

BINDURA UNIVERSITY OF SCIENCE EDUCATION



EFFECTS OF MATERIAL HANDLING ON ORGANIZATION PROFITABILITY. A CASE STUDY OF NATIONAL FOODS HOLDINGS LIMITED COMPANY.

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APPROVAL FORM

The undersigned certify that they have read, approved and recommended to Bindura University of Science Education for the acceptance of this dissertation project entitled, **effects of material handling on organization profitability. A case study of national foods holding limited company**. The topic is submitted by Tatenda Ruth Doro as the partial fulfillment for the reward of **Bachelor of Commerce (Honors) Degree in Purchasing and Supply**.

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ABSTRACT

Material handling is a tool that adding profitability by minimizing cost and making the best use of available resource that meeting customer services requirements. Many business use material handling to accomplish organizational goals. The research focus mainly on the control of material handling as it effects on National food holding limited company is unavailable of material in stores and proper reconciliation of possible loss to business through interruption of production or failure to meet ordering with the handling cost of stock. The objective of the study was to examine the relationship between materials handling and profitability of National food holding limited company. The researcher went further and beyond to ensure that the literature review and study findings were accurate. The research then suggested specific actions that National food holding company should take to prevent material handling from negatively impacting organizational profitability. 18 randomly chosen respondents were given questionnaires and 5 supervisors were interviewed. Data was displayed using diagrams, tables and pie charts.

As it noted by (Ramakrishna 2005), progressive handling has since recognized that materials manufacturing can provide opportunities to reduce manufacturing cost and can be treated as a profit centre. Backed by advanced technology, firms are closely monitoring their manufacturing cost and embarking on efficient handling of materials (Ondiek 2009) see the introduction of computers as a great boost to the adoption of materials management as material functions have common database.

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DECLARATION FORM

I, Tatenda Ruth Doro registration number B192795B declare that this research has not been submitted for any degree and those acknowledgements have been made to the contributions of others where appropriate.

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ACRONYM

JIT	Just in time
MRP	Material resource planning
TQM	Total quality management
CVI	Contents validity index
NSE	Nairobi Securities Exchange
AGVs.	Automotive Guided Vehicles
AS	Automotive Storage
RS	Retrieval System

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CHAPTER ONE

INTRODUCTION

Because of how complicated material handling has grown, management must be open to implementing the new strategies that are being used in the dynamic corporate environment. Organization must understand the value of material handling if they want to stay competitive since it will not only improve their financial performance but also foster positive connections with other parties. The purpose of this study is effects of how National foods centre's material handling challenges on organizational profitability. In addition to outlining the study's goals, research questions and importance, it states the problem as it is stated. Assumptions, restrictions, definitions and the summary is also indicated.

1.1 Background of the study

According to William (1996), the efficiency of any organization's production activities depends largely on the supply of materials, equipment, and manpower in the appropriate quantities. No organization can function without these inputs. Therefore, to meet customer needs and achieve organizational goals, it is crucial to have continuous production schedules that rely on the availability of stocked materials and information about them. Material handling is the aspect of business activity that deals with planning for purchasing, receiving, handling, storing and releasing of materials for use in production with effective control measures. Also material are industrial goods that will become part of another physical product. Therefore, materials for use in manufacturing companies can be classified as raw material primarily from

agriculture and extractive industries like minerals resources, fruits and vegetables sold to processor. Materials and semi-finished products that have undergone some processing and have been given added value which are spices, chemicals, papers, and rods. Components, parts and assemblies that are utilized by the manufacturers to create more sophisticated products. According to Dobler (2007) define material handling as to put it differently, material handling refers to all the processes and procedures involved in bringing external materials and services into an organization and managing them until they are utilized or consumed in production, operation or sale. The various activities that form part of material handling include the transportation of materials, their storage, monitoring and safeguarding, distribution, and finally, their consumption and disposal.

Material handling is a tool that adding profitability by minimizing cost and making the best use of available resource that meeting customer services requirements. The basic objective of material handling is to ensure the material are in the right amount is safely delivered to the desired destination at right time and at minimum cost. Without the adequate planning for resources, the organizational will face loss. The improvement of cooperation and communications with reduced duplication of effort, reduce time spent on internal operations, reduce operational cost and optimize the overall flow of goods, improvement in status control, reduce inventories with reduced obsolescence and reduction in materials cost.

National foods are Zimbabwe's largest food manufacturer. The company was established in 1920 and produces a broad range of basic foods including maize meal, flour, rice, salt, snacks, biscuits, pasta, sugar, beans, baked bean, popcorn and a full range of animal feed. Recently, a maize based cereal has been added to the National foods product portfolio. It is a registered company which have two major shareholders which is Inncor Africa limited and tiger Brands.

In the earlier years, material handling was a threat to National food as a cost centre, since the purchasing department was spending money on material while store was holding huge inventory of materials, blocking money and space. Due to the large

warehouse, material handling is crucial for the firm's profitability through the distribution of goods among warehouse. At National foods, material handling is crucial since it enables the collection of supplies from supplier's storage of supplies in the warehouse, and distribution to different place in warehouse. When done correctly, material handling at National foods is of utmost importance since it guarantees that customers loyalty and goodwill are maintained to their fullest potential. Lack of the conveyor belt and robotic delivery systems in the warehouse and support from top, materials handling at National food trend is more difficult which cause to the more breakages which lead to 60% loss of the company's profit. In order for business to compete favourably, fierce competition has moved from the market to the factory floor, where manufacturing cost can be reduced and profitability can be increased. With the aid of advanced technology, business is closely monitoring their manufacturing cost and starting to implement effective material management. Welter (2008) say the introduction of computers as a great boost to adoption of materials management, as material functions have many common databases. Therefore, efficient material handling is fundamental to the survival of business, industry and economy.

1.2 Problem statement

National food is concerned about poor materials handling, the company has a daily target of \$70 000 with an average sale of \$30 000 and they get profit of \$50 000 in 2021. Now the current profit is decreasing in 2022 is \$10 000 which is poor profitability and unsustainable due to poor materials handling. This translates \$7 800 per week whereas the target profit \$9 000 per week. Taking the price of baked beans was \$700 per tonne the company is losing of \$8 000 per week in its sales. The major cause of poor materials handling was due to bad weather like rainfall, wind and sunlight which lead to the affecting of materials that lead to breakages and decay. The storage facility is very poor, which causes the products to be damaged by the sun, which leads to breakages of products such as those stored in plastic, and some of the products were left outside the warehouse due to the breakdown of the forklift, which makes them affected by rainfall. Poor packaging also caused the company to incur losses since some materials were lost during offloading to the warehouse. In 2021,

National Food Company used a manual system to offload its materials, which caused 25% of the breakages and accidents and resulted in a loss of materials that cost \$6 000. In 2022, the company switched to the use of forklifts and trailer handlers, which may have increased the loss to 30%. They lost \$10 000 in goods due to the small movement, and those machines caused more accidents and breakages of materials during offloading to the warehouse. This will be dealt with in several ways according to literature, including the introduction of automated machines, such as industrial robots and conveyor belts, in the offloading system and loading, which ensures the safe and fast delivery of goods to the warehouse. Before this introduction was achieved, a proper investigation of material handling parameters was needed. This research work thus seeks to establish the optimum parameters for the conveyor belt for material handling.

1.3 Objectives of the study

1.3 Objectives of the Study

The following are aimed at realizing the following objectives:

To examine the relationships between material handling and the profitability of national foods.

To examine the type of material handling used by National Foods.

To examine the other factors affecting the profitability of national food.

1.4 Research Questions

What is the connection between material handling and national food profitability?

What type of material handling is used by National Food?

What other factors affect the profitability of national foods?

1.5 The importance of the study

For the research study to be effective, the following issues and factors will be assumed:

- i. Organizations that implement international standards in their operations tend to use the most effective material handling types.
- ii. Material handling function within an organization helps to enhance efficiency by streamlining operations.
- iii. Other factors that are essential for the profitability of an organization competing on the international market

1.6 Significance of the Study

National foods

This study is very important in the sense that it will save the company from losses due to unsustainable operations with low recoveries. The success of this study will assist many food companies that also have the same problems of breakages, obsolescence of the products, and high lead times. Due to the use of robot delivery system delivery and the forklift, this will help in developing organizational profitability and the industry at large. The researcher anticipates that the recommendations outlined in the study will be advantageous to National Foods as they work towards implementing them.

Time

The study examines facts over a period of one (1) year, from 2021 to 2022. This was due to the intense rivalry on the global market at the time, which placed a strong premium on organizational profitability and material handling. Organizations like countries food were required to embrace the international process at this time period in order to stay current with the markets global economic realities.

Government

The study is beneficial to the government since successful businesses will raise people's standards of living, create jobs by growing their branch network, and generate more money, the government earns revenue through the collection of value-added tax, corporate tax, and pay as you earn.

To the university

The research will provide literature for the library and will be open avenues for further study by other students and increases the database on existing knowledge of significance of effects of material handling on profitability of the organization. These references will aid in contributions to the currently limited literature.

1.7 Delimitation of the Study

The study was limited and confined to the national food procurement and distribution department. This research indicates material handling challenges faced by the procurement and distribution departments contributed to the firm's profitability. The focus of the study by the researcher was mainly confined to how material handling affects organizational profitability, and the time frame of the study was from 2021 to 2022

1.8 limitations of the study

A study of this nature would normally end with an investigation into a variety of issues. This research work has covered a wider area than this, but a lot of constraints hinder the wide range of the study. As a result of this, certain limitations will be imposed on the area to be covered, which include

Financial constraints, which involve the need for transportation.

Limited time. The time given is too limited for the research work, which affects the researcher

The inaccessibility of data made providing the necessary information difficult. Some of the staff that cooperated were not in better possession of the facts and figures necessary for their work.

This problem apparently poses a serious limitation to this project, and the researcher has to work with the available data.

1.9 Definition of terms

Materials: refers to goods in different firms for different purposes, such as raw materials for production, maintenance, and processing of finished goods.

In manufacturing, material handling involves the transportation of raw materials from their original location to the production site, their manipulation during the manufacturing process, and the distribution of finished products from factories to consumers or sales outlets.

Profitability arises when the aggregate amount of revenue is greater than the aggregate amount of expenses in a reporting period.

Warehouse: refers to a crucial component in the supply chain, commercial space is utilized to store both finished goods and raw materials, and is commonly employed in various industries including manufacturing and distribution.

1.10 Chapter summary

A summary of the dissertation was provided in Chapter 1, with the main focus of this chapter being to highlight the research topic that was looked into, the context of the study, the problem statement, the guiding objectives, and the research procedure. The study's focus was National Foods because it is a significant retailer of food products. The chapter also emphasized the size and importance of the research done. The theoretical and empirical literature reviews are covered in the following chapter, and the technique will be covered in chapter 3. The presentation and interpretation of the study's findings will be covered in Chapter 4. Chapter 5 will conclude with a summary and policy recommendation.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

This chapter reviews relevant literature related to the study and its importance to the attainment of the research objectives. The literature review concentrated on the relationship between material and organizational profitability, including different types of material handling systems and obstacles to organizational profitability. More so, the reviewed literature enabled a balanced view of material handling as well as the challenges to the profitability of organizations. The chapter concludes with an overview of the theoretical structures of material handling that form the basis for the research.

2.0. Theoretical Framework

2.1.1 Milk Run Theory

Milk-run was introduced by Danny Miham, and he says milk-run is a delivery approach that involves using one vehicle to pick up goods from suppliers and transporting them in a single shipment to one customer. When there are several pick-up and drop-off sites, the volume of material to be delivered is medium, and there are more than two points on the shop floor, Baudin (2004) recommends using milk runs. In order to move small amounts of supplies between places, he described the milk run as a planned collection and delivery of materials at predetermined intervals along predetermined routes. It is, in essence, a self-propelled tractor with numerous carts. The following are some advantages of a milk-run: reduces inventory levels; quick and

consistent stock restoration; performance delivery is improved; the material supply becomes effective; and time spent adding value is extended.

2.1.2 Queuing theory

According to B. Mahadevan (2010), queuing theory is a branch of mathematics that studies how lines form, how they function, and why they malfunction. It was introduced by Agner Krarup Erlang. The arrival process, service process, number of servers, number of system locations, and number of customers who may be humans, data packets, or anything else are all aspects of queuing theory that are examined. Queuing theory is used in a variety of real-world businesses. Its results may be used by call centres and data networks to speed up customer service, improve traffic flow, enhance order shipping from warehouses, and more. This theory was created to offer models to forecast how systems that try to cater to unexpected events will behave. The fundamental idea behind queuing theory is that it considers both the unpredictability of the maintenance service process and the randomness of the arrival process, which in this case is the breakdown event. Planning breakdown maintenance actions effectively would be best accomplished using this strategy.

2.1.3 Just-in time Theory

According to Tompkins (1996), just in time (JIT) theory focuses on reducing inventory costs by ensuring that materials arrive at the right place and time. The just-in-time (JIT) technique is a Japanese assembly-related philosophy that emphasizes having the right materials in the right quantity and quality at the right time. The JIT technique results in enhanced correspondence, fewer costs and waste, and increases in quality, profitability, and effectiveness. Warehouse holding expenses are kept to a minimum in a just-in-time system. You only place an order when a customer does, so by the time it gets to you, the item has already been sold, negating the need for long-term storage. It led to the reduction of inventory waste, a decrease in warehouses, a decrease in holding costs, and the use of local sources, which led to an increase in the profitability of an organization.

Hutchins (1999) claims that JIT is a process that is ready to respond immediately to a request without the need for any overstocking, either out of anticipation for the application's arrival or out of worry for wasteful features all the time. Hutchins (1999) also focused on the fact that the main goal of the JIT technique is to have the right materials at the right place throughout the entire production chain, not only within the confines of a single organization. Given that it is also being modified within management organizations, it can be connected to the manufacturing process within any organization.

2.1.4 Total quality management (TQM) theory

W. Edward Deming taught methods for statistical analysis to Japanese engineers. This theory focuses on improving quality and reducing costs by implementing a system of continuous improvement. Total quality management (TQM) is the ongoing process of identifying and minimizing or eliminating production defects, optimizing the supply chain, enhancing the customer experience, and ensuring that staff members are trained to the highest standards. The goal of total quality management is to hold each party responsible for the whole standard of the finished good or service. Total quality management is essential to attaining greater customer satisfaction. Higher-satisfied customers lead to increased customer loyalty, which leads to an increase in the profitability of the organization.

2.1.5 Resource-based view theory (RDV)

According to the resource-based view hypothesis, introduced by J. J.Barney in the 1980s, a company can get exceptional returns if it possesses cutting-edge resources that set it apart from rival businesses. According to Wallace and Omachar (2016), the idea examines distinctive abilities that a company might use to gain a competitive edge despite constraints in the business environment. The corporation must therefore make use of its resources in order to keep up with the pace and be current. The resources ought to be unique, incorrectly imitable, and incomparable. According to Madhani (2014), these resources are the primary source of competitive advantage for improved organizational performance. High management commitment can result in the

successful adoption and deployment of inventory control systems, according to Wallace and Omachar (2016).

2.2 Empirical Evidence

In 2012, Hassab Elnaby, Hwang, and Vonderembse did research on "the assessment of materials management and profitability of an organization in the United States of America. The study's primary goals were to analyze the procedures for materials handling, define crucial safety precautions, and pinpoint techniques for increasing suppliers' productivity and effectiveness. The study evaluated the correlations between the variables using secondary data that was gathered from more than 100 businesses. The results demonstrate that when a firm uses a prospector business strategy, the deployment of materials handling and profitability have a beneficial influence. An organization's ability to accomplish organizational capacities is improved by a prospector business strategy, which enables the organization to attain higher levels of financial performance.

Shin and Ennis' (2015) study examined the effect of material handling technologies on suppliers' productivity. The study's goal was to determine whether using automotive equipment for storage and material handling would result in the maximum degree of profit over the long term. The study obtained balance sheets, income statements, and yearly financial statements for manufacturing enterprises in the United States using the Computers database. Regression analysis was used in the study to analyse the data, and the results showed that a larger profit margin is related to a higher sales ratio of automotive machines. Improved material handling and storage management efficiency have a positive correlation, according to the study's findings.

A study carried out by John C. Bailor in 2010 at Madison focused on the topic of the impact of automation on material handling efficiency. The aims of automation in materials handling efficiency are to reduce manual labour, reduce material handling errors, and improve the overall efficiency of the materials handling process. The objective of automation in materials handling efficiency is to reduce costs, increase productivity, and improve safety. The research used automated systems such as robots,

conveyors, and automated storage and retrieval systems to collect the data, which was used in the methodology. Automation can also be used to optimize the routing of materials and reduce the time and cost associated with manual material handling.

The implications of inventory management on the profitability of cement manufacturing companies in Kenya: a case study of listed cement manufacturing companies in Kenya, according to a 2015 study by Sitienei and Memba The purpose of the study was to determine how inventory management affected the Kenyan cement manufacturing industry's profitability. The investigation was done using a panel data design. For the analysis of the annual reports for the three sampled enterprises listed at the Nairobi Securities Exchange (NSE), cross-sectional data from 1999 to 2014 was acquired. According to the study's findings, there is a bad correlation between the company's profitability and inventory turnover, conversion time, and storage costs. It was discovered that inventory level was directly related to a firm's size and storage.

The impact of efficient materials handling management on organizational performance: a study of the 7-Up bottling company in Enugu State, Nigeria, was the focus of a study by Ogbo and Ukpere (2014) performed in Nigeria. The study's primary goal was to highlight the influence an efficient materials handling system has on an organization's success as it relates to the bottling business. The survey research methodology was used for this investigation. The study's findings showed that organizations benefit from materials handling management through simpler material storage and retrieval, increased sales effectiveness, and lower operating costs. It also revealed a connection between operational viability, the usefulness of materials handling management in the organization's customer-related problems, and the use of cost-effective techniques. Effective materials handling management is acknowledged as one of the areas in which the management of any organization should have capability, according to the study's findings. The report advised organizations to select the materials handling management strategy that best suited their business needs.

A study entitled "Impact of materials handling on management on firm performance: a case study of listed manufacturing firms in Ghana" was carried out in Ghana by

Bawa, Asamoah, and Kissi (2018). The study's objective was to ascertain the effect of materials handling management on the business performance of Ghana's publicly traded industrial companies. The research design used for the study was descriptive. According to the study's findings, the performance of manufacturing enterprises in Ghana is not greatly impacted by materials handling management. Additionally, it was discovered that material handling is related to the operating cash flow of Ghanaian manufacturing companies. The report advised businesses to adopt a strategy to train and retrain their workers to keep them abreast of modern materials handling management techniques and technological innovation. For effective materials handling management, the study suggested that techniques including just-in-time, materials handling, holding, and material need planning be used.

An investigation into the impact of storage and distribution of fast moving commercial goods on the profitability of large scale retail sector in Zimbabwe, it was carried by Admire Francis (2015) at Chinhoyi university of technology in Zimbabwe. The goal of the study was to find out how storage and distribution affected the profitability of Zimbabwe's large-scale retail industry. The goal of this research is to provide effective distribution and storage methods with low operational expenses. The study included people from Harare, who were chosen at random to represent the population's behavior from 2010 to 2013. The qualitative approach was used in the research technique, and it involved the use of questionnaires, interviews, desk and internet research, as well as data gathering and analysis methods. The research study also suggested the implementation of VMI, EDI, and Lean distribution to address the issue of fast-moving commercial items' storage and distribution.

A study carried out by Dr. J. M. Mupedziswa (2019) on the topic of the effects of materials handling on profitability in Zimbabwe states that there is a positive relationship between materials handling and profitability since goods handling leads to reduced costs, which may increase profit. He explains that proper handling of materials can improve efficiency and increase productivity. Materials handling also emphasizes the importance of having a well-designed materials handling system in place to ensure the smooth flow of materials throughout the organization.

2.3 Concept of Material Handling

According to Badi (2004), material handling refers to the movement of materials inside the work premises from the raw materials stage to finished product storage. Maximum movement activity takes place on work in process. The focus is on the methods, mechanical equipment, systems, and related controls used to achieve these functions. Material handling is important to all organizations because it must be controlled and carried out properly if a high standard of efficiency and cost effectiveness is to be achieved through managing: handling cost, space cost, damage from poor handling and storage, and production waiting time, on the one hand. It also increases the effectiveness and quality control, safety level, and production capacity level, which lead to an increase in the profitability of the organization.

Guinea (2012) says that profitability is the ability of a company or business to generate revenue over and above its expenses. It is usually measured using ratios like gross profit margin and net profit margin. It is also used to determine the strengths and weaknesses of companies and how they achieve profit from their operations. Analysts use ratios to decide whether or not a proposal is a good one for investment purposes.

2.4 The relationship between materials handling and profitability

Rihinde (2008) mentions that effective material handling minimizes time spent on distribution and storage. The use of efficient material handling techniques will result in fast distribution and storage of materials since each material will be moved straight to its safe place. The storage, production, distribution, or consumption of materials and goods will all take place faster because efficient material handling entails using tools that can speed up and simplify processes, which leads to positive relationships between material handling and profitability.

According to Okpara (2008), material handling reduces stress and effort. Through good material handling, stress and effort can be minimized. Material handling would be a stress-free procedure if done correctly and all risk- and challenge-inducing factors were removed, such as malfunctioning machinery and infected workers. This will enable

the management of the organization to focus on the more pressing needs and objectives of the company, particularly its financial success.

Material handling is very important when you are moving or storing large amounts of materials. It may lead to many warehouse accidents and has already earned most companies a lot of worker's compensation lawsuits. If you apply a good material handling process by hiring expert workers, using automated machines, and buying efficient storage systems, this will save the company from lawsuits and prevent tragedies inside the warehouse (Lyson, 2006). Materials handling is closely linked to profitability, and a profit-driven organization cannot afford to compromise on materials handling.

2.5 Type of material handling used

The material handling sector includes a category for equipment for storage and handling. This kind of equipment typically refers to non-automated storage equipment. Pallet racks, shelving, trolleys, and other items fall under the category of storage and handling. Because they often adhere to internationally recognized standards and are frequently offered as stock items in material handling catalogues, many of these products are frequently referred to as "catalogue" items. (Mona. 2004)

Custom material handling systems are the norm for engineered systems. This group includes conveyors, handling robots, AS/RS, AGVs, and the majority of other automated material handling systems. Engineered systems can consist of a number of goods combined into a single system. By adopting engineered systems like pick modules and sortation systems, many distribution facilities will be able to optimize storage and picking. Peter Fredriksson et al. (2004)

Unit load formation equipment is used to restrict materials so that they maintain their integrity when handled as a single load during transport and storage. If materials are self-restraining (e.g., a single part or interlocking parts), then they can be formed into a unit load with no equipment. Examples of unit load formation equipment include pallets, skids, slip sheets, tote pans, bins or baskets, cartons, bags, and crates. Hines

(2004) says that unit load is also the design of storage equipment, and its use in warehouse design represents a trade-off between minimizing handling costs by making material easily accessible and minimizing the utilization of space. A slip-sheet is a sheet made of thick paper, corrugated fibre, or plastic that is used as a base for loading goods. It has special tabs that can be grasped by push-pull lift truck attachments. Slip-sheets are employed instead of pallets to decrease weight and volume, although the process of loading and unloading is slower.

Industrial trucks typically refer to motorized warehouse vehicles that are operated by an operator. The material handling system is aided by industrial vehicles because they are versatile and can go places that engineered systems cannot. Mona Ericson (2004) Industrial trucks come in a variety of forms, with forklifts being the most prevalent example. Additional illustrations of industrial trucks include tow tractors, stock chasers, and tail handlers.

Positioning equipment is used to handle material at a single location so that the material is in the correct position for subsequent handling, machining, transport, or storage. Unlike transport equipment, positioning equipment is usually used for handling at a single workplace. Material can also be positioned manually without equipment. As compared to manual handling, the use of positioning equipment can provide benefits such as raising the productivity of each worker when the frequency of handling is high, improving product quality, limiting damage to materials and equipment when the item handled is heavy or awkward to hold and damage is likely due to human error or inattention, and reducing fatigue and injuries when the environment is hazardous or inaccessible. Examples of positioning equipment are lift/tilt/turn tables, hoists, balancers, manipulators, and industrial robots. manipulator It is used for vertical and horizontal translation and rotation of loads that act as "muscle multipliers" by counterbalancing the weight of a load so that an operator lifts a small portion (1%) of the load's weight and can fill the gap between hoists and industrial robots: they can be used for a wider range of positioning tasks than hoists and are more flexible than industrial robots due to their use of manual control. They can be powered manually, electrically, or pneumatically. Hornby (2005)

2.6 The challenges to the profitability of organizations

Lee (2007) states that a company's revenue cost is fundamental to its profitability. The quality and price of goods sold are factors that will ultimately determine how profitable a firm will be.

2.6.1 High competition

If a firm has monopoly power, then it has little competition; therefore, demand will be more inelastic, and firms will increase their sales, which will increase their profit. According to Lee et al. (2007), for example, very profitable firms such as those in water and electricity have developed a degree of monopoly power with limited competition. However, in theory, government regulation may prevent monopolies from abusing their power. If the market is very competitive, then profit will be lower because consumers will only buy from the cheapest firms to enter the market. Lyson (2006) says that if entry is easy, firms will always face the threat of competition, even if it is just hit-and-run competition, which will reduce profit.

2.6.2 Advertising

Adeloye (2008) suggests that a prosperous advertising campaign can heighten demand and make the product less responsive to price changes. Nevertheless, the augmented revenue must compensate for the advertising costs. Advertising can amplify sales by announcing new product releases, exclusive deals, and upgrades to present and potential customers. It can also help establish a unique brand for your organization and remind current customers about it, which can improve its profitability.

2.6.3 Economies of scale

Increased profits, a higher return on capital invested, and a platform for business expansion are all results of economies of scale. With greater business scale, as a company expands, it becomes more stable and less prone to external challenges, such as hostile takeover offers. For example, in the food industry, we have seen a lot of

rationalization where medium-sized firms have lost their competitiveness and had to merge with others (Okpara, 2008).

2.6.4 Substitutes

Oba (2008) says that if there are many substitutes that are expensive, then demand for the product will be higher. Because consumers may decide to buy the substitute instead of the industry's product, the threat of substitution affects an industry's profitability. The presence of close alternative products can increase industry competition and lower profit margins for participating

2.6.5 Decreasing demand

For instance, if a product is in style, demand will be strong. For instance, food firms were successful during the period of market expansion and increased demand. Low profits for the business will result from products like tinned beans that have declining demand. Some businesses have been successful in building strong brand loyalty, which has led to high demand for many of the new products. However, in recent years, mobile phone firms' earnings have decreased as a result of the high profit, which encouraged overstock and counteracted the rise in demand.

2.6.6 Relative cost

Profits will drop when costs rise; they could be labour costs, raw material costs, or rent prices. For instance, a devaluation of the exchange rate would raise the cost of imports, increasing the costs for businesses that import raw materials. Alternatively, if the company can boost productivity through better technology, profits ought to rise. A company will need to consider the exchange rate if it imports raw materials. a decline in value, increasing the cost of imports. A decline in the currency rate, however, is advantageous for exporters as they will become more competitive.

2.6.7 Exchange rate

If a company exports, a depreciation in the exchange rate will increase profitability because exports become more affordable to foreign buyers, allowing the company to sell more products or choose to have a higher profit margin. If the company imports raw materials, depreciation will raise production costs.

2.6.8 Pricing discrimination

If the goals are to maximize effectiveness, the company should consider implementing price discrimination. This involves offering different pricing option for the same product, with higher prices for those with less elasticity in their demand. This is particularly important for airline companies.

2.6.9 Objectives of firm

Some companies may prioritize increasing their market share rather than maximizing profit. This means that they may sacrifice profits in order to expand their customer base. Walmart and Amazon are examples of companies that have adopted this strategy to some extent, according to Oba (2008).

Research Gap

Between this study and those conducted previously by other researchers, there is a significant gap. In particular, for the food industry in Zimbabwe, no other researchers have previously looked into the subject of this study, the impact of materials handling on national food industry profitability. This study has used time motion and data analysis to analyse the relationship between materials handling and profitability, and the studies shown on empirical evidence and other studies not mentioned in this study have used a descriptive research design. The goals set for this study are distinct from those pursued in earlier research by other researchers.

summary

The impact of materials management on an organization's profitability has been thoroughly studied by various academics. Storage, shipping, dispatching, handling, ordering, and utilization are all included in material handling. The majority of studies on this topic have been holistic. However, little research has been done to examine how material handling affects an organization's profitability.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

The study's methodology is referred to as the research procedure. It covers the study plan as well as the methods for collecting and analysing data. The methodological concerns that will be applied in the study to achieve the research goals are discussed in this part. The theory supporting the methodology used, the study's location, population, sample strategy, data collection, data quality control, ethical issues, source of data, data collection instruments, data analysis, reliability and validity, limitations and delimitations of the study

3.1 Research design

The study uses both quantitative and qualitative survey methodologies. The researcher was able to explain the existing practices of material handling as well as gauge their impact on the profitability of organizations in Zimbabwe's food industry by using both a qualitative and quantitative survey approach. Additionally, qualitative data was used to describe data that could not be quantified in numbers and included the respondent's opinions and ideas; it was also applied in order to describe current conditions or investigate relationships (Hair et al., 2003). A quantitative survey approach was used to process data that could be quantified and was numeric in nature. For example, the respondent's age, income, cost, and revenue related to material

3.2 Target population

The majority of the study's participants were members of the National Foods workforce, particularly those in the stores and finance divisions. The human resources officer estimates that there are 200 employees in this population. This group of people was picked because it was believed that they would be familiar with the research topic and research variable.

3.3 Sampling Technique

For the purpose of choosing the right sample for the study, the researcher used a number of strategies. Both probability and non-probability sample approaches are among them. In this study, non-probability sampling was used to pick respondents from the population using purposive sampling. This method enables a study to pick from each unit of the research population those participants who are eligible to receive an opportunity. In this instance, the researcher makes sure that participants from various groups, such as retail employees, supervisors, and employees and managers of the financial department, have an equal chance to participate.

3.3.1 sampling procedure

The study makes use of cluster, simple random, and purposive sampling techniques to find responders who were few and challenging to reach. To categorize the respondents according to the finance, retail, and manager roles, cluster sampling was utilized. Then respondents in the various clusters, such as the finance department and store department, were identified using simple random.

3.3.2 Sample size and composition

The sample size was over 200 respondents, of whom 40 were store staff, 20 were finance managers, and 20 were managers of National Foods Company.

Table 3.1 sample size and selection of respondents

Category	Population	Sample size	Percentage	Method of selection
Managers	90	20	25%	Purposive
Finance department	50	20	25%	Cluster and simple random
Store	60	40	50%	Cluster and simple random
totals	200	80	100%	

Techniques purposive, cluster and simple random sampling

3.4 Source of Data

The researcher gathered primary and secondary data, but primary was from respondents in the National Food Company using interviewers, questionnaires, and observations given directly to stores, the finance department, and managers. Kothari (1990) defined primary data as information that is obtained for the first time and is hence unique in nature. Due to its direct relevance to the issue at hand and the researcher's ability to manage the degree of inaccuracy for correctness, primary data was chosen (Kumar, 2005). However, the researcher encountered several difficulties when attempting to use primary data because of the time and expense involved in data collection. Secondary data was obtained from written literature and records, for example, the firm's finance and cost centres related to material handling and the profitability of the organization.

3.5 Research instruments

To gather information from a chosen sample of respondents, a questionnaire with two open-ended questions about the respondents age and work experience and two closed-ended questions about their department, level of education, position, and working experience was created and distributed. In order to make it simple for the researcher to analyse the data, questionnaires were used because they capture opinions, attitudes, and standardized responses, which are easy for the researcher to interpret.

3.5.1 Justification of the instrument used

Due to the anonymity of the questionnaire, participants provided more truthful responses, resulting in a higher degree of data reliability as participants were not compelled to answer questions to please the researcher. A covering letter for the survey was created with the express purpose of highlighting the respondent's right to secrecy. Follow-up efforts were also made to help with the response rate. The response rate was high, and as a result, it is appropriate to use a questionnaire because it is a practical strategy that reaches a large population.

A questionnaire is also a common tool for acquiring data because it asks the same questions of several respondents. As a result, the information acquired will include a variety of viewpoints from various respondents. As a result, the data will be understood in comparison and generalized to different contexts.

3.5.2interviews

The manager of National Food Company was given an interview guide with structural questions intended for it. This instrument request for information helped the research improve the response to the self-administered questionnaire, enabling the research topic. The instrument was selected because it was thought to be a useful way to generate data that addressed the subject in depth. The production of data based on the informant's priorities, opinions, and ideas through interviews was another effective strategy. Informants had the chance to voice their thoughts and views and pinpoint what they believed to be important factors.

However, there was a chance of receiving biased information when using interviews because respondents would give answers that would only suit the interviewer. Sometimes the interviewer may direct the question to elicit a favourable response, causing bias. Additionally, because interviews take a lot of time, it is challenging to collect information in the limited time available for the research.

3.6 Data Quality Control

The researcher performed various edits to verify correctness, precision, accuracy, and data profiling in order to make sure that the data acquired was legitimate, relevant, and retained integrity.

3.6.1 Validity of the instrument

The research supervisor was given copies of the questionnaires that included the study's objective in order to determine whether the instrument would actually measure what it was intended to evaluate as well as to check the statements wording, comprehension level, and phrasing. The content validity index (C.V.I.) is used to determine if the surveys accurately captured the intended outcomes. The content validity index (C.V.I.) was calculated by dividing the total number of items presented by the number of things that were deemed relevant. The questionnaire's overall C.V.I. index was 0.833, which was higher than 0.7 and was therefore considered valid. (Amin2005)

3.6.2 reliability of the instrument

According to Chronbach (1995), reliability is a measurement of the consistency with which a research instrument produces outcomes or data. In this study, quality control was done by pre-testing the questionnaires on 20 respondents (10 from the stores department, 6 from the finance department, and 4 managers) to test the reliability using the Cronbach alpha coefficient.

3.7 Data Collection Procedure

The researcher began by requesting permission to conduct the study in a letter to the National Food Company. The letter informed the company of the study objective and said that it would be used exclusively for academic purposes. Afterwards, the data were gathered through observation, self-administered paper and pencil questionnaires, and one-on-one interviews. Managers who were unavailable for interviews during regular business hours received questionnaires, while employees who refused to participate in face-to-face interviews were conducted with the remaining respondents. Observations were utilized to confirm the results of other procedures and the kind of material handling techniques that the organization employed.

3.8 Ethical issues and ethical considerations

The researcher adheres to a number of research guidelines during the planning, collection, and processing of data in order to uphold ethical standards. This includes obtaining the respondents informed consent and making it known that their participation was voluntary and they were free to withdraw from the study at any time or not answer questions they were uncomfortable with. The participants in the study remained anonymous out of respect for their right to privacy and confidentiality; their names, offices, and departments could not be disclosed. Officials then wrote to the department heads to request their approval to conduct the study after the research requested authorization from the general manager to access the personnel (Amin 2005, Nsubunga 2008). By using methods like hiring research assistants to gather data, the researcher was impartial in the way the research was conducted. The study also demonstrates a high level of secrecy with the information obtained from the respondents and the request for their approval before using a data collection tool.

3.9 Data analysis, interpretation and presentation

The data was displayed as a triangulation, pie chart, and table. Narrative techniques were used for qualitative analysis, along with recording face-to-face interviews and observations. When analyzing qualitative data, the researcher used a quick,

impressionistic summary. She noted down the respondent's frequency of response during the interview on various issues relating to material handling affecting the profitability of the organization to summarize the key findings. This qualitative data collection method was selected since it would save time and was not particularly expensive. We carefully listened to the interview in order to discern the overarching topic, and then we sorted, recorded, reflected on, and interpreted the significance of the data.

Limitation and delimitation of the study

The researchers had to perform the investigation over a long period of time because the respondents were far away. This control worked because it made sure that at least one questionnaire was submitted on the day when responders were identified.

In an effort to keep their jobs, some of the respondents admitted to hiding some information. However, the issue was resolved by convincing the respondents to cooperate by highlighting the confidentiality of their responses.

She was still a student and had to pay for this study herself; therefore, the research was financially constrained. However, the family's and friends' contributions helped find a solution.

Since she was still in school, schedule commitments presented another obstacle to the research. She employed a priority schedule and smart time management techniques.

4 Summary

This chapter primarily focused on the research methodology, or how the research was carried out by acquiring the necessary data for the research study. Because every component of the population was arranged in a way that was indicative of the entire population, sampling techniques were crucial. Reliability and validity were also discussed, along with sampling procedures and research tools. The discussion, analysis, and presentation of data will be covered in the following chapter.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF THE FINDINGS

4.0 Introduction

This finding obtained from the National food company are analyzed, interpreted and presented in this chapter. Specific objective and research questions required to be addressed in order to meet the study's principal goal.

The study sought response from all 80 respondent and managers, resulting in a response rate of 100% as indicated in table 1. Because the respondents were given ample time to complete the questionnaire, the researcher was able to attain this response rate. According to Babbies (2005) a 50% rate is sufficient, a 60% rate is good or high and a 70% rate is very good. This concurs with Mugenda and Mugendas (2003) advice to assume a response rate of 50% as a general guideline. Since this study goes beyond the minimum required, it is deemed adequate for analysis and generalization.

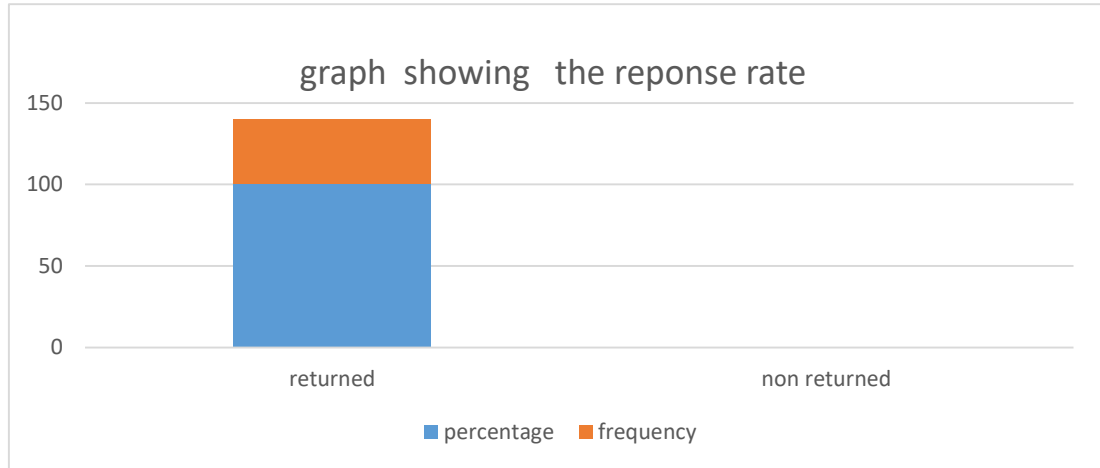
Table 1 Response rate

Response	frequency	Percentage
Returned	80	100
Not Returned	0	0
Total	80	100

Source: primary data 2023

The results are graphically represented below.

Figure 1: Response Rate



Source: Primary Data 2023

Section A

4.1 General information

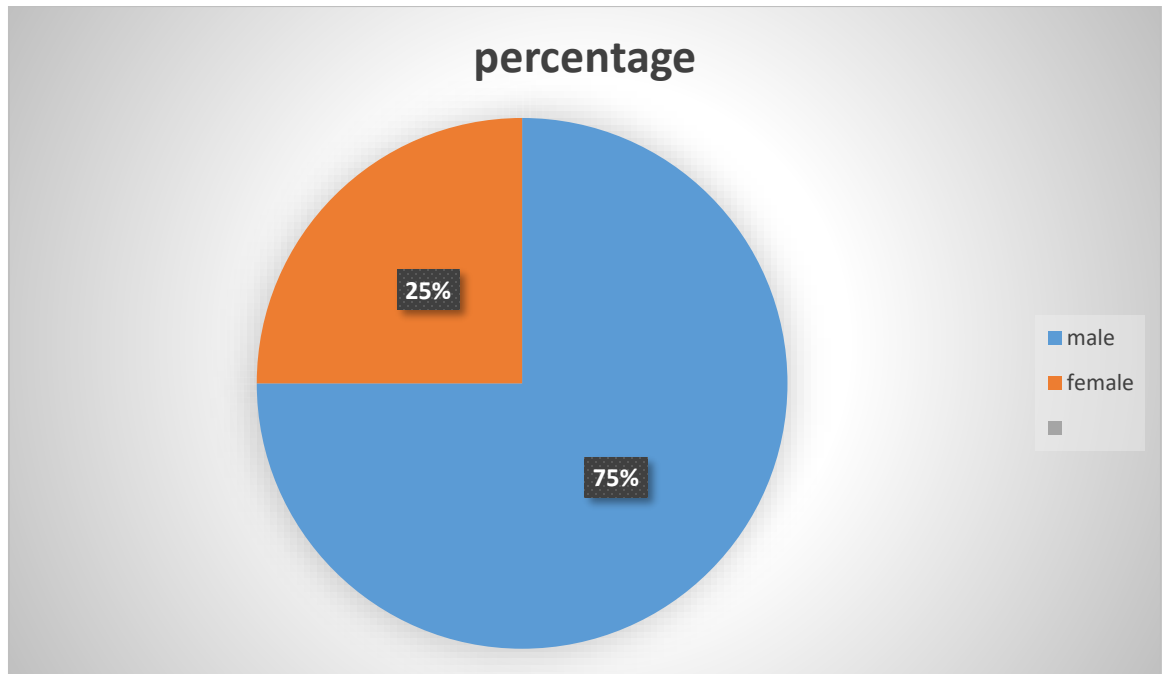
The respondent's general information was included in this section. All of the sampled respondents worked for Zimbabwe's National food company. They were required to complete a questionnaire. Gender, age, degree of education and employment history were among the respondents sampled characteristic.

4.1.2 Gender characteristic of respondents

Table 2: Gender characteristic of respondents

Sex of respondents	Frequency	Percentage
Male	60	75
Female	20	25
Total	80	100

Source: primary data 2023



According to the response data in the table above, there were 60 male respondents or (75%) and 20 female respondents or (25%). This suggests that among the National food company employees, men may be slightly more prevalent than women.

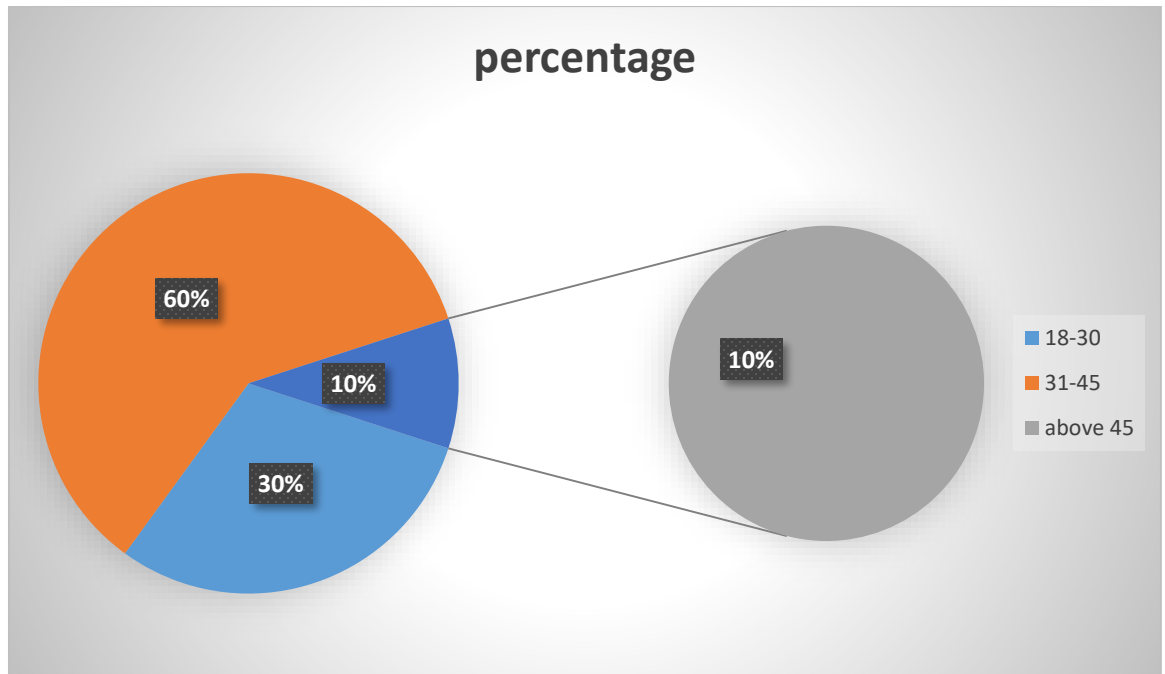
4.1.3 Age of the employees

Table 3. showing the age group of the employees

Age group (years)	Frequency	Percent age
18-30	24	30
31-45	48	60
Above 45	8	10
Total	80	100

Source: primary data 2023

Figure 2: age of employees



source: primary data 2023

According to the data in table 3 and figure 2, 24 (or 30%) of the sample's participants were between the ages of 18 and 30; 48 (or 60%) were between the ages of 31 and 45; and 8 (or 10%) were over the age of 45.

This demonstrates that the majority of the workforce at National Foods was between the ages of 31 and 45. This group of employees was at the prime of their professions and is typically regarded as knowledgeable and dedicated to their work. This shows that the majority of responders were adults and not adolescents, showing that they had the maturity to respond adequately to the inquiry. This demonstrates that accurate information was obtained.

4.1.4 level of education

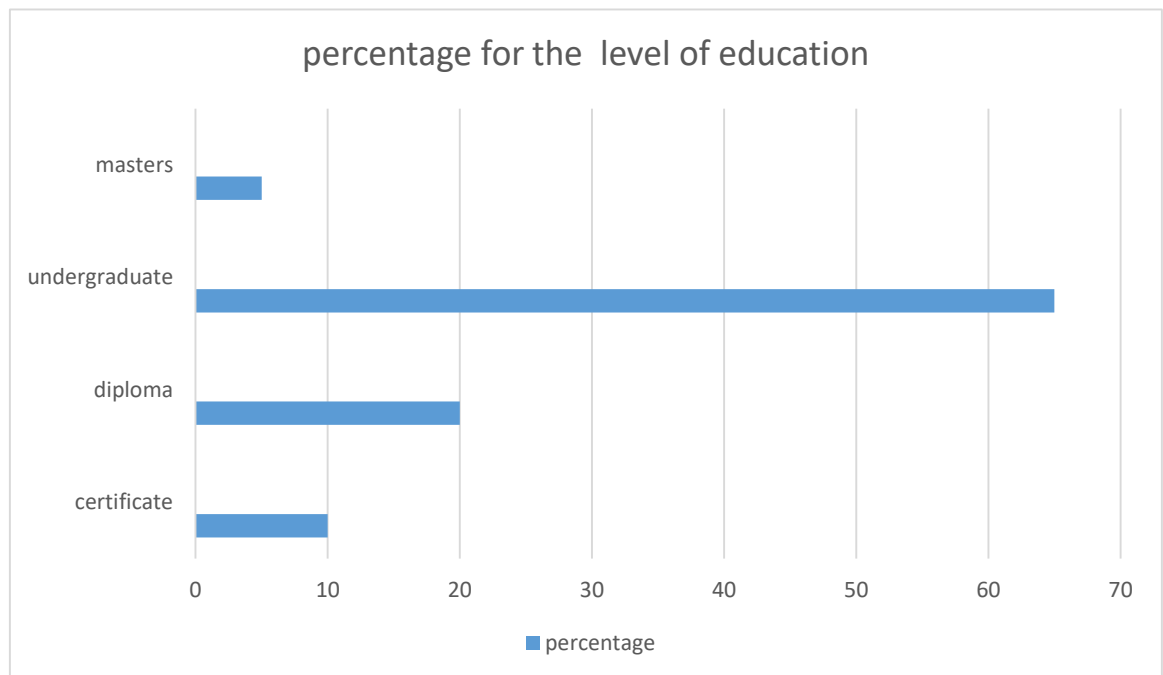
The table below illustrates the educational level of the employees as obtained from the survey conducted.

Table 4. illustrate the level of education of the employees

Level of education	frequency	Percentage
Certificate	8	10
Diploma	16	20
Undergraduate degree	52	65
Masters	4	5
Total	80	100

Source: primary data 2023

Figure 3 education level of the respondents



Source: primary data 2023

Table 4 and figure 3 above show that 8 (or 10%) of the sample held a certificate, 16 (20%) held a diploma, 52 (or 65%) held an undergraduate degree, and 4 (or 5%) held a master's degree. The results, which show that National Foods Company primarily hires undergraduate degree candidates to join their work force and pays the least attention to master's holders who primarily make up senior management employees,

are consistent with the high literacy level in Zimbabwe. According to these figures, National Foods Company employs qualified individuals who would be able to comprehend and accurately respond to the survey's questions. As a result, during the research process, participants who are aware of the issue under investigation help the researcher collect trustworthy information. (joppe 2000).

4.1.5 Working experience with National foods company

Respondents were asked how long they had been working with National Foods company and the finding are presented in the table below:

Table 5: Period of employment of respondents

Period of employment	frequency	percentage
Over 10 years	24	30
6-10 years	44	55
3-5 years	4	5
Less than 2 years	8	10
total	80	100

Source: primary data 2023

Below show the results of responses for further presented on the experience.

Figure 4: Working experience of the Respondents

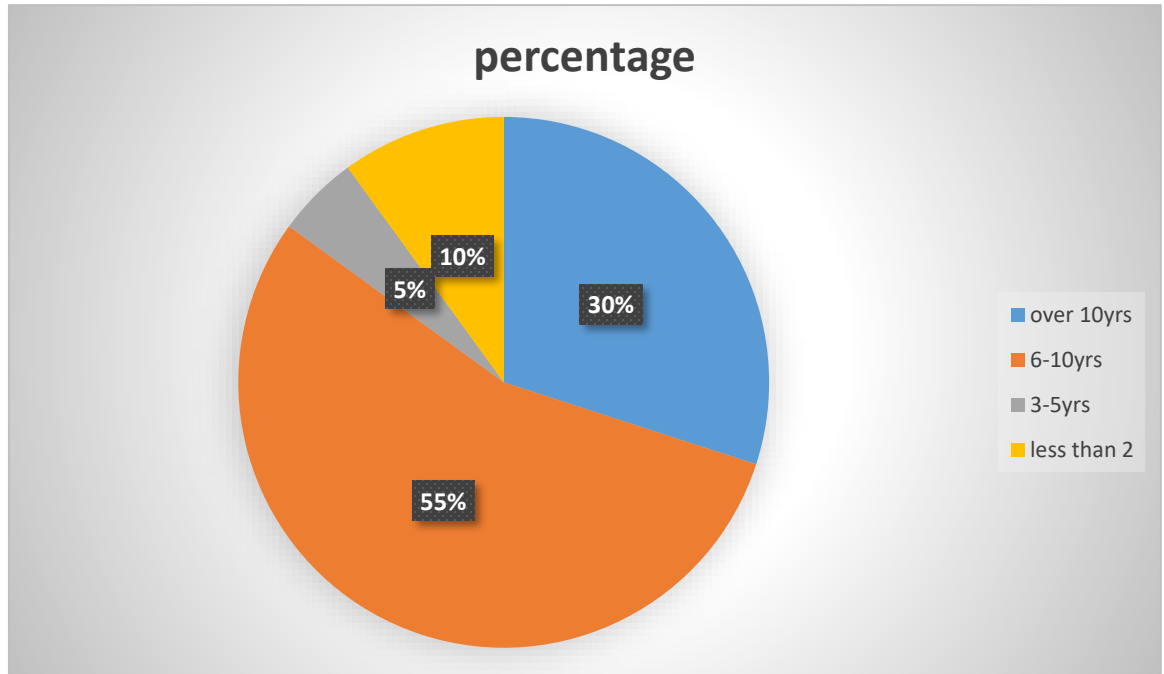


Table 5 and figure 4 reveal that 24 (or 30%) of the employees had worked for the National Foods Company for more than ten years, 44 (or 55%) had worked there for six to ten years, 8 (or 10%) had done so for three to five years, and 4 (or 5%) had done so for less than two years. As a result, the majority of respondents were knowledgeable about both the subject of the study material handling and organizational profitability and National Food. This demonstrates the extremely low personnel turnover rate of National Food Company. It also shows that the responders had sufficient knowledge of the subject matter and the organization.

Section B

4.2 Relationship between Material handling and Profitability of the Organization

The study aimed to establish the correlation between the profitability of National Foods Company and the effectiveness of its material handling department. The results are presented as follows.

Table 6 illustrates the correlation between the profitability of the organization and the material handling process.

Relationship between material handling and profitability of organization	Response											
	f	%	F	%	f	%	F	%	f	%	f	%
Material Handling facilitate a shorter operating cycle	32	40	40	50	4	5	4	5	-	-	80	100
Material handling reduces in handling cost	48	60	24	30	8	10	-	-	-	-	80	100
Material handling eliminates unproductive handling of materials	60	75	16	20	-	-	4	5	-	-	80	100
Material handling reduces idle machine capacity	56	70	16	20	-	-	8	10	-	-	80	100
Material handling reduces idle time for labor	40	50	32	40	-	-	8	10	-	-	80	100
Material handling eliminates factory hazard	48	60	16	20	8	10	8	10	-	-	80	100
Material handling maintains quality of material	60	75	16	20	-	-	4	5	-	-	80	100
Material handling enables optimum usage of space	28	35	40	50	8	10	4	5	-	-	80	100
Material handling facilities material issues	52	65	24	30	4	5	-	-	-	-	80	100
Material handling facilities better customer care	60	75	16	20	-	-	4	5	-	-	80	100
Material handling facilities better quality of products	56	70	16	20	-	-	8	10	-	-	80	100

Material handling facilities	40	50	32	40	-	-	8	10	-	-	80	100
timely production												

Source: primary data 2023

According to table 6 above, 32 (40%) of the respondents strongly agreed that material handling makes it possible for operating cycles to be shorter, 40 (50%) agreed, 4 (5%), were unsure, and 4 (5%), disagreed. Because machines handle material more quickly than humans do, material handling enables a shorter operational cycle.

24 (30%) of the 48 (60%) respondents who strongly agreed thought that it was imperative that material handling lower handling costs. Thus, it is evident that material handling lowers the cost of handling.

It can be shown that 60 (or 75% of the sample) strongly agreed with the statement that handling materials properly eliminates unproductive handling, whereas 16 (or 20%) agreed and only 5% disagreed. Since the majority of people agreed with the statement, it follows that material handling removes inefficient handling of material.

More specifically, 16 (20%) agreed, 4 (5% disagreed, and 56 (70%) strongly agreed that material handling affects idle machine capacity. This suggests that material handling does really diminish idle machine capacity.

40(50%) of the sample strongly agreed that material handling reduces idle time for labor, 32(40%) agreed to the assertion and 8(10%) disagreed to the assertion. It can conclusively be mention that material handling reduces idle time for labour.

48(60%) strongly agreed that material handling eliminates factory hazards, 16(20%), 8(10%) were not sure and 8(10%) disagreed. Therefore, it can be stated that material handling eliminates factory hazards.

60(75%) of the respondents strongly agreed that material handling maintains quality of material handling. 16(20%) and 4(5%) disagreed to assertion. This shows that material handling maintains quality of material eliminating damages.

It also reveals that 28 (35%) respondents agreed 40 (50%) strongly agreed and that 8 (10%) were unsure and 4 (%) disagreed that material management promotes optimal use of space. Additionally, material handling enables the best possible use of space within the stores and throughout the entire business.

Material handling facilitates material concerns, according to 52 (65%) of respondents, while 24 (30%) agreed but 4 (5%) were unsure of the statement. This demonstrates that material handling does in fact make material problems worse.

In addition, 60(75%) of the respondent strongly agreed that material handling facilitates better customer care; 16(20%) and 4(5%) disagreed, this illustrate that indeed material handling facilitates better customer care since it enhances quick processing of orders and dispatches.

56(70%) strongly agreed that material handling facilitates better quality products; 16(20%) agreed the assertion while 8(10%) disagreed. This illustrate that material handling facilitates better quality products since damages and wastage in minimized.

Finally, 40(50%) strongly agreed to the assertion that, material handling facilitates timely production, 32(40%) agreed while 8(10%) disagreed. Therefore, this implies that material handling facilities timely production since material are assured to be in the right place at the right time hence facilitating timely production.

As a result, efficient material handling increases an organization's profitability by reducing operating cycles, handling costs, unproductive handling of materials, idle machine capacity, idle labour time, factory hazards, maintaining material quality, enabling optimal space utilization, facilitating materials issues, facilitating customer care, facilitating better quality products, and timely production.

Section c

4.3 types of materials handling system

Table 7 displays the material handling system.

Material Handling system	Response											
	Strongly agree		Disagree		Neutral		Disagree		Strongly disagree		Total	
	F	%	F	%	f	%	f	%	f	%	f	%
Engineered system	60	75	20	25	-	-	-	-	-	-	80	100
Industrial trucks	72	90	8	10	-	-	-	-	-	-	80	100
Position equipment	76	95	4	5	-	-	-	-	-	-	80	100
Unit load Formation equipment	60	75	20	25	-	-	-	-	-	-	80	100
Storage equipment	80	100	-	-	-	-	-	-	-	-	80	100

Source: primary data 2023

According to Table 7, 20 (25%) of the respondents and 60 (75%) of the respondents both strongly agreed that National Foods employs a designed system. No respondents disagreed, and none expressed uncertainty. Therefore, one of the material handling systems employed by businesses is an engineering system.

While 8 (ten percent) strongly agreed with the employment of industrial trucks, 72 (ninety percent) strongly disagreed.

The majority of respondents, 76 out of 80 (95%), agreed that National Food Company uses positioning equipment as a material handling system. Only 4 respondents (5%) agreed with the use of positioning equipment.

Regarding unit load equipment, 60 respondents (75%) strongly supported its usage, while 20 respondents (25%) highly supported the use of unit load information equipment.

Finally, 80 of the 100 respondents were in favour of using storage equipment. Therefore, it may be said that one of the material systems used by businesses is storage equipment. It is demonstrable that everyone who responded approved of the material handling system.

To sum up, the primary material handling systems employed by modern organizations consist of engineering systems, industrial trucks, positioning equipment, unit load information equipment, and storage equipment. Their primary purpose is to ensure the organization's operations are efficient, effective, and proper.

SECTION D

4.4 factors affecting the profitability of National Foods company

Factors affecting the profitability of National foods	Strongly disagree		Agree		Not sure		disagree		Strongly disagree		total	
	F	%	F	%	F	%	F	%	F	%	F	%
Level of competition	36	40	40	50	4	5	-	-	-	-	80	100
Demand trends	52	65	24	30	4	5	-	-	-	-	80	100
Advertising	60	75	16	20	-	-	4	5	-	-	80	100
Economies of scale	56	70	16	20	-	-	8	10	-	-	80	100
Substitutes	40	50	36	40	-	-	4	5	-	-	80	100
Relative cost	52	65	16	20	8	10	4	5	-	-	80	100

Exchange rate	60	75	16	20	-	-	4	5	-	-	80	100
Price discrimination	52	65	24	30	4	5	-	-	-	-	80	100
Objective of firm	36	40	40	50	4	10	-	-	-	-	80	100

Source primary data 2023

Based on the data presented in tables 4 and 7, it is evident that a significant number of respondents, 76% in total (with 40% agreeing and 36% strongly agreeing), recognized that the level of competition is a factor that influences the profitability of National Foods company. Only a small percentage (5%) was uncertain. Hence, it can be concluded that the level of competition is an important factor that affects the company's profitability.

The statement that National Foods' profitability is influenced by the degree of demand for its goods and services was strongly agreed upon by 52 (65); 24 (30%) respondents. Additionally, this demonstrates how the profitability of the business is impacted by market demand changes.

In addition, 60 (75%) strongly agreed with the claim that a company's advertising spend had an impact on its profitability, 16 (20%) agreed, and 5% disagreed. This shows that a business's dedication to advertising does have an impact on its profitability.

56 out of 80 respondents (70%) strongly agreed that the level of economics of scale of a company affects its profitability, while 16 (20%) were uncertain and 8 (10%) disagreed. Thus, it can be concluded that the scale of economics has an impact on an organization's profitability.

In addition, out of the 80 participants, 40 (50%) strongly agreed and 36 (40%) agreed that substitutes affect the overall profitability of a company, while only 8 (10%) disagreed. Therefore, it can be inferred that the presence of substitutes has a significant impact on a company's profitability.

52 people (65%) in the sample strongly agreed that the relative cost of operations has an impact on the business's overall profitability. 16 (or 20%), 8 (or 10%), and 4 (or 5%) disagreed. This demonstrates how a company's profitability can be impacted by its relative operating costs.

Out of the sample size, 52 individuals (or 65%) strongly believed that implementing price discrimination affects the company's overall profitability, while 24 people or 30% held a neutral stance. The remaining 4 individual 5% disagreed. This highlights how a company profitability can be influenced by price discrimination in comparison to revenue.

Finally, 36 (40%) strongly agreed, 40 (50%) agreed, and 5% disagreed with the assumption regarding firm's objective. Therefore, it may be said that a company that is not motivated by profit will not pursue earning a profit, but a company that is motivated by profit is more likely to make profits while leaving other factors constant.

The profitability of an organization is determined by various factors, including but not limited to, competitive forces, demand, advertising, economies of scale, production, and exchange rates.

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter comprises an analysis of the findings, a recapitulation, a conclusion, and suggestions that align with the study's objectives, as well as proposals for further research.

5.1 Discussion of findings

Relationship between Material Handling and profitability of the Organization

Table 4.5 demonstrates that there are numerous ways in which material handling is connected to an organization's profitability.

The department of stores and material handling, which is employed as a cost center, can reduce handling costs and operating cycles so that they are not heavily burdening the company's finances. According to the 40% strongly agreed and 50% agreed responses, respectively, this services to check on the whole running cost of the business. Additionally, it claims that eliminating inefficient handling of materials, which is strongly linked to manual handling, coupled with delays in the operating cycle and a reduction in worker idle time, will increase operating efficiency in the organization. 60 and 30 percent of the respondents highly concur and concur that material handling has the potential to lower overall handling costs. Material handling avoids manufacturing dangers such accidents and damages to the goods and other assets of the company, maintaining the quality of the materials, as demonstrated by 75% and 20% of the sample highly agree and agreed, respectively. For instance, effective material handling reduces a significant amount of

accidents and damages if the business is dealing or managing large material or products like machinery or fragile heavy objects like electronics. This is in line with findings from Ondiek (2009), who highlighted the importance of materials handling in cutting down on handling expenses and wasteful handling materials. The study also demonstrates that material management enables the best use of available space in order for material handling devices like cranes and others to be able to pack materials into the warehouse from floor to ceiling.

As a result, 40% and 50% of respondents, respectively, strongly agreed and agreed that material management facilitates the best use of space. Better customer service is made possible through material handling, allowing requests from customers to be processed swiftly. The deployments are efficiently planned with little in the way of delays or damage. Additionally, facilitating greater product quality and timely production is material handling. Improved product quality and decreased production time are achieved through a reduction in the production or process cycle. Material handling facilitates customer service and higher-quality products, according to Zanto's (2008) results. According to the data, 65% of respondents highly agreed and 30% agreed that using an automated machine would speed up and ensure the safety of the material issue, which would shorten the time it took to process orders. When big materials need to be issued and a lot of work is needed to handle them, it is crucial. A crane machine, on the other hand, can quickly and safely release large goods in a relatively short period of time when operated by one or two people.

5.1.2 Types of material handling system

Tables 4 and 6 reveal that National Foods utilizes various material handling systems, such as engineering systems. These types of systems are usually implemented for occasional material handling and when there is a frequent need to move materials along a fixed route between two points. Engineering systems are also utilized when the volume of flow is high enough to justify investing in fixed conveyors. When there is insufficient flow volume and there are loads that must be transported in a constrained space yet a conveyer cannot be employed, cranes and tail handlers are also used. This is in line with the findings of Jacobs et al. (2009), who also pointed out that because the loads handled might vary more in terms

of their shape and weight, cranes and tail handlers offer greater mobility flexibility than conveyors. 25% of respondents strongly agreed that the companies should utilize designed systems as one of their material handling systems, and 75% agreed.

90% and 10% of respondents, who strongly agreed and agreed, respectively, that industrial vehicles are employed to move heavy objects, especially in businesses that hold heavy freight, classified them as such. Industrial vehicles can travel more freely than engineered systems since there are no limitations on the areas they can cover, and if the truck has lifting capabilities, they can even move vertically. The findings of Ademeyi (2010), who also emphasize that industrial vehicles are designed for diverse duties like manual lifting travel capacities, etc., are compatible with this. The research also reveals that National Foods Company used racks and unit load information equipment to manage its materials. This is in line with Ademeyi's (2010) observation that businesses use a variety of material handling technologies, including industrial trucks and designed systems.

This indicates that position of equipment is used to handle materials at a single location and can be used at a workplace to feed, orient, load/unload manipulate materials so they are in the correct position for subsequent handling, machining, transport, or storage. Position of equipment were identified by 95% strongly agreed and 5% agreed, respectively. These results support Lee et al.'s (2007) assertion that positioning equipment is crucial for reducing wear and tear on humans as well as accidents or injuries at work and in retail settings.

In the survey, 75% strongly agreed and 25% agreed that the equipment utilized in forming unit loads is an essential part of the material system. Respondents noted that unit load formation equipment plays a critical role in securing materials during storage and transportation to maintain their integrity as a single load. If the material is self-restraining, it can be melded into a unit load without the use of machinery. These findings are consistent with Homby's (2005) examples of unit load formation equipment, which includes pallets, skids, slide sheets, tote pans, bins, baskets, cartons, bags, and crates.

As a last point, 100% of the respondents list storage equipment within the material handling equipment. It was demonstrated that storage tools, like A-frames among others, are used to keep or buffer content for longer periods of time. This was in line with Guinea (2012), who

also highlighted the potential use of an automated storage/ retrieval system (AS/RS), which is an integrated computer controlled storage system that combines storage medium, transport mechanisms, and controls with varying levels of automation for quick and accurate random storage of goods and materials.

5.1.3 Factors affecting the profitability of National foods company

Table 4, 7 indicates that the level of competition in the industry has an impact on the organization's profitability. Firms with a monopoly have less competition, resulting in more inelastic demand for their products and better profitability, according to 40% and 50% of the respondents, respectively. However, this only applies to industries where entry is restricted, as Lee et al. (2007) pointed out, since in industries with open entry, a firm's earnings will draw in additional players.

Other trends include demand patterns, with 65% strongly agreeing and 30% agreeing that extremely elastic demand results in low profitability whereas highly inelastic demand ensures the company's profitability.

Additionally, they noticed that 75% and 20% of respondents strongly agreed and agreed, respectively, that the company's production costs were high relative to the level of advertising that raises customer awareness of its products. Respondents' data demonstrates that a fruitful advertising effort can boost demand and make the product's demand more inflexible. This is in line with the findings of Adeloye (2008), who also demonstrates that the higher revenue will have to offset the expense of the advertising.

Finally, these results are consistent with those of Marta (2008), who identified the major factors affecting an organization's profitability as being, among others, the amount of competition, the level of demand, economies of scale, advertising, and the relative operational overhead. The study also demonstrates how important scale economies, levels of management and production efficiency, the firm's goal, and the efficiency of its exchange rate are in determining an organization's profitability. It must be using economies of scale, have an extremely effective operational management division, and have a profit motivation as its primary goal.

5.2 summary

Material handling makes it possible to operate more quickly and for less money. Additionally, it lowers labour idle time, gets rid of factory risks, and preserves material quality by eliminating inefficient material handling. This supports Ondick's (2009) findings, which highlighted the importance of material handling in lowering material handling costs and inefficient handling of materials. The study also showed that material handling enables optimal space utilization, it improves customer service, it improves product quality, and it expedites production. This concurs with Zanto's (2008) results, which found that material handling facilitates customer service and higher-quality goods.

Table 4.6's findings show that National Foods Company employs a variety of material handling techniques, including engineered systems, which are frequently used for intermittent material handling. In particular businesses that store big freight, it recognized industrial trucks as being used to deliver huge things. The discovery also demonstrates that the business uses storage tools like rackets and unit load formation devices to manage its materials. This is in line with the results of Ademeyi (2010), who notes that the company uses a variety of material handling systems, including industrial trucks, designed systems, positioning devices, unit load formation devices, and storage apparatus.

According to Table 4.7, the degree of industry competition has an impact on the organization's profitability. Other factors include changes in client demand, currency exchange rates, advertising that makes customers aware of the company's products, and operating expenses the company incurs for things like production, sales, administration, and other overheads. The study also demonstrates how important scale economies, level of production, and managerial effectiveness are to an organization's profitability. These findings are in line with those of Okpara (2008) and Ademeyi et al. (2010), who both stressed the need for an organization to operate using the economics of scale, have an extremely effective operational management department, and have a clear goal in mind as profit motivated.

5.3 summary

As a result of the findings, the researcher draws the following conclusions: Material handling contributes to an organization's profitability by facilitating a shorter operating cycle, lowering material handling costs, eliminating wasteful handling of materials, decreasing labor idle time, removing factory hazards, maintaining material quality, and enabling optimal use of resources. Therefore, a corporation must make conscious efforts to enhance and standardize its material handling system through the mechanization of this department if it wants to maintain its profitability.

The researcher comes to the additional conclusion that a business can use a variety of material handling systems offered by the sector. These include, among others, storage equipment, industrial trucks, positioning equipment, and designed systems. Depending on the organization's financial commitment to the mechanization of the material handling function, these may be utilized.

Finally, the study finds that a variety of factors influence the National Foods Company's profitability. Among these are the intensity of competition, the amount of product demand for the company, the economics of scale, the intensity of advertising, and the relative cost of operation.

5.4 Recommendations

In order to increase operational efficiency, the researcher advises organizations to invest in material handling equipment such as designed systems, industrial trucks, and others. Profitability will result from this.

The study suggests that organizations should prioritize the material handling function as it is a significant cost centre.

Additionally, the researcher recommends that organizations manage material handling waste and materials efficiently.

To avoid shortages in inventory and work in progress, it is important to maintain optimal levels of material supply. Organizations should consider the cost of production or raw

material prices before determining selling prices. Proper recording systems for materials should be established to ensure effective operation and production.

Reducing spoilage and waste and ensuring that products meet quality standards are crucial. Additionally, providing staff with training in material management can enhance job knowledge and performance.

To track the movement of materials in the shop, organizations should computerize their material management system in accordance with the changes occurring globally.

5.5 Areas for further studies

It is recommended to conduct additional investigations in fields that have a direct correlation with an organization's profitability and material handling. This research examined the impact of material handling on an organization's profitability.

-Material handling efficiency training and growth.

-The impact of material handling on how well an organization provides customer service.

Reference

- Acheson, C .(1999), Industrial Purchasing and supply, Enugu: Precision Printers and Publishers.
- Adeyemi, S. L. and Salami, L.O. (2010). Inventory management: A tool of optimizing resources in a manufacturing industry. Journal of Social Science
- Adeniyi,A.(2004). Management Accounting (3rd Edition), Lagos: Shomula publishers.
- Babbie, E. R., (2005). The Basics of Social Research. 6 ed. s.l.:Cengage.
- Barker,T. (1999), Essential of Materials Management, McGraw Hills Book Company, London.
- Carter R.J .Stores Management and Related Operation, (2nd Edition). McDonald Evans Ltd. pp.67-85
- Donald Dobler *International Journal of Innovation Management* 11 (04), 515-537, 2007
- Fadipe N. (1996).Essential Topic in Purchasing and Supply Management Logos: Savan Publications.
- Inyang, E.E, Inyang, F.B and Basil, G.(2013), Corporate Profitability through Effective Management of Materials. European Journal of Business and Management.
- Jacobs, R.F, Chase , R,B and Aquilano, NJ.(2009). Operations and Supply Management, McGraw Hill Boston.
- Joel, D.(1993).Case in Operation Management (3rd Edition), London: Pitman Publishing
- Hair J. F., Bush R. P., and Ortinau D. J. (2003). Marketing Research Within a Changing Information Environment. 2nd Edition. McGraw-Hill Companies.
- Hutchins, D. (1999). Just in time. UK: Gower Publishing, Ltd
- Lee L ,Dobler (1997), Purchasing and Materials.TMH Publishers Inc. Pp, 138.

Lenders, M (1992).Purchasing and Materials and Management (9th Edition), New Delhi: Universal Book Publishers.

Lysons, K., and Farrington, B., (2006). Purchasing and Supply Chain Management, 9th Edition, England

Macdonald, J.

Lysons, K. and Brail, F. (2006) Purchasing and Supply Chain Management, 7th Edition, Prentice Hall.

Lyson,K (1996) Purchasing and Chartered Institute of Purchasing and Supply, London: Pitman Publishing.

Monday,J.U. (2008).Effects of efficient materials management on performance of firms in food% beverage manufacturing industry in Nigeria. MBA Dissertation, Obafemi Awolowo University, Nigeria

Ogbadu E.E (2003), Introduction to Business. Treasures Ltd.Pp57.

Ogbo, A. I. and Ukpere, W. I. (2014) “The Impact of Effective Inventory Control Management on Organisational Performance: A Study of 7up Bottling Company Nile Mile Enugu, Nigeria”, Mediterranean Journal of Social Sciences, 5 (10), p.109

Ondiek,G.O.(2009). Assessment of materials management in Kenya manufacturing firms exploratory survey of manufacturing firms based Nairobi.Journal of Social Science, 22 (8).

Ramakrishna, R.V (2005).Materials Management profit centre. Indian Institute of Materials Management Knowledge Bank.

Shin, S., and Ennis., (2015). A study of relationship between inventory management efficiency and profitability: U.S.A manufacturing industry. Mississippi State University, Meridian

Walliman, N., (1996).Research methods, the basics. New York U.S.A: Routledge

Welter K, Weng-Keen Wong, Haori Yang *Nuclear Engineering and Design* 359, 110479, 2007

Questionnaire introductory letter

Dear Sir/Madam

My name is Tatenda Ruth Doro, and I'm enrolled at Bindura University of Science Education, where I'm working towards a Bachelor of Honors in Purchasing and Supply. I'm conducting a study on "effects of materials handling on organizational profitability. A case study of National foods company.

Answering the questionnaire is not mandatory, and any information gathered will only be used for research and kept anonymous. The confidentiality of the data will also be upheld. If the questionnaire pertains to your field of work, kindly complete it, and reach out to tatendaruth28@gmail.com for any further inquiries. Thank you.

Thank you.

INTERVIEW GUIDE

1. How do you rate the effectiveness of materials handling in your company?
2. What are the materials handling issues being faced by your company?
3. What are the factors contributing to the materials handling issues being faced by the company?
4. What are the effects of poor materials handling on the overall profitability of an organization?
5. Do you think it is necessary to have top management engaging materials handling in the overall company objectives? If yes, please elaborate.
6. What strategies can be used to improve materials handling at your company?

SECTION A

BACK-ROUND INFORMATION OF THE RESPONDENTS

Please fill or tick where appropriately

1. Gender

(a) Male

(b) Female

2. Age bracket (years)

a.) 18-25

b.) 31-45

c.) above 45

3. What is your highest level of education?

a.) Master's Degree

b.) Undergraduates Degree

c.) Diploma

d.) Certificate

f.) others

(specify)

.....
.....

4. What is your employment status / category / department?

Manager

Finance Department

Store Department

5. Duration of employment with the organization;

a) below 2 year

b) 3-4 years

c) 6-10 years

d) above 10 years

SECTION B: Relationship between Material Handling and Profitability of the Organization

Instruction: Please tick the appropriate options

Relationship between materials handling and profitability of an organization	Strongly Agree	Agree	Not sure	Disagree	Strongly disagree
Material Handling facilitates a shorter operating cycle					
Material handling reduces in handling in handling cost					
Material handling eliminates unproductive handling of material					
Material handling reduces idle material capacity					
Material handling eliminates factory hazard					
Material handling maintains quality of material					
Material handling enables optimum usage of space					
Material handling facilities material issue					
Material handling facilities better customer care					
Material handling facilities better quality of products					
Material handling facilities timely production					

SECTION C: Types of material handling system used

Instruction: Please tick the appropriate options

Material handling system	Strongly agree	agree	Not sure	Disagree	Strongly disagreed
Engineered system					
Industrial trucks					
Positional equipment					
Unit load formation equipment					
Storage equipment					

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SECTION D: Factors affecting the profitability of National Foods company

Instruction: Please tick the appropriate options

Factors affecting the profitability	Strongly disagree	agree	Not sure	disagree	Strongly disagree
Level of competition					
Demand trends					
Advertising					
Economies of scales					
Substitutes					
Relative cost					
Exchange rate					

Thank you for your participation

Effects of materials handling on organizational profitability

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