Classifying Inventory according to System ABC in stored of National Oil Fields and Terminals Catering Company

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Abstract: The aim of the search is to classify inventory according to system ABC and insure the specific controlling on inventory movement in aim to re-organize inventory and classify it in the study subject, as the study had depended the case of studying the situation by knowing the real reality of inventory in companies and the way of controlling it by using the best economic ways represents with classification ABS and select the perfect way to control the components of that classification, the search had reached to many inclusions as of it the necessary of providing a inventory control system by controlling copybooks and directing company in to system to correction a integrated and comprehensive perform on each section level and on company level as a whole.

Introducing

The investment in the inventory forms an important rate with gross costs of any production or service organization, as investment in inventory according as a frozen money and an extra costs that organization bury it, so management had always tried to search on ways to lowest of gross costs of inventory, and lowest the cost of keeping it, whither with choosing the right system to control inventory, or organizing stores and calcify the inventory materials.

The aims of current study is to serve company, the subject of search in the field of inventory organizing and the good keeping with inventory materials by using a simple system with no complication to control inventory that the work of inventory in company is more easy and select the more important materials and characterize it of others, as it stand on the machine that does supply and having materials from its source to select its price, the units measure, and the early inventory in stores in the available situations in aim to get a result that said the getting up of companies that following to general sector be done with specialized scientific cadres and take benefit of its possibilities, In the light of the above, the study
2- To meet the demands of customers and consumers on demand and didn’t wait them to get it, which mean provide the best service to customers.

3- Meeting the expectations of season demand on productions, which mean the demand on materials is been high at season, and low in other season, to face cases of non sure, it being keep some inventory.

4- Lack of movement and transports costs between provide sources and received points.

Beside of the organizational importance, it’s so important from the administrative side, including planning, put plans, as it been planning to product specific amounts then planning to sell it, and select other amounts to buy, beside selecting the level of inventory that will be get it which is (highest limit, lowest limit) the re-demand point.

Second: Organizing Stores and Systems of Control Inventory

1- Organizing Stores

Organizations including the following paragraph

- Choosing the stores location

Pointing to the mechanism that select the right place and customize enough area for project according to these conditions:

- The speed of receiving, receipt, and storage processes and its ease.
- Easy to getting kinds and recognize it.
- Holding inventory and protect it from different dangers such as damage, corruption and fire.
- Providing enough protection and comfortable for workers.
- Economic use of for area and minimize costs. (Zoghbi, Haitham, )

Other considerations that must be taken in account when choosing the appropriate location for the stores what related with nature of inventory materials from:

- The ability of these materials to interact with others materials and had a negative impact on it.
- The ability of these materials to ignition or causing fire.
- The ability of these materials to explore causing loosing in materials and souls. (Al-Ghadeer)

- Select the inventory formats.

Possible economy, the method of study had depend general steps that followed with classify (ABC) and select a convenient way to control on the elements of that classify.

The Second Search: The Demand of Inventory Management

First: Inventory and its Importance

1- Inventory Concept

Researchers and specialists had take inventory with different concepts, as Lavely defined it as “it’s money on the shelf”, also it does defined as “all items that company had under use to meet costumers demands” (Russell & Taylar), also known as “it’s all what exist in stores, of raw material, spare parts, tools, maintenance materials, and finished materials, (Zolif).

From mentioned definitions we summary the following:

A- The inventory is described by paragraphs maintained by the industrial organization.
B- Using to respond to customers requests and process needs.
C- These paragraphs vary and change as needed such as “materials, spare parts, finished materials .”).
D- Inventory is valued as its monetary value, and consider as frozen funds.
E- Subject to the appropriate control in order to minimize the costs that arranged on it.

Inventory is shown with its different kinds in the total level to the product organization such as (the inventory of finished material, safety inventory, working under manufacture inventory, inventory of incoming materials).

Based on above, Paragraphs vary or (stored materials) as Russell & Taylar classify it as following:

Raw materials, purchased appliances and supply, work, materials under work, working capital, tools, equipment, and machines, finished materials.

2- The Importance of Keeping Inventory

Stores in each facility hold a big amount of inventory, as there is justifications of keeping inventory, each of (Russell & Taylar) and (Shafer Etal) have summered these justifications as following:

1- Provide materials of production processes with right place and time.
on the mean that organization depend with that kind of cost. (Al-Ali, 2013:77)

2- The System of Control on Inventory

The control system is of two main kinds of systems which are:

- The System of Current Inventory: it also called the system of fixed amount, this system work on base of release a fixed amount when inventory get to negative level (Russell & Taylar), and from the positive features of the system as (Russell & Taylar) had showed, the continues of system work because the inventory levels subject to specific control and with the continue of doing that, the administration known the inventory situation, so that kind of inventory direct in to critical inventory items, such as; parts elements, raw materials, and supplies. But the continue controlling to records of inventory amount under use considered of the disadvantage of this system due to the high cost of these continue control. Beside the problems that face the system which represent with the fail of those who using inventory in mentioned of what they been use, that’s need to regular, nature conformation of inventory to insure the specific records. (Scott, Schaffer, 2012:702)

- The Periodic Store System: it been selecting fixed, equal intervals in this system where it been reviewing the inventory levels, it may be (weekly, monthly, seasonal), according to the institution work and its activity, with changing the order amount in each time and according the change of the consumer rates, (Russell & Taylar) so it called the fixed period, as it consider as the better of current system to face unexpected demand earlier then minimize costs. This system is more appropriate when it been hard to following inventory levels, due to the non-following inventory continually, there is more chance to inability. That’s can be avoid by using security inventory. (Scott, Schaffer, 2012:704)

Third: Classify Inventory According to (ABC) System

There are many entries to classify inventory materials such as:

1- Entrance to mathematical equations, it use mathematical equation and modals where prepare to controlling purposes.

- The raw materials and configure stuffs, goods, elements, and units been received (usually been bought) from outside the system to use directly with product final outputs.

- Processes formed of all materials, parts, and outputs that been work on, which means it’s elements left inventory and raw materials but still didn’t turn in to finished materials, or didn’t collect in final product.

- Finished materials is what in stores of full products, that goods after its completion of inventory, it been transform between processes in to inventory of finished material, as it could be send from there to distribution Centers. (Scott, Schaffer, 2012:696)

- Spare parts and reservoir parts is the language that use to different service works.

- Food supplies which is the assets that consumed during regular job of organization which is not a part of ready goods of organization output, such as pens with its different kinds, papers, lights. (Al-Ali, 2013:19)

- Inventory Costs

The inventory has a different cost, some classified as following:

- The cost of purchasing demand, it’s the cost that related with demanding purchase inventory and the costs of receiving it, purchasing cost including the cost of install applications, making orders of purchase, shipping, examination, and insurance. This costs been accounting in based of cash value divided on the one purchase order.

- The cost of keeping inventory, it’s the cost that related with material vocabulary that stored in stores. These costs formed the banking benefit rate on loans, revenues, and insurance costs. As it also including the costs of alternative opportunities which related with finance investing in inventory instead of invests it in other projects, this cost accounting in base of the cost of keeping the individual stored in the year.

- The out of inventory cost, which is that cost came of cases of increasing order of the actual amount in stores, these cost including the cost of losing the opportunities of selling and losing costumers. The out cost amount depending
2- The table entrance as it’s been made a table that shows the kinds of stored materials, its amount, and its condition.
3- Experience entrance, it depend on worker experience and their ability with noticing and explore deviations.( Al-Ghadeer, Hamad,2012:311)

It’s been noticing on these entrances these following:

- Difficulty with depending on it with classify inventory, because it considering the kind of inventory more than its value.
- Did not allowed to select a clearly system to control on inventory, especially the difference with materials kind and the quick of consuming it need different system control.
- The classification systems above rarely take into account the importance of stocks stored for the organization production economies and its processes.

From that the search had direct to choose ABC system to classify inventory because it cross the difficulty and the above notes, and achieving more specific control and better economic benefit.

In view of what had mentioned; the researcher had test the ABC system which account as a way of classify inventory according to its value to the company,( Russell & Taylar ) beside that; it allowed to managers to focusing their efforts to control material that’s more important.(Slack,2012:432)

ABC system classifying the stored paragraphs according to its importance, as it gave more importance to inventory material with less number and big rate of gross value of inventory; it does classify it in to three sets (kinds) as it shown on table (1):

<table>
<thead>
<tr>
<th>Paragraph from Stored Materials</th>
<th>Kind</th>
<th>Rate of gross value %</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-15</td>
<td>A</td>
<td>70-80</td>
</tr>
<tr>
<td>30</td>
<td>B</td>
<td>15</td>
</tr>
<tr>
<td>50-60</td>
<td>C</td>
<td>5-10</td>
</tr>
</tbody>
</table>

Source: Prepared by the researcher based on foreign sources.

The build system process and selecting kinds are done based on following steps:
Entrance and preparation the inventory, purchase materials by the outside demand, local tenders, and procurement committees.

- Strengthening the balances of the main warehouses with the required materials and according to the needs of the company.
- Prepare the budget estimates for each year.
- Supply all sub stores with oil location with its need of dry, fresh and iced.

Customs Audit Division

It takes making customs declarations special import licenses for manufactured materials from foreign and domestic companies.

2- The Kinds of Available to Companies

- Spare Parts Stores.
- Oil and Fuel Stores.
- Dry material stores.
- Stores of iced materials.
- Stores fresh materials.

3- Working Mechanism of the Stores and their Activities

The material been entered to stores by systematic method after match it with the terms of the announcement by a specialized technical committee of different sections, after watching the materials, they been sorely entered by inventory minutes of entrance and announce the benefit offices, audit department, financial supervision, financial division, and other beneficiary departments.

As for its way out, it done by inventory demands signs by beneficiary administration and receiver, comparing with the agreement of manager of administration of inventory, as the main inventory division does the following works:

- Entrance and preparation the inventory, purchase materials by the outside demand, local tenders, and procurement committees.
- Strengthening the balances of the main warehouses with the required materials and according to the needs of the company.
- Prepare the budget estimates for each year.
- Supply all sub stores with oil location with its need of dry, fresh and iced.

Second: The Reality of Stores in the National Oil Fields and Terminals Catering Company

It shown by field study of company reality—under search—it suffering from big problems in inventory field and following primitive methods didn’t fit with the with company importance and it role in economy, so we find the necessary to use or find solution in such situation, so it will be use ABC system of inventory which is a system not hard to use but stores must be more organization and give priority of inventory materials which more importance then the important materials.

First: Oils Stores

Oils store is one of the importance stores in company in spite of the lack of materials which contains but it’s expensive. It will be explain it be table that shows the type of the material, the measure unit, the size of yearly order, and the cost of the unit then it will account the gross value.

1- The Gross value of Oil inventory

Table (2)

<table>
<thead>
<tr>
<th>S</th>
<th>Material type (oil)</th>
<th>Unit of measuring</th>
<th>yearly size demand</th>
<th>Unit cost with Dinar</th>
<th>Gross value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Engine 30</td>
<td>Litter</td>
<td>30000</td>
<td>4</td>
<td>120000</td>
</tr>
<tr>
<td>2-</td>
<td>Diesel 40</td>
<td>Litter</td>
<td>20000</td>
<td>7</td>
<td>140000</td>
</tr>
<tr>
<td>3-</td>
<td>Hydraulics 200</td>
<td>Litter</td>
<td>100000</td>
<td>3</td>
<td>300000</td>
</tr>
<tr>
<td>4-</td>
<td>Automatic 90</td>
<td>Litter</td>
<td>40000</td>
<td>2</td>
<td>80000</td>
</tr>
<tr>
<td>5-</td>
<td>Automatic 10</td>
<td>Litter</td>
<td>10000</td>
<td>4</td>
<td>40000</td>
</tr>
</tbody>
</table>

Source: by researcher depending on company data.

2- Classify according to gross value of inventory type.

Table (3)

<table>
<thead>
<tr>
<th>S</th>
<th>Kind of material (oil)</th>
<th>Gross value</th>
<th>The rate (relation between single value and gross value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Engine 30</td>
<td>120000</td>
<td>6%</td>
</tr>
<tr>
<td>2-</td>
<td>Diesel 40</td>
<td>1400000</td>
<td>72%</td>
</tr>
<tr>
<td>3-</td>
<td>Hydraulics 200</td>
<td>300000</td>
<td>16%</td>
</tr>
<tr>
<td>4-</td>
<td>Automatic 90</td>
<td>80000</td>
<td>4%</td>
</tr>
</tbody>
</table>
3- Classify according to (ABC) system

Table (4)

<table>
<thead>
<tr>
<th>S</th>
<th>Type of material (oil)</th>
<th>The rate (relation between single value and gross value)</th>
<th>Standard classification rate</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Engine 30</td>
<td>6%</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>2-</td>
<td>Diesel 40</td>
<td>72%</td>
<td>A=70-80%</td>
<td>A</td>
</tr>
<tr>
<td>3-</td>
<td>Hydraulics 200</td>
<td>16%</td>
<td>B=15% and more</td>
<td>B</td>
</tr>
<tr>
<td>4-</td>
<td>Automatic 90</td>
<td>4%</td>
<td>C=10% and less</td>
<td>C</td>
</tr>
<tr>
<td>5-</td>
<td>Automatic 10</td>
<td>2%</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Second: Iced materials inventory

1- Gross value of iced materials

Table (5)

<table>
<thead>
<tr>
<th>S</th>
<th>Material type</th>
<th>Measuring unit</th>
<th>Yearly size demand</th>
<th>Unit cost with Dinar</th>
<th>Gross value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>National sheep meat</td>
<td>Kilo</td>
<td>600000</td>
<td>35</td>
<td>21000000</td>
</tr>
<tr>
<td>2-</td>
<td>Beef imported</td>
<td>Kilo</td>
<td>400000</td>
<td>12</td>
<td>4800000</td>
</tr>
<tr>
<td>3-</td>
<td>Chicken meat</td>
<td>Kilo</td>
<td>200000</td>
<td>8</td>
<td>1600000</td>
</tr>
<tr>
<td>4-</td>
<td>Turkey meat</td>
<td>Kilo</td>
<td>100000</td>
<td>15</td>
<td>1500000</td>
</tr>
<tr>
<td>5-</td>
<td>Fishes</td>
<td>Kilo</td>
<td>50000</td>
<td>15</td>
<td>750000</td>
</tr>
</tbody>
</table>

Source: by researcher depended on company data

2- Classify on base of gross value of inventory type

Table (6)

<table>
<thead>
<tr>
<th>S</th>
<th>Material type</th>
<th>Gross value</th>
<th>The rate (relation between single value and gross value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>National sheep meat</td>
<td>2100000</td>
<td>71%</td>
</tr>
<tr>
<td>2-</td>
<td>Beef imported</td>
<td>4800000</td>
<td>16%</td>
</tr>
<tr>
<td>3-</td>
<td>Chicken meat</td>
<td>1600000</td>
<td>5%</td>
</tr>
<tr>
<td>4-</td>
<td>Turkey meat</td>
<td>1500000</td>
<td>5%</td>
</tr>
<tr>
<td>5-</td>
<td>Fishes</td>
<td>750000</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>29650000</td>
<td>100%</td>
</tr>
</tbody>
</table>

3- Classify based on (ABC) system

Table (7)

<table>
<thead>
<tr>
<th>S</th>
<th>Material type</th>
<th>The rate (relation between single value and gross value)</th>
<th>Standard classification rate</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>National sheep meat</td>
<td>71%</td>
<td>A= 70 – 80 %</td>
<td>A</td>
</tr>
<tr>
<td>2-</td>
<td>Beef imported</td>
<td>16%</td>
<td>B=15% and more</td>
<td>B</td>
</tr>
<tr>
<td>3-</td>
<td>Chicken meat</td>
<td>5%</td>
<td>C=10% and less</td>
<td>C</td>
</tr>
<tr>
<td>4-</td>
<td>Turkey meat</td>
<td>5%</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td>5-</td>
<td>Fishes</td>
<td>3%</td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of the company as a whole and at the level of each section, as the calendar indicates improvement and development.

3- Develop the company stores from building and floors, the safety condition, their suitability for the type of material stored, and handling equipment and storage.

4- The necessary of giving workers in stores field with incentives in its two types, the material and moral, as it considered encourage to greater efforts and loyalty to the company.

5- The necessary to providing an inventory control system by the tightening of the guards, the takeover of books and records, and recording of incoming and outgoing at once, especially that the company had sub stores in oil locations.

Resources


3- Lavely, rick(inventory control) , USA , 3rd 2010

4- Russel, Robert, Taylor, Brnard (production & operation management) new jersey, 2011


6- Slack, NC, chambers, (operation management) , USA , 1st 2012

7- Shafer, jack, Meredith (operation management) , USA 2012

8- Zoghbi, Haitham, Adwan, Mohammed (Purchasing and Storage Department, Modern Materials Management Entrance), Dar Safa, Jordan, Amman, 2012.

9- Zulif, Mahdi Hassan, (Purchasing and Storage Department from quantitative perspective), Dar Al Rowad, Jordan, Amman, 2013.

Discussion the Results

The researcher had depended in ABC system on the largest inventories in the company, which are: oils and iced materials, where the materials in those inventories identical and not too much, as from the size of yearly demand and the cost of unit then getting the gross value of single then gross value of store as whole by collect all gross values of each single then select the actual rate by divide the gross value of each single on the gross value of all singles. As in oils stores; the 40 diesel oil was in the highest rate, therefore was including A section, while 200 hydraulic oil was in section B, and others kind of oils was in C section, therefore; ABC system make known the section of each kind of materials more easy, while in iced materials, the local sheep meat had the highest rate therefore it’s in section A, while imported cows was in section B, and others types of meat was in section C.

Fourth Search: Results and Recommendations

First: Results

1- The company did not have technology and modern programs in spite of the existing of computers with traditional programs, the recipient and outgoing.

2- There is no active and total system to valuation the stores performs whither partly or on the stores level of company as whole.

3- Most of company stores are not eligible to store, such as “building, safety, environment, equipment…etc”.

4- The non-availability of development, inventory, control system is enough to face cases of embezzlement and theft.

5- The non-exist of moral or material incentive for the effort that been spent from storekeeper and other workers.

Second: Recommendations

1- Develop worker stuff with stores, scientifically and practically, by open computer education courses and using ABC system for inventory for what it provide from easily to know the point of re-demand and the less and highest limit of inventory, the names of suppliers, and the prices of materials, in spite of that it didn’t mentioned at past paragraphs during the search due to the secret information of company.

2- Guidance the company to system to make a total to evaluate the performance of an integrated and comprehensive at the level