

# An Appraisal of Inventory Control and Management in Manufacturing Industries: Nigerian Experience

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## Abstract

This research was undertaken to explore the nature of efficient inventory control and management, focusing on Hamdala Sweet factory ltd., for manufacturing industries. The study aims to examine and recognize the areas of the company's lapses and provide successful ways and strategies in which the manufacturing company can explore the inventory management service to achieve its goals. Adopted used different research instruments such as questionnaires and oral interviews in the conduct of this study to collect data from respondents, and a simple random sampling to select a sample size of 50. For this work, the statistical instrument used is chi-square. Based on the study, it found that inventory management in the manufacturing company plays a vital role. Well-functional inventory management following the recommendations will lead to proper management, thereby improving appropriate and productive production and ensuring equally effective, efficient and sufficient use of the manufacturing company's materials and resources.

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**Index terms**— inventory, control, management, manufacturing industries.

## 1 Introduction

Inventory is one of the critical assets of any industry. It accounts for a large proportion of overall investment in any business, including production, retail, wholesale, import, export, extraction, and mining. Inventories are the main must-business controllable (current) properties. It usually reflects the direct material used in manufacturing and, as a consequence, accounts for over fifty per cent of the overall cost of production in most industries. Instead of being invested in other company sectors, vast quantities of capital are typically locked up in raw material stocks. Therefore, one must pay a lot of attention to the company's inventory to prevent mismanagement of the fund. Inventory adjustments or changes are announced at the end of each year. Due to this renewable nature, inventory managers, especially those in the account section, should therefore strive as best as possible to monitor and regulate the inventory by paying constant and careful attention to it, unlike fixed assets that last in a business for years and are converted within days, weeks or months into goods. Inventories were then reassessed weekly or monthly, depending on the type of business concerned. The exercised stock-taking is carried out to assess the stock amount at each specific moment. Many companies do not know that the equal amount of money and reckless handling, pilferage and degradation of such in-store products result in significant losses. Therefore, the store should be better run and more economically prepared. To realize the full advantage of the expensive benefit scheme, one can accomplish this by maintaining effective and reliable inventory management and control strategies that follow excellent and effective inventory management techniques; if the operations of the department of stores were ignored, mismanagement of such stock results in a significant loss of the company and even in the longterm liquidation. A well-managed inventory and control system means that the business is not in such a problem as under stocked if it has less stock as requested, resulting in loss of reputation and loss of profit in the long run, overstocking, on the other hand, as the company has more items than customers want. As

## 4 B) CONCEPT OF INVENTORY

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far as warehousing costs, insurance costs, capital costs, pilferage, degradation and obsolescence are concerned, this would increase costs.

At this point, the need for inventory control and management in the manufacturing industries is critical. There is an issue in the manufacturing industries; I Inadequate inventory control in the manufacturing industries. (ii) Reduction of a company's revenue or business due to inadequate inventories of finished products. (iii) Low manufacturing productivity is a result of the inadequate inventory used by the company. iv) Bad inventory management and control in the producing business.

The research work's key goals and objectives are to analyze the issue and future of manufacturing industries' inventory control and management. This study's primary goals are in line with this; i) To provide an overview of the issue affecting manufacturing industries in the field of inventory control and management. (ii) Investigate to what degree the finished product's inadequate inventory causes the loss of revenue to the company. (iii) To determine whether the company has suffered from poor inventory management I and control. (iv) To analyze, at the end of the period, the firm's approach in the valuation of its material goods.

## 2 II.

### 3 Review a) Introduction

A genuinely efficient inventory management system can minimize the dynamic inventory crucial to business success in preparing, implementing and managing a supply chain network. The incentive created by improving an organization's inventory management will dramatically enhance button lines' business performance. This chapter aims to analyze the definition of inventory, inventory forms, inventory classification, inventory purpose, inventory control, and also applies to inventory, inventory model, and inventory level related costs. The theoretical and methodological context is also part of it.

### 4 b) Concept of Inventory

For the effective functioning of manufacturing and retailing organizations, inventories are necessary. This is because, as part of their corporate activities, many businesses retain inventories. The most important part of the current assets of most companies, particularly manufacturing companies, are inventories. It is not necessary to overemphasize the need for management to maintain inventory control if adequately handled. A company that neglects inventory management may jeopardize its long-term profitability; its business will end up failing. Many professional bodies and academics have defined the concept of inventory in various ways. It was described as the quality of products and materials on hand by the Microsoft Encarta premium. The inventory of a manufacturer reflects those products which are ready and available for sale. According to Morse (2011), inventory is a general term that describes items stored in the storehouse and stockyards, which is typically intended to be connected to manufacturing or operating activities and the finished product waiting for customers to be dispatched. According to Nwaorgu (2005), inventory may be defined as a tangible asset kept for resale in the ordinary course of business or sale to produce goods and services. Inventory is the sum of these things, according to Jain (2008), to intangible property held for sale in the ordinary cause of business, held in the course of manufacturing goods and making service available for purchase. According to Ama (2000), however, inventory is the stock of items a business manufactures for sale and the components that make up the products. How much inventory level is calculated is crucial in manufacturing and retail, being an essential contribution to the budgeting system.

Management control is an operation to assess if resources have been given and development has been carried out according to the plan. If this is not the case, corrective action is taken. Control is the process of instituting and receiving input where appropriate to ensure that all parts of the organization operate successfully and progress towards the overall business's goals. Inventory management can be seen as an inventory strategy to secure the correct raw material quantity and quality in the right place. It can also be defined as the method used to monitor a company's stock investment in companies. This involves stock level recording and tracking, predicting potential demand and determining when and how many to order. Silver et al. (2011) described inventory control as the means to ensure that an organization's actual inventory flow conforms to the plan. According to Ezeani (2008), stock management is described as the store manager's technique to ensure that materials are made available without the risk of stocking out and overstocking when they are required at quantity, quality, and price. However, for inventory management to be successful, there must be a strategy to formulate targets in a company and prepare different budgets to achieve those goals. In an enterprise, inventory preparation is essential. A company should be able to assess the desired level of stock investment. This condition will only be possible if the company ensures that supplies are adequate to fulfil production and distribution needs. The company must avoid keeping excessive excess inventories because they raise the risk of obsolescence. Against this, because of inadequate inventories, a business cannot afford the loss of revenue, and, at the same time, it is costly to have more lists on hand. Within the same organization, various divisions follow distinct views and attitudes towards inventories. For example, a company's sales department may want large stocks in reserve to satisfy practically any demand that comes. Similarly, the same organization's manufacturing department will need a large inventory of products to disrupt the production method. On the other hand, a minimum expenditure in stocks will often be required by the finance department so that the fund could be located elsewhere for another reason. Inventory management thus involves tracking and monitoring inventory levels, determining the optimum

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level and predicting future demand and decision-making. Inventory control's fundamental goal is to minimize stock-related costs.

## 5 c) Inventory Model

Attempts have been made to use analytical approaches to research inventory issues. Industries, where goods were made in lots and stored at a factory warehouse, acknowledged the research's absolute need. The method, known as the simple lot size formula, was obtained and further developed by the dependent author. Still, the most commonly accepted procedure is the fixed order quantity system known as the Wilson formula. It was derived from many organizations as an integral part of the inventory management system sold by him. The recorder is put for quantity in this device whenever the inventory drops manually to the reorder stage. Another model was implemented later and is referred to as the "replenishment system." The reorder date is set in this method, and the reorder quantity varies according to the inventory on hand.

## 6 d) Economic Order Quantity

The costs influenced by either the number of stocks kept or the number of orders placed will decide the optimum charge. There is a problem of minimizing the cost of maintaining inventories and the cost of ordering inventories at the same time since would need the few orders within the same period if more units are rated at a time, and this would mean a decrease in the cost of ordering. However, extensive average inventories must be retained when few orders are made, which will mean a rise in the keeping cost. Inventory planning aims to evaluate the most appropriate way to reduce the overall cost of ordering and keep costs. The model that minimizes the combined price is the quantity of economic order originally developed by F.W. in 1915. From Harris. The quantity of economic order can be defined as the ideal order size, which is the size of an order for goods that minimizes the cost of shipping, handling and transport. Ezeani (2008) describes quantity in economic order as the quantity of material to be ordered simultaneously. It is known as the stock item's quantity to call to reduce inventory costs over the planning period for companies. Horngren (2007) wrote that the quantity model of economic order is a decision model that determines the optimal inventory quantity of products ordered under a specific set of assumptions.

## 7 e) Replenishment Model

In this model, inventory costs are not expressly considered, and there is no fixed reorder quantity. Still, inventory is reviewed at periodic intervals, and an order is imposed if there have been any sales since the last review. The replenishment level aims to maintain the list at a minimum level, maintaining some basic stock-out security and a specific periodic order review schedule.

## 8 f) Inventory Level

Re-order level: The reorder level is when a stock item arrives and will place a replenishment order. There will be a certain amount at which the stock goods will drop, and a new order will be needed to be issued. ??andey (2008) describes the reorder level as the level at which should put an order to refill the inventory. Before deciding the reorder stage, he enumerated some of the points that should be considered, including lead time, economic quantity, and average time. Lead time is the time taken after the order has been put in to obtain product delivery.

## 9 Maximum stock level:

The ultimate stock level is set after considering the available stock of capital and its cost, the availability of money, the probability of depreciation and obsolescence, and the number of economic purchases.

Minimum stock level: Since each stock item has a minimum level of operations that are not interrupted, the actual stock held should not be below this level. The minimum stock level is the smallest amount below which a given product should be allowed to drop if the distribution is to be sustained and the factor to be considered when arriving at this is: the length of time needed by the supplier for delivery and the probability of late delivery or abnormal use. It is also hard to reliably predict the service and the lead time or delivery time. Product demand can fluctuate from day to day or from week to week. The actual delivery time can also vary from the expected lead time in a scenario where the actual use rises, or inventory delivery is delayed; the company will have a stock-out issue that would be very costly. A security stock for the company or company to protect it from stock-out.

## 10 Average stock level:

The average stock level is the stock level between the maximum stock level and the minimum stock level that is either too high or too small. A company's stock amount depends on the existence and the volume of the service. Therefore, the stage that makes use of the storeroom power is sitting.

## 11 III.

### 12 Empirical Framework

Ronald et al. (2004) reveal that inventories constitute unproduced goods, supplies, and parts that ensure that stock appears in the formation and measured channel of a company in various concentrations. Possession of available inventories will produce somewhere around 20 and 40 per cent of their appreciation per year. In connection with the company association's execution, closely supervising the stock level bodes well along these lines, despite several steps taken by Just In Time to decrease inventories, time pressure and rapid reaction buys. Bere (2015) argued that cycle inventories arise due to the option of administration to purchase, produce or sell units or ceaselessly in parts rather than individuals. In working systems, cycle inventories accumulate at various focus points. The parcel scope is a tradeoff between the cost of taking care of stock and the price of making more constant requests and sets-ups. The monetary request sum is highly imperative, a numerical reflection of this relationship. In JIT, the cycle stock requirement is lowered by reducing costs and time. Goyal et al. (2016) postulate that if the company still has stock-outs, lack of proper warehousing plans, distribution of the wrong items to customers, and the lack of appropriate documentation for procured goods, inventory management will cause unnecessary losses. To ensure that the company gets value for its money, the workers must understand and apply inventory management techniques. Hall et al. (2003) point out that ten to thirty per cent (10-30 per cent) of extra stock is superfluous for wholesalers. These result in high transmission costs, loss of customers, loss of deals and loss of profit due to messy and inefficient stock administration. He supports the need to set out strategies for managing physical inventory to assess stock supervision's considerable cost. Chopra et al. (2014) explained that, as a result of the jumble between free market activity, stocks occur in a reliable operation. Stock parts along these lines are intended to maximize the measure of interest obtained by making the item or company prepared and available when needed by the consumer. Cheruiyot (2018) postulates that businesses should follow promising stock control approaches, a professional and fair stock information system so that they can modify stock control costs and risks against the desirable circumstances of making stock immediately open for smooth operations. Cutting down the stock level is unwanted in the same way as it interferes with production, loss of goodwill and high costs, especially when asking for a visit. Given transferring consumers to other capable suppliers as a delayed consequence of operational interruptions, the shortage of stock levels leads to a market conclusion (Oni, 2019). There are four aims of the stock organization that joins the accompanying Fatuma (2015). First, in terms of sum and demand rate filling, it provides both internal and external customers with the appropriate organizational level; second, it serves to assess current and potential requirements for a wide range of stocks to prevent over-stock while preserving a crucial distinction from "bottleneck" in growth. Finally, by grouping decreasing, calm bundle sizes and analyzing the cost generated to help get and transmit inventories and give organizational stock detectable quality in the stock system, the stock is critical in holding costs to a base.

## 13 IV.

### 14 Theoretical Framework

Different theories are used to convey the investigation of the role of inventory control and management. The study draws from the idea of constraint, learn theory and stochastic theory to establish the vital concern of significant manufacturing firms about inventory management approaches to profitability.

## 15 Theory of Constraints:

The theory of constraints is administrative reasoning that aims to maximize production throughput skills assessed based on identifiable evidence of specific mechanisms that compel the industrial system. In applying the principle of constraint, there are different difficulties. For example, there is a long lead time, a large number of unsatisfied requests, an unusual state of meaningless inventories or the absence of acceptable lists, an incorrect item request, a vast number of crisis requests and levels of endeavour, lack of customer engagement, non-attendance of control identified with need orders that indicate asset conflicts on schedule (Cox III et al., 2010). The theory centred on coping effectively with the limitation and capacity of these constraints to maximize performance, and this can be done by manufacturing firms applying effective inventory management procedure. Constraint theory is a method whose proposal is related to generation to reduce the organizational inventory (Cooper et al., 2006).

Lean Theory: The Lean Theory is an improvement in Just In Time thinking. The principle removes buffer stocks and minimizes waste in the manufacturing process (Inman et al., 2018). Inventory leanness certainly affects a business firm's competitiveness and is the most robust method for inventory management. For the most part, businesses that are leaner than the market average have good returns (Eroglu et al., 2011). The theory examines how producers' adaptability in their requesting choices reduces stock suppliers aimed at reducing transport inventory costs. Feedback raised against the idea suggests that when dealing with longterm collaboration constituting data and knowledge sharing and exchanging accomplices between businesses, materials must be available. Stochastic Inventory Theory: As described by Lu et al. (2002), the stochastic model that indicates the request as a stochastic procedure is regularly more accurate than its deterministic partner, the EOQ model, for most request quantity/reorder point inventory systems. However, due to the non-appearance of a wise scientific result on the model, the stochastic model's use was limited. The stochastic request number reorder

point model in this paper breakdown is compared with a comparative deterministic EOQ model. Given the required optimal condition for the control variables inferred in the paper, and the analysis is carried out, and the ideal control parameters are set up for different fundamental subjective characteristics (Louly et al., 2013). The key outcomes are the following: First, the controllable costs of the stochastic model, as opposed to the deterministic EOQ model, because of the option of the sum requested (accepting the reorder point is picked ideally for each requested amount). The aggregate costs are, therefore, obviously higher; the sum of the ideal request is greater. However, when the sum is significant, the difference is slight; the execution of costs is much less touchy to determining the amount required. Secondly, the relative increase in the expenses purchased using the sum determined by the EOQ rather than the stochastic model ideal is similar to 1/8. It disappears when the requesting costs are critical about other expenses (Donaldson, 2001).

V.

## 16 Methodology

In a more specialized context, Magaji (2006) describes a population that includes not only individuals

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Volume XXI Issue I Version I Year 2021 ( ) D but also events, animals and artefacts, who are or are members of the target of the study as specified by the researchers' goals and objectives, but in most cases, it may be tough to cover the whole population. The Hamdala Sweet Factory sample population consists of 105 workers from various departments, including the production department, the marketing sales department and the finance department. The sample size specification is the decision to choose the number of findings or replicates to be included in a statistical sample. The sample size is an integral feature of any empirical analysis aimed at inferencing a population from the model. Thus, the population was drawn from a survey of 50 respondents. Using simple random sampling, samples are drawn since this method gives everyone in the entire population an equal chance of being picked.

## 18 a) Data collection

The investigator used both primary and secondary methods of data collection to collect data and to gain relevant information for decision-making. Primary sources. The primary refers to data collected from the authorities, including the researcher's different methods to collect the preliminary data. Questionnaire. The researcher would like to frame a question requiring an answer, such as "yes or no" in this process. This is a simple query asking for a direct response. I will share the questionnaire among the employees. Personal internal. This is a technique implemented that involves direct face-to-face information from the individuals (responding). It is intended to collect accurate and reliable information through the answers obtained from the questions planned. Observation. This is one of the methods used to supplement the researcher's interview. In the course of the researcher's statement, the number of items, workers and vision were vividly observed. Primary sources. In the field of literature review, secondary sources of knowledge have been used. This means they are compiled from the following places using articles from different journals, magazines, newspapers, textbooks, e.t.c: i. Gusau State Library, The State of Zamfara, ii. Library of Gusau Federal University, iii. Gusau Technical Library of the Federal College of Education.

## 19 b) Data analysis

The investigator used basic percentages to interpret the gathered data. The outcome of the Of questionnaire was evaluated using tables. It calculated the introductory rates used and introduced, discussed and analyzed the results. In assessing the hypotheses, chi-square ( $X^2$ ) is used. One of the standardized statistical distributions used for hypothesis research is the chi-square ( $X^2$ ). Karl Person developed it in 1930. This helps one consider whether the difference between the actual results and the predicted results can be reasonably observed. This is to determine whether improvements can be related to the observed effects. For chi-square, the formula is represented as:  $X^2 = \sum \frac{(O - E)^2}{E}$  Where  $X^2$  = Chi-square  $E$  = Expected value  $O$  = Observed Value

The degree of freedom is obtained from the rows and column of a contingency table. It is given by the number of rows minus one, multiplied by the number of columns minus one.  $DF = (R-1)(C-1)$  or  $n-1$  as case may be.

The hypothesis will be at the 95% level of confidence that is 5% error limit which is 0.05

## 20 c) Decision rule

If the calculated chi-square value ( $X^2$ ) is greater than the value gotten from the chi-square distribution table ( $X^2$ ), then reject  $H_0$ , which is the null hypothesis and accept the  $H_1$  alternative idea. But if the chi-square table value is greater than the calculated value, then reject  $H_1$ , which is the alternative hypothesis and take  $H_0$ , which is the null hypotheses.

## 21 VI.

## 22 Analysis and Discussion

The presentation and review of data collected from the Hamdala sweet factory are discussed in this section. A total of 50 questionnaires, of which 40 were completed and returned, were distributed. In the presentation and interpretation of data obtained from the questionnaire, we will use applicable mathematical and statistical methods.

The primary objective is to evaluate the collected data to help achieve the study's goal. The researchers followed the simple percentage to analyze the data in the table. The chi-square is the statistical instrument used in testing the hypotheses, and a simple ratio is also used in testing the results. Source: Questionnaire administered 2018.

Table 2 above shows that there are three types of inventory used and maintained by the company. This is because all respondents agreed to this. Question 3: Does your company make formal inventory policies? Source: Questionnaire administered 2018.

Table 3 above indicate that the company make a formal inventory policies and this is because all 40 (100%) of the respondents unanimously agreed to this. Question 4: Is there any committee assigned with the function of making policy decision about the inventory management? Source: Questionnaire administered 2018.

Table 4, shows that there is no committee assigned with the function of making policy decision about the inventory management. This is as a result of the fact that these policies are made by the management themselves.

Question 5: Does your company adhere strictly to her inventory management policies? Source: Questionnaire administered 2018.

Table 5 shows that 15(37.5%) are of the opinion that the company adhere strictly to her inventory management policies, while 25(62.5%) disagree that the management adhere strictly to her inventory management policies. Question 6: Does the inventory policies made in your company affect productivity? Source: Questionnaire administered 2018.

Table 7 above shows that 30(75%) of the respondents agree that the company maintain minimum stock, while 10(25%) of the respondents disagrees with this fact.

Question 8: Does your company maintain perpetual stock records? Source: Questionnaire administered 2018.

Table 8 shows that the company maintain perpetual stock records, because all the 40(100%) of the respondents agreed to this fact. Question 9: Does your company experience low productivity? From the table above, it can be seen that 30(75%) of the respondents agree that low productivity are caused by poor inventory management, while 10(25%) disagree with the fact.

Question 11: How does your company know when to reorder? From table 11 above, it was shows that 29(72.5%) of the respondents agreed that company reorder before the inventory fall into minimum level, 9(22.5%) agreed that when the inventory is at minimum level, and 2(5%) of the respondents agreed that when it fall after beyond the minimum level.

Question 12: Does your company run out of stock from time to time? From the table above, it can be observed that 35(87.5%) of the respondents agreed that the company runs out of stock from time to time, while 5(12.5%) disagrees with the fact.

Question 13: Does your company have loss of sale as a result of stock out? Source: Questionnaire administered 2018.

Table 13 above shows that the company has loss of sale as a result of stock out because all the respondents agreed to this.

Question 14: What is your opinion of the company's storage cost? Source: Questionnaire administered 2018.

Table 14 above, it indicate that 25(62.5%) of the respondents were of the opinion that the company's storage cost is moderate, while 15(37.5%) of the respondents were of the opinion that the company storage cost is high. It should be noted that storage cost is a function of the level of average inventory held, while on the other hand, the level of average inventory held affect the frequency of ordering.

Question 15: Is there any control access to inventories? Table 15 shows that 30(75%) of the respondents are of the opinion that there are control access of inventories while 10(25%) disagreed. Answer: It was pointed out that the factors that militate against effective management of inventories are:

1. Lack of free flow of information within the company.

## 23 Inflation pressures 3. Scarcity of materials

## 24 Test of Hypotheses

Based on the problem and objectives of this study, the hypotheses stated will be tested below.

## 25 Hypotheses One

Ho: There is no significant relationship between low productivity and proper inventories management.

Hi: There is significant relationship between low productivity and proper inventories management.  $= (R-1)(C-1) = (2-1)(2-1) = 1 \times 1$

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=1 Critical  $X^2 = 3.841$  at 0.05 error limit less than the calculated value of 10 therefore, we reject the Null hypotheses and accept the alternative ( $H_1$ ) hypotheses which state that there is a significant relationship between low productivity and proper inventory management.

## 26 Hypotheses Two

Ho: There is no significant relationship between effective inventory policies and productivity in a manufacturing company.

Hi: There is significant relationship between effective inventory policies and productivity in a manufacturing company.  $= (R-1)(C-1) = (2-1)(2-1) = 1 \times 1 = 1$

Critical  $X^2 = 3.841$  at 0.05 error limit less than calculated value of 22.50. Therefore, we reject the Null hypotheses ( $H_0$ ) and accept the alternative hypotheses ( $H_2$ ) which state that there is a significant relationship between effective inventory policies and productivity in a manufacturing company. Hypotheses Three Ho: There is no significant relationship between inventory control and the performance in manufacturing company.

Hi: There is significant relationship between inventory control and the performance in manufacturing company.  $= (R-1)(C-1) (2-1)(2-1)$

$1 \times 1 = 1$  Critical  $X^2 = 3.841$  at 0.05 error limit less than the calculated value of 14.4 therefore, we reject the null hypotheses ( $H_0$ ) and accept the alternative hypotheses ( $H_3$ ) which state that there is significant relationship between inventory control and the performance in manufacturing company.

## 27 VII.

## 28 Conclusion and Recommendation

Under this report, there is a difference between policies and the practice of such policies since n noted that the company does not strictly adhere to its inventory policies. This was supported by the questionnaire's reaction in Table 6, where 25 of the respondents decided that the organization did not strictly adhere to its inventory policies. In other words, the organization makes policy decisions, but often it fails to obey specific protocols or policies.

I also found that the business runs out of stock from time to time. When asked why the researcher understood that the store's explanation was due to unforeseen delivery delays or unusually high usage during the lead time while minimum stock is kept.

## 29 VIII.

## 30 Conclusion

In the course of the study on the assessment of inventory control and management in a manufacturing business, f found that inventory is the cornerstone of every manufacturing company's life, and successful inventory management would contribute to the organization's effective control. However, it must be channeled to reduce stock to the nearest minimum, regardless of the method or technique of inventory management. To ensure their effectiveness, s should track these inventory strategies. Therefore, it is correct to infer from the data review results that the organization makes structured inventory policies, and there is no committee appointed to make policy decisions on inventory management. However, considering the company's inventory policies, the outcome also indicates that the company's inventory management policies are not strictly adhered to. Therefore, to improve this current situation, all efforts are required by management. Thus, the researcher highlights some recommendations that, if implemented, Hamdala Sweet Factory would have enhanced its profitability due to cost reductions that will enable it to reduce prices and increase its turnover, thereby speeding up overhead costs over increased output, resulting in lower production costs.

## 31 IX.

## 32 Recommendations

Having conducted a manufacturing company inventory management report focusing primarily on Hamdala Sweet Factory Ltd. The following are some suggestions given by the researcher that will increase its profitability if implemented as a result of cost reduction to enable the company's broader gross margin:

The organization should strive to adhere to inventory policies by all means. This means that the internal monitoring is lax in a situation where material or objects are permitted to leave the store without proper requisition. To ensure that the organization adheres to inventory regulations, inventory products should be allowed to leave stores without appropriate plea under any circumstances.

When placing orders, the company can use the economic order quantity process. The model of economic order quantity takes into account the related costs associated with ordering and inventory carrying. Each business enterprise strives to minimize costs to the lowest minimum and how the economic order quantity method of placing an order could be accomplished.

To prevent stock out, ample inventory should be kept such that there will be enough stock to be shipped when the ordering level is high.

To facilitate sufficient updates of inventory data, the flow of information should be improved and properly distributed.

To prevent stock-out that could lead to high usage or delay in delivery, the organization could also invent technology to quick-track and promote the free flow of knowledge about the shop.

Authors Contributions: M.U. and H.A. have both equally contributed in estimating and writing the original draft of this paper, they both revised the paper individually and collectively, while M. U. upgraded the study to an article.

1

Figure 1: Question 1 :

1

Options	Respondent	Percentage
1 -5 Years	11	27.5
6 -10 Years	18	45
11 -15 Years	9	22.5
16 Years & Above	2	5
Total	40	100

Source: Questionnaire administered 2018.

Table 1 above indicate that 18(45%) of respondents have work experience of 6-10 years. 11(27.5%) have an experience of 1-5years while 2(5%) have experience of 16years and above, and 9(22.5%) respondents have work experience of 11-15years.

Figure 2: Table 1 :

2

Options	Respondent	Percentage
Finished Goods	-	-
Work Progress	-	-
Raw Materials	-	-
All of the above	40	100
Total	40	100

Figure 3: Table 2 :

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3

Options	Respondent	Percentage
Yes	40	100
No	-	-
Total	40	100

Figure 4: Table 3 :

4

Options	Respondent	Percentage
Yes	-	-
No	40	100
Total	40	100

Figure 5: Table 4 :

5

Options	Respondent	Percentage
Yes	15	37.5
No	25	62.5
Total	40	100

Figure 6: Table 5 :

6

Options	Respondent	Percentage
Yes	35	87.5
No	5	12.5
Total	40	100

Source: Questionnaire administered 2018.

Table 6 above shows that 35(87.5%) of respondents agree that inventory policies made in the company affect productivity, while 5(12.5%) of the respondents disagrees.

Question 7: Does your company maintain minimum stock?

Figure 7: Table 6 ;

7

Options	Respondent	Percentage
Yes	30	75
No	10	25
Total	40	100

Figure 8: Table 7 :

8

Options	Respondent	Percentage
Yes	40	100
No	-	-
Total	40	100

Figure 9: Table 8 :

9

Options	Respondent	Percentage
Yes	40	100
No	-	-
Total	40	100

Source: Questionnaire administered 2018.

Figure 10: Table 9 :

10

Options	Respondent	Percentage
Yes	30	75
No	10	25
Total	40	100

Source: Questionnaire administered 2018.

Figure 11: Table 10 :

11

Options	Respondent	Percentage
Before inventory fall to minimum stock	29	72.5
When inventory fall to minimum stock	9	22.5
After inventory to minimum stock	2	5
Total	40	100

Source: Questionnaire administered 2018.

Figure 12: Table 11 :

12

Options	Respondent	Percentage
Yes	35	87.5
No	5	12.5
Total	40	100

Source: Questionnaire administered 2018.

Figure 13: Table 12 :

13

Options	Respondent	Percentage
Yes	40	100
No	-	-
Total	40	100

Figure 14: Table 13 :

14

Options	Respondent	Percentage
Very Low	-	-
Moderate	25	62.5
Low	-	-
High	15	37.5
Total	40	100

Figure 15: Table 14 :

15

Options	Respondent	Percentage
Yes	30	75
No	10	25
Total	40	100

Source: Questionnaire administered 2018.

Figure 16: Table 15 :

1b

Options	Respondent	Percentage
Yes	30	75
No	10	25
Total	40	100

Source: Questionnaire administered 2018.

Figure 17: Table 1b :

2b

Response	Observed	Expected	O -E	(O-E) 2	(?? ? ??) ??
Yes	30	20	10	100	5
No	10	20	-10	100	5
Total	40	40	0	200	10

Therefore calculated  $X^2 = 10$

DF

Figure 18: Table 2b :

3b

Options	Respondent	Percentage
Yes	35	87.5
No	5	12.5
Total	40	100

Source: Questionnaire administered 2018.

Figure 19: Table 3b :

#### 4b

Response	Observed	Expected	O -E	(O-E) <sup>2</sup>	(?? ? ??) ?? ??
Yes	35	20	15	225	11.25
No	15	20	-15	225	11.25
Total	40	40	0	450	22.50
Therefore, calculated $X^2 = 22.50$					
DF					

Figure 20: Table 4b :

#### 5b

Options	Respondent	Percentage
Yes	32	80
No	8	20
Total	40	100
Source: Questionnaire administered 2018.		

Figure 21: Table 5b :

#### 6b

Therefore, calculated $X^2 = 14.4$					
DF					
Response	Observed	Expected	O -E	(O-E) <sup>2</sup>	(?? ? ??) ??
Yes	32	20	12	144	7.2
No	8	20	-12	144	7.5
Total	40	40	0	288	14.4

Figure 22: Table 6b :



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## **.2 Conflicts of Interest:**

Both authors declare there is no conflict of interests.

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