6.1. INTRODUCTION

The management and control of inventory is a challenge to all organizations in any sector of the company. The problem of inventory does not confine them to profit-making big firms. The same type of problem is encountered by social and non-profit organizations too. Inventory problems have been encountered by every society. But it was not until the 20th century that the analytical technique was developed to study them. The initial impetus for analysis expectedly comes from the manufacturing sector. It was until after World War II that a concerted effort on risk and uncertainty aspects of inventory was made. In theory, inventory is an area of organized operation that is well developed.

6.2. Material is a very important factor in production. It includes physical commodities used to manufacture the final end product. It is the starting point from which the first operation starts.

<table>
<thead>
<tr>
<th>A items (High consumption Value)</th>
<th>B items (Moderate consumption Value)</th>
<th>C item (Low consumption Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very strict cons. control</td>
<td>Moderate control</td>
<td>Loose control</td>
</tr>
<tr>
<td>No or very low safety stock</td>
<td>Low safety stock</td>
<td>High safety stock</td>
</tr>
<tr>
<td>Phased delivery (Weekly)</td>
<td>Once in three months</td>
<td>Once in 6 months</td>
</tr>
<tr>
<td>Weekly control report</td>
<td>Monthly control report</td>
<td>Quarterly report</td>
</tr>
<tr>
<td>Maximum follow up</td>
<td>Periodic follow up</td>
<td>Exceptional</td>
</tr>
<tr>
<td>As many sources as possible</td>
<td>Two or more reliable</td>
<td>Two reliable</td>
</tr>
<tr>
<td>Accurate forecasts</td>
<td>Estimates on past data</td>
<td>Rough estimate</td>
</tr>
<tr>
<td>Central purchasing /storage</td>
<td>Combination purchasing</td>
<td>Decentralized</td>
</tr>
<tr>
<td>Max.efforts to control LT</td>
<td>Moderate</td>
<td>Min.clerical efforts</td>
</tr>
<tr>
<td>To be handled by Sr. officers</td>
<td>Middle level</td>
<td>Can be delegated</td>
</tr>
</tbody>
</table>

It is inventories and does not get waste and exhaust (unless it is deteriorated) with the passage of time as labour is wasted that it can be purchased on varying quantities according to the requirement of firm. Proper control of materials is necessary from the time order for purchase of materials is placed with suppliers until they have been consumed. The object of material
may be reduced in other words, efforts are to be made to reduce the cost of material when it is purchased, stored and used.

6.3. MATERIAL AND METHODS

Normally the sugar industries adopting manual method of procurement of raw materials, classification and receipt of goods. Usually this is most time consuming and more elaborative in nature. The current study is the methodology of reducing production lapse of time for procurement of needy items required for sugar industries. The main object is classification of materials, framing of work order, procedures for receiving of Goods and the Transaction codes adopted in SAP Materials management module for implementation.

6.3.1. Basically in sugar industry materials can be classified into three classes

i. A class items

ii. B class items

iii. C class items

Suggestion of policy guidelines for A, B & C classes of items

The ABC analysis is a business term used to define an inventory categorization technique often used in materials management. It is also known as Selective Inventory Control. It stands for Always Better Control. Policies based on ABC analysis: A items: very tight control and accurate records B items: less tightly controlled and good records C items: simplest controls possible and minimal records
The ABC analysis provides a mechanism for identifying items that will have a significant impact on overall inventory cost, while also providing a mechanism for identifying different categories of stock that will require different management and controls.

The ABC analysis suggests that inventories of an organization are not of equal value. Thus, the inventory is grouped into three categories (A, B, and C) in order of their estimated importance.

'A' items are very important for an organization. Because of the high value of these ‘A’ items, frequent value analysis is required. In addition to that, an organization needs to choose an appropriate order pattern (e.g., 'Just-in-time') to avoid excess capacity. 'B' items are important, but of course less important, than ‘A’ items and more important than ‘C’ items. Therefore ‘B’ items are intergroup items. 'C' items are marginally important.

6.4. ABC analysis categories

There are no fixed thresholds for each class, different proportion can be applied based on objective and criteria. ABC Analysis is similar to the Pareto principle in that the ‘A’ items will typically account for a large proportion of the overall value but a small percentage of number of items.

Examples of ABC class are

- ‘A’ items – 20% of the items accounts for 70% of the annual consumption value of the items.
- ‘B’ items - 30% of the items accounts for 25% of the annual consumption value of the items.
‘C’ items - 50% of the items accounts for 5% of the annual consumption value of the items.

Another recommended breakdown of ABC classes.

i. "A" approximately 10% of items or 68.6% of value

ii. "B" approximately 20% of items or 23.3% of value

iii. "C" approximately 70% of items or 10.1% of value

SAP ERP consists of several modules including: utilities for marketing and sales, field service, product design and development, production and inventory control, human resources, finance and accounting. SAP ERP collects and combines data from the separate modules to provide the company or organization with enterprise resource planning.

Although there can be major benefits for customers of SAP ERP, the implementation and training costs are expensive. Many companies experience problems when implementing SAP ERP software, such as: failing to specify their operation objectives, absence of a strong commitment or positive approach to change, failing to deal with organizational differences, failing to plan the change to SAP ERP properly, inadequate testing. All these factors can mean the difference between having a successful implementation of SAP ERP or an unsuccessful one.

If SAP ERP is implemented correctly an enterprise can go from its old calculations system to a fully integrated software package. Potential benefits include: efficient business process, inventory reduction, and lead time reduction.
Chapter VI

ABC CLASSIFICATION, FRAME WORK ORDER, GOODS RECEIPT & TRANSACTION CODES FOR IMPLEMENTATION OF SYSTEM APPLICATION PRODUCT (SAP) MATERIAL MANAGEMENT (MM-MODULE) IN SUGAR INDUSTRY

6.5. Framework Order

Purchasing document used for the procurement of materials or external services. Instead of stipulating a specific delivery date, this type of purchase order has an extended validity period. Goods or services can be supplied or performed against it over this period without the need for any further written instruction to be issued by the buying entity.

Framework orders are defined with document type FO. They are used in accelerated procurement processes in connection with preventive maintenance (servicing) plans or invoicing plans, and for blanket purchase orders (purchase orders with specified limits).

A framework order covers multiple procurement transactions over a longer period in cases where the administrative costs of processing discrete POs would be disproportionately high.

6.6. General Terms and Conditions for Framework Orders

This order serves to cover our requirements for the goods and/or services mentioned. We are not obliged to cover the requirements solely or continuously or to take delivery of a specific order amount, total services amount or total amount of goods.

We will obtain call-offs with details of the deliveries and/or services to be provided as well as the required delivery deadlines directly from the plant.

We reserve the right to change or cancel individual works call-offs or items.

Only the articles or services indicated in the order may be delivered or provided. Call-offs related to other goods or services shall be considered irrelevant. No payment will be made for deliveries made on the basis of such call-offs.
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The shipping documents and invoices have to include the order no., delivery no. and delivery note no. given above as well as an exact description of the delivery and/or service and its amount.

Invoices without full details shall be returned and the payment deadline shall start again after receipt of the complete invoice; in addition, any handling costs will be charged.

This agreement shall render any possibly corresponding framework orders (including annual orders from the previous year) invalid.

If around 80% of this order amount has been exhausted, it should contact the Purchasing Department for a possible increase of the total order amount.

6.7. Goods receipt

Definition-- Official document issued by a port, shed, warehouse or shipping terminal operator to acknowledge receipt of items listed in it under customary or specified terms and conditions.

Purpose-A goods receipt is the physical inbound movement of goods or materials into the warehouse. It is a goods movement that is used to post goods received from external vendors or from in-plant production. All goods receipts result in an increase of stock in the warehouse.

The following kinds of goods receipts are considered in the SAP System:

- Goods receipt with reference to a purchase order
6.8. The Goods Receipt Process

When goods are received in the warehouse, the processes that take place in the Warehouse Management (WM) system are generally automatic and transparent to the user. From the time a dock worker scans a bar code on the container slip until the goods are placed into a storage slot within the warehouse, WM keeps a record of all the transactions that take place that are associated with each piece of stock. Each of the steps that are concerned – from posting the receipt of the goods in the Inventory Management (IM) component to confirming that the movement has taken place – can be carried out automatically by the system. Since they can also be carried out manually if desired, the following description explains each of these steps in detail.

i. To initiate the receipt of goods into WM, generally post a goods receipt in IM.

ii. With the IM posting, the system assigns a quantity of material to a storage bin in an interim storage area for goods receipts and creates a transfer requirement in WM.

iii. Subsequently a transfer order is created, usually automatically by the system, based on the information in the transfer requirement.
iv. Using a predetermined search strategy, the system determines where in the warehouse the goods should be placed and palletizes the goods.

v. The transfer order is used to transfer the goods from the interim storage bin in the receiving zone to one or several storage bins in the warehouse.

vi. The warehouse worker confirms that the goods have been transferred. This can be entered manually into the system.

vii. Any discrepancies between the quantity requested and the quantity transferred into the warehouse are recorded in WM. These differences must be cleared later in the IM component.

At this point, the goods receipt process is completed.

6.9. Procedures followed in WM on receipt of goods in the warehouse

The flow chart illustrates a possible scenario for an inbound movement (goods receipt) in connection with a transfer order (TO). This example shows what happens in the warehouse and in WM when goods are received.
Chapter VI

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PHYSICAL PROCESS IN SYSTEM

SAP Business has the capability to meet the procurement process needs of SMBs - small and medium scale businesses. In a typically organization, there's usually a purchasing department.
The responsibility of this department is to handle the procurement of materials. However, this process impacts on other departments - inventory, material requirement planning, production and Financial. Suffice to say that, at any point in time, they are either impacting on stock quantity and/or stock value.

In this posting, I shall be explaining the procurement process in SAP Business one as it relates to inventory and of course financial. Ideally, the process starts with a purchase requisition is created and then purchase order. A goods receipt that is based on the purchase order is then created. Based on the goods receipt, an invoice is then created upon which the outgoing payment transaction is based. However, in SAP Business One, purchase requisition is not catered for.

At this juncture, it is worth mentioning that SAP Business one leverages the draw document wizard to facilitate the creation of a target document (e.g Goods Receipt PO) based on a source document (e.g purchase order). During the copying process, options as to how the inheritance of definitions should be carried out can be customized if need be. It is important to state that the A/P Invoice is the only document that is mandatory in order to register a procurement process. Base documents such as the purchase order and the goods receipt PO are optional.

6.10. The Purchase Order

The purchase order is a document used to request a supplier to supply goods or services. This document usually contains strict conditions on which the supply is based. A
purchase order can be tied to cost centres or projects. The essence is to allow for better analysis as to what it's actually meant for. Goods receipt and invoicing ideally references the purchase order.

The purchase order contains the header part, line details and the footer. The header part contain information about the entire purchase order such as document currency, document date and due date. The line item level contains information about the items ordered such as item code and name. The footer also displays general document information such as payment due and total discount value.

When a purchase order is created, no entry is made in accounting; however, the inventory status is updated based on the quantity ordered. This is reflected in the ordered and in stock fields in the inventory tab of the item master data and the inventory report.

6.11. Results

Integration- Integration can be the highest benefit of them all. The only real project aim for implementing ERP is reducing data redundancy and redundant data entry. If this is set as a goal, to automate inventory posting to general ledger, then it might be a successful project. Those companies where integration is not so important or even dangerous tend to have a hard time with ERP. ERP does not improve the individual efficiency of users, so if they expect it, it will be a big disappointment. ERP improves the cooperation of users.

6.11.1. Efficiency: Generally, ERP software focuses on integration and tend to not care about the daily needs of people.
6.11.2. **Cost reduction:** It reduces cost only if the company took accounting and reporting seriously even before implementation and had put a lot of manual effort in it. If they didn't care about it, if they just did some simple accounting to fill mandatory statements and if internal reporting did not exist or has not been financially-oriented, then no cost is reduced.

6.11.3. **Less personnel:** Same as above. Less reporting or accounting personnel, but more sales assistants etc.

6.11.4. **Accuracy:** No. People are accurate, not software. What ERP does is makes the lives of inaccurate people or organization a complete hell and maybe forces them to be accurate (which means hiring more people or distributing work better), or it falls.