

Economical – No addition hardware and softer infrastructure is needed. Since the operations are simple and easy to handle no special training is needed. The system finally provides an extensive customer support package.

No repetition - The system does not allow duplication of stored information.

Non-atomicity problems - A computer system like any other mechanical or electrical device is subject to failure. In many applications, it is crucial to ensure that, once a failure has occurred and has been detected, the data restored to consistent state that existed prior to the failure. The proposed system avoids the atomicity problems.

Security - Only the authorized users can carry out the transaction according to their privilege. So security is maintained.