

Material Handling and Material Sourcing On Organizational Profitability a Case of Urwibutso Enterprise Ltd

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Abstract: - The purpose of the study was to evaluate the effect of material handling and material sourcing on profitability of Urwibutso Enterprise Ltd. The study was guided by the following research objectives: to determine the effect of stock control on profitability in Urwibutso Enterprise Ltd., to measure the impact of material logistic planning on profitability in Urwibutso Enterprise Ltd., to examine the role of material packaging on profitability in Urwibutso Enterprise Ltd., to assess the effectiveness of quality control of raw material on profitability in Urwibutso Enterprise Ltd. The study utilized descriptive research design. The population of this research was 67 employees of Urwibutso Enterprise Ltd. and was given a questionnaire as a data collection instrument. Data obtained from the questionnaire were processed into SPSS. Purposive sampling technique was used and the questionnaires were used as instruments of data collection. The research findings imply that the material handling and material sourcing has positive effects on the profitability in Urwibutso Enterprise Ltd. The respondents strongly agree that the analysis about stock control (material stock accuracy, material consumption controls, and stock taking frequency) presented with an overall mean of 3.58 (Table 8). Analysis did for material logistic planning (preparation of logistic plans, smart material logistic goals, and usage of logistic plans), the respondents agree that is shown by the overall mean of 3.52 (Table 9). For the analysis of material packaging (appearance, protection, and disposability), respondents agree that is shown by the overall mean of 3.44 (Table 10). For the analysis of quality control of raw material (ingredients and finished product), respondents agree that is shown by the overall mean of 3.47 (Table 11). The researcher concluded that material handling and material sourcing (stock control, material logistic planning, material packaging, and quality control of raw material increase) play significant effect to the profitability of Urwibutso Enterprise Ltd. and the researcher recommended that Urwibutso Enterprise Ltd. should adopt the material packaging which is environmentally friendly and well standardized. These should be done by having a definite automated material packaging system that improves production scheduling, makes flexible manufacturing processes and fast and effective recognition of goods in the stores. This will aid in improving industries' overall performance as much packaged materials can be traced easily and the location is identified.

General Introduction

Background of the study

The world of material handling is rapidly growing in today's world due to technological advancement. The current material handling equipment has developed around the same time in history as several reformations have occurred. Example, use of pallets. As production and demand rose, inventions such as forklift led to advanced methods of shipment. Badi (2004), defined material handling as the movement of materials inside the work premises from raw

Material stage to finished product storage, maximum movement activity taking place within work in progress. Since material handling is one of the most important logistics activities in an organization, there is a need to ensure its efficiency and effectiveness. Therefore, material handling increases effectiveness and quality control, safety level, production capacity level, efficiency in receipt, storage and dispatch (Goldratt & Cox, 2014).

Business organizations across the world are under increasing pressure than ever to stay dynamic and responsive in all their competitive frontiers. Many companies have realized the need for elevating traditional procurement functions to modern strategic handling and sourcing for value addition across the supply chain (Anderson & Katz, 2018). So, no organization can operate without material input. The efficiency of any activity for production of goods and services depends to a great extent, on the supply of materials equipment and manpower made available in their right proportions (Whybark & William, 2016). Therefore, in order to meet the needs of the customer while meeting the set objectives there is a great need for continuous production schedule which is only made possible by holding of the aforementioned ingredients in form of stock. Materials handling is that aspect of business activity that deals with planning for purchasing, receiving, handling, storing, and releasing of material for use in production with effective control measures. Also, materials are industrial goods that will become part of another physical product.

Problem statement

Material handling and material sourcing in manufacturing organizations is an important aspect of the production process. Many companies engage diverse strategies to achieve organizational goals through material handling. The control of material handling as it affects different firms is the unavailability of material in store and proper reconciliation of possible loss to business through interruption of production or failure to meet orders with the handling cost of stock and lack proper personnel to handle the material is a problem (Joel, 2010). According to The New Times (2018), Urwibutso Enterprise Ltd. has been importing a number of raw materials from Europe and Asia before diversifying into manufacturing that is from 2009 to 2015 and in that period it faced a problem of delays in shipment and inconsistency in the quality of raw materials. Urwibutso Enterprise Ltd. was also facing a problem of high damage rate, High indirect labor costs, Excess temporary storage, Shortage of office space for warehouse personnel. Therefore, it is

in this regard that the researcher intended to find out the extent to which effect of material handling and material sourcing have led to organizational profitability.

Objective of the study

Under this section, the researcher provided the general and specific objectives of the study as follows:

Main objective

The main objective of this study was to evaluate the effect of material handling and material sourcing on profitability of Urwibutso Enterprise Ltd.

Specific objective

- i. To determine the effect of stock control on profitability in Urwibutso Enterprise Ltd.
- ii. To measure the effect of material logistic planning on profitability in Urwibutso Enterprise Ltd.
- iii. To examine the effect of material packaging on profitability in Urwibutso Enterprise Ltd.
- iv. To assess the effect of quality control of raw material on profitability in Urwibutso Enterprise Ltd.

Research hypotheses

- i. There is no effect of stock control on profitability in Urwibutso Enterprise Ltd.
- ii. There is no effect of material logistic planning on profitability in Urwibutso Enterprise Ltd.
- iii. There is no effect of material packaging on profitability in Urwibutso Enterprise Ltd.
- iv. There is no effect of quality control of raw material on profitability in Urwibutso Enterprise Ltd.

Literature Review

Theoretical Review

Various theories are developed and are relevant to the explanation of the concept of material handling and material sourcing, and profitability and their relationship. Among these theories we can mention, systems theory, network perspective theory, and

resource based theory. All these theories were adopted to form the theoretical foundation of this research.

Systems Theory

A system is a collection of parts unified to accomplish an overall goal. If one part of the system is removed, the nature of the system is changed as well. A system has inputs like raw materials, processes like planning, controlling, organizing, output like product or services and outcome to enhance productivity. System theory helps material managers to look at the company more broadly and also enables them to interpret patterns and events in the workplace (Groover, 2011).

Systems theory views the organization as a system of interconnected parts which interact together to produce products and services (Bonaccorsi, 2010).

From a systems perspective of sourcing, the assumption is that one or more parts of the system is being externalized, and has an effect on the interconnected parts of the system. The nature and strength of this effect is primarily determined by the nature of interdependence between firm work processes.

There are three types of interdependence; pooled interdependence occurs when each part of the system makes a distinct contribution to and is supported by the whole; sequential interdependence exists when one part of a system has to complete its contribution before the next can take action from start to finish in the production process; and reciprocal interdependence occurs when outputs of one system serve as inputs to the other, and vice versa (Thompson, 2015).

The type of interdependence offers insights into the associated costs of coordination and communication in sourcing relationships. Increases in interdependence, complexity, task variety, or specialization in production processes increase the coordination and communication costs between firm and sourcing partners (Combs & Crook, 2007). Further, coordination and communication costs are lower for outsourced process beginnings (inputs) and

endings (outputs) than for dually interconnected outsourced system parts.

Beyond the implications on the coordination and control costs associated with the type of interdependence, systems theory also provides insights on the desirability of multiple and plural sourcing relationships in turbulent environments. Ashby (2016) work on requisite variety implies that as firms face and operate in increasing turbulent and complex external environments, that firms must maintain increasingly complex structural connections and mechanisms to survive and prosper in the environment. Thus, one interpretation of requisite variety is that firms maintaining multiple and plural sourcing relationships with external partners have stronger dyadic and network relationships than firms eschewing outsourcing. In such cases, firms in sourcing partnerships and networks have greater requisite variety and an increased ability to navigate complex environments successful (Lysons, 2018).

Network Perspective Theory

The network perspective theory underscores the importance of developing valued networks for movement of resources across firms. The centrality of this theory is legally binding relations that a firm enters into subject to firms' capacities to deal with their contractual connections. Further involvement with dealing with these connections results in the advancement and refinement of focused schedules for overseeing between firm exchanges and data exchange crosswise over firm limits.

The network perspective theory adds significantly to the comprehension of the elements of outsider relations between people inside the parties. The basic comprehension and information of one another's dreams, states of mind and past relations encounters have a noteworthy influence in the advancement of outsider participation (Farrel, 2009).

Empirical Review

An empirical examination by Samuel & Ondiek (2014) examined the degree of stock administration computerization and to decide the impact of stock administration automation on the performance of

stores in Western Kenya. The investigation focused on every one of the markets in Kisumu, Kakamega and Bungoma. Information was gathered from 11 out of the 12 operational grocery stores and a reaction rate of 90.9% was accomplished. The discoveries of the examination uncovered that stock administration automation influenced the performance of the stores and that there was a positive direct connection between stock administration computerization and the performance of the general stores. The regression showed that 64% of the supermarkets' performance could be clarified by stock administration computerization ($r^2 = 0.64$). The degree of stock administration was observed to be high among the grocery stores, with a general mean score of 3.94, and the performance was likewise observed to be high with a general mean score of 4.1 the two factors being evaluated on a size of 1 to 5.

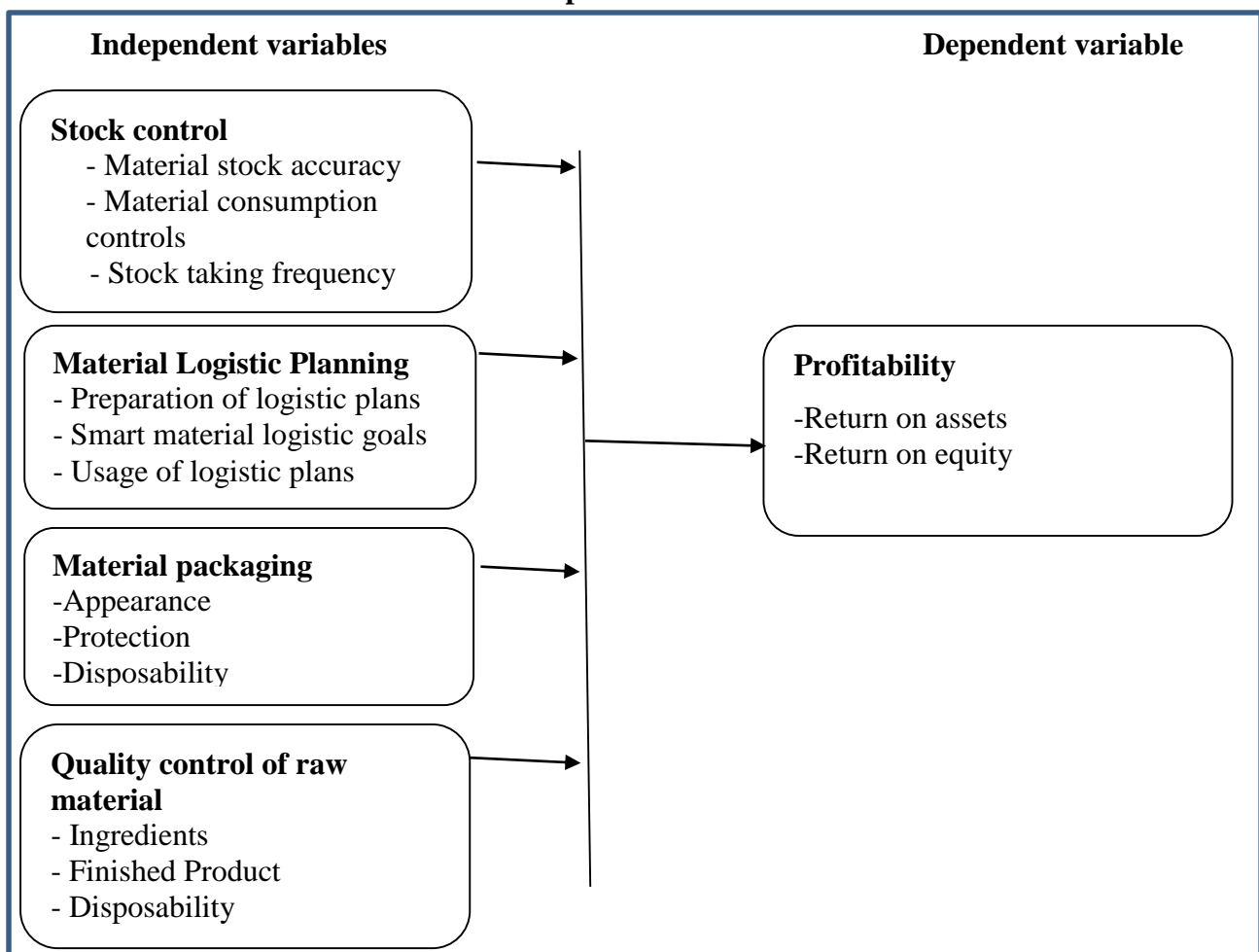
Munyao (2015) analyzed the job of stock administration practices in performance of the

manufacturing and assembling firms in Mombasa County. The investigation used a sample of 45 fabricating firms while information was gathered utilizing polls. The investigation uncovered that manufacturing and assembling firms utilize different stock administration procedures, for example, JIT, EOQ and intermittent audit systems. The investigation discovered that regardless of the way that that MRP was best in adding to performance of the generation division most associations in the assembling business utilized activity level techniques."

Conceptual Framework

Conceptual framework depicts the relationship that exists between study variables. The independent variable for the study will be material handling and material sourcing measured through stock control, material logistic planning, material packaging, and quality standards while the dependent variable is profitability.

Conceptual framework



Source: Research compilation, 2021

Research gap

The literature review showed that different studies were carried out on topics related to material handling, material sourcing and profitability. Kungu (2016), Hisham et al. (2010), Uguru et al. (2015), studied Inventory control, material logistics planning and packaging.

Kungu (2016) conducted a study that aimed to study how inventory control affects profitability of manufacturing firms in Kenya. The study found out that precise levels of inventories guarantee that firms are capable of planning when to procure more inventories. With clearly defined quantities of raw materials, firms are capable to keep optimum levels of inventory and this translates into minimum expenses of ordering and stock holding. Consequently, the firms are in a position to maximize their profits.

Research Design and Methodology

Research Design

This study used a descriptive research design. The purpose of descriptive research design, according to Heaton (2008), is to collect detailed and factual information that describes an existing phenomenon. A thorough review of literature was conducted before selecting the topic of the study. The research design used in this study was a descriptive design. The researcher chose this research design because the study aimed at collecting information from respondents on their attitudes and opinions in relation to effect of material handling and material sourcing on profitability of Urwibutso Enterprise Ltd.

Target population and sample size

Target population refers to the total of items about which information is desired (Kothari, 2004). The research population is also referred to as a large collection of individuals or objects that is the main focus of a scientific query. The population of this study was composed of 67 employees of Urwibutso Enterprise Ltd. based in Rulindo District.

Sample size refers to the act of choosing the number of observations or replicates to include in a statistical

sample. The sample size is an important feature of any empirical study in which the goal is to make a deduction about a population from a sample (Pamela, 2016). In view of the size of the target population, it will be more appropriate to treat the population as a study sample. Therefore, all 67 employees formed the study sample. The researcher used the census method and therefore it took all employees who work in the internal audit, procurement department since the population is not very high. The details of population and sample size were detailed in the table below.

Sampling Design

Kothari (2004) defined a sample design as a definite plan for obtaining a sample from the sampling frame. It refers to the technique or the procedure the research adopts in selecting some sampling unity from which inferences about the population is drawn. Sampling technique is done before any data collection. In this work, the purposive sampling technique was used for determining a representative population. Purposive sampling is when a researcher chooses specific people within the population to use for a particular study or research project. Purposive sampling occurs when “elements selected for the sample are chosen by the judgment of the researcher (Black, 2010).

Data Collection Instruments

Researchers differ in a number of aspects but they do have some commonalities. One of the common aspects is the need to collect data. Data collection can be derived from a number of methods, which include interviews, focus groups, surveys, telephone interviews, field notes, taped social interaction, or questionnaires (Heaton, 2008). This study therefore, used guided field notes via questionnaires and financial statements.

Summary of Findings, Conclusions and Recommendations

Summary of findings

The overall objective of this study was to evaluate the effect of material handling and material sourcing

on profitability of Urwibutso Enterprise Ltd. The Urwibutso Enterprise Ltd has been making profit due to mainly the fact that their products are on high demand and are admired by the customers; however, with due consideration and strict application of procedures of material handling and material sourcing, the company may increase its profits by far and save money on unnecessary spending. Literature in relation to the topic was reviewed in order to get a deep understanding of concepts and theories of material handling and material sourcing and profitability. Empirical studies were also reviewed in order to explore the findings of previous researchers on related cases.

The target population of this study was employees of Urwibutso Enterprise Ltd. The questionnaire was the main tool for data collection. After collecting data, the tasks of editing, coding, and gathering were followed by using SPSS software. After all requirements for analysis, the results were found to be the following:

After analyzing the data, the findings imply that the material handling and material sourcing has positive effects on the profitability in Urwibutso Enterprise Ltd. The respondents strongly agree with that analysis about stock control (material stock accuracy, material consumption controls, and stock taking frequency) presented with an overall mean of 3.58 (Table 8). Analysis done for material logistic planning (preparation of logistic plans, smart material logistic goals, and usage of logistic plans), the respondents agree with that as shown by the overall mean of 3.52 (Table 9). For the analysis of material packaging (appearance, protection, and disposability), respondents agree that as shown by the overall mean of 3.44 (Table 10). For the analysis of quality control of raw material (ingredients and finished product), respondents agree to that as shown by the overall mean of 3.47 (Table 11).

About the profitability of Urwibutso Enterprise Ltd., employees strongly confirmed that the profitability has been measured in terms of return on assets with the overall strong mean of 3.58 (Table 12) and return on equity with the overall mean of 2.98 (Table 13). The findings in regression analysis

indicated that material handling and material sourcing (stock control, material logistic planning, material packaging, and quality control of raw material increase) play significant effects on the profitability of Urwibutso Enterprise Ltd.

Discussion of research findings

Objective one: To determine the effect of stock control on profitability in Urwibutso Enterprise Ltd.

The findings reveal that there is a significant positive relationship between stock control and profitability in Urwibutso Enterprise Ltd. Adjusted R Square = 0.029, indicating a strong positive association between stock control and profitability in Urwibutso Enterprise Ltd. Adjusted R Square = 0.029 indicated that 2.9% of variation in the profitability in Urwibutso Enterprise Ltd. can be explained by the three indicators of stock control as independent variables. Hence this supports the results of a study made by Kungu (2016), which found out that precise levels of inventories guarantee that firms are capable of planning when to procure more inventories. With clearly defined quantities of raw materials, firms are capable to keep optimum levels of inventory and this translates into minimum expenses of ordering and stock holding. Consequently, the firms are in a position to maximize their profits.

Objective two: To measure the effect of material logistic planning on profitability in Urwibutso Enterprise Ltd.

The findings reveal that there is a significant positive relationship between material logistic planning and profitability of Urwibutso Enterprise Ltd. Adjusted R Square = 0.193, indicating a strong positive association between material logistic planning and profitability in Urwibutso Enterprise Ltd. Adjusted R Square = 0.193 indicated that 19.3% of variation in the profitability in Urwibutso Enterprise Ltd. can be explained by the three indicators of material logistics planning as an independent variable. This is in line with the results of a study by Hisham et al. (2010), which examined optimizing Material Logistics Planning in building construction operations with intention to put in place a new Construction Logistics

Planning (CLP) model that is able to integrate and optimize the critical planning decisions of material supply and material storage on construction sites. The decisions were optimized simultaneously and were found supportive to minimize construction logistics costs that include ordering, carrying, shortage, and layout costs and hence capable of boosting profits made by construction firms.

Objective three: To examine the effect of material packaging on profitability in Urwibutso Enterprise Ltd.

The study findings showed that there is a significant positive relationship between material packaging on profitability of Urwibutso Enterprise Ltd. Adjusted R Square =0.185, indicating a strong positive association between material packaging and profitability in Urwibutso Enterprise Ltd. Adjusted R Square =0.185 indicated that 18.5% of variation in the profitability in Urwibutso Enterprise Ltd. can be explained by the three indicators of material packaging as an independent variable. This however contradicts with what a study conducted by Uguru et al. (2015) found that the price of packaging and labeling has no significant impact on the profitability of bakery firms in Ebony State.

Objective three. To assess the effect of quality control of raw material on profitability in Urwibutso Enterprise Ltd.

The findings showed that there is a positive significant relationship between quality control of raw material on profitability of Urwibutso Enterprise Ltd. Adjusted R Square =0.415, indicated a strong positive association between quality control of raw material and profitability in Urwibutso Enterprise Ltd. Adjusted R Square =0.415 indicated that 41.5% of variation in the profitability in Urwibutso Enterprise Ltd. can be explained by the three indicators of quality control of raw material as independent variable.

Conclusion

The study found out that the receiving process of materials coming into the enterprise should be effectively and efficiently controlled through material stock control techniques and ensuring that

the receiving bay or section is at most proximal location.

Materials stock control should be used for handling outlined materials correctly while putting the consideration that extra handling does not add value. Quantity and quality inspection should always be done and ensuring that there is no traffic of materials in the receiving section.

The study found that effectiveness of material logistics planning such as preparation of logistics plans, smart materials logistics goals and usage of logistics plans enhances the ability of the organization to maintain optimum stocks.

The study found that material packaging elements (appearance, protection, and disposability) have a role in the overall profitability of Urwibutso Enterprise Ltd. Many respondents agreed that much time was incurred during packaging standardization and packaging of materials.

Therefore, the profitability of Urwibutso Enterprise Ltd. was being undermined because of extra costs incurred and thus inability to save on purchases.

The study also found out that the effectiveness of quality control of raw material (ingredients and finished product) had an effect on the profitability of Urwibutso Enterprise Ltd. The extent of quality control of raw material improves the profitability of Urwibutso Enterprise Ltd.

Recommendation

In the light of above findings, some pertinent recommendations can be made. These recommendations were geared towards enhancing the effective and efficient material handling and material sourcing with a view to improving the profitability. This study recommends the following:

1. Urwibutso Enterprise Ltd. Should be effectively and efficiently controlled through material stock control and ensuring that the receiving bay or section is at most proximal location. Material stock control of handling should be used for handling outlined materials correctly while putting the consideration that extra handling does not add value.

2. Quantity and quality inspection should always be done and ensuring that there is no traffic of materials in the receiving section. These activities enhance the profitability of the industries as they ensure the right quality is received, extra costs are not incurred and production is not delayed.
3. The material planning techniques should always be reviewed to meet requirements for use and purpose. This can improve the profitability of the industries as it can be able to meet the requirements of users and also reduce disputes among suppliers.
4. Urwibutso Enterprise Ltd. Should take upon themselves optimum inventory to allow stock availability in the warehouse, so as to make conversion easy due to demand and output emergencies.
5. Urwibutso Enterprise Ltd. Should adopt the material packaging which is environmentally friendly and well standardized. These should be done by having a definite automated material packaging system that improves production scheduling, makes flexible manufacturing processes and fast and effective recognition of goods in the stores. This aid in improving industries' overall performance as much packaged materials can be traced easily and the location is identified.

Suggestion for Further Study

The general objective of this study was to evaluate the effect of material handling and material sourcing on profitability of Urwibutso Enterprise Ltd. Further study in future can be done with emphasis on analysis of the contribution of inventory management on the financial performance of firms. Also, a study on the effect of inventory control techniques on the performance of banking industries.

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