A STUDY OF THE IMPACT OF LOGISTIC INBOUND AND OUTBOUND OPERATIONS IN ORGANIZATIONAL PERFORMANCE AT DANGOTE CEMENT INDUSTRIES

MASTER THESIS SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE MSc. INTERNATIONAL BUSINESS

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ABSTRACT

This study examined the impact of logistic inbound and outbound operations on organizational performance at Dangote Cement industry. A total of 96 respondents were used for the study, ranging from senior, junior to management staff. Descriptive Statistics, Ordinary Least Square and Pearson Moment correlation techniques were employed. Findings revealed that logistic inbound and outbound operations positively and significantly affect organizational performance with (β = 0.308, $\rho < 0.01$ and β = 0.281, $\rho < 0.01$) respectively. Also, positive and significant relationship exists between logistic inbound operations and organizational performance ($r = 0.403^{**}$, $\rho < 0.01$) and also between logistic outbound operations and organizational performance ($r = 0.409^{**}$, $\rho <$ 0.01). The study recommended that companies should encourage modern logistics operation techniques in terms of transportation, inventory and warehousing and also adopt up to date inventory management system so as to avoid issues relating to overstocking and stock out during production.

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DEDICATION

To Teniola Olivia Adesegun, for the bliss and light that she has brought.

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CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

The importance of global supply chain has influenced the main role of logistics service in both size and boundaries of the manufacturing industry over the last few years (Khan & Rattanawiboonsom, 2019; Kumar Shankar & Yadav., 2011). Logistic services include management logistics, management plans for delivery, stocking of goods and services in terms of warehousing, value conformance, transport, and the importation and exportation compliance. Furthermore, it gives avenue for the receiving of orders from customers and making invoices once the product have been purchased. Consequently, high-quality logistics services provide additional benefits that result in the product being available, which keeps the manufacturer ahead of its competitors. The fundamental aim of the research unit of an organization is to adapt the logistics management model carried out by different factors. It is important that to prevent the waste of material resources, time and energy; successful logistics supervision and management need not to involve the company size operate but need to ascertain the adoption of cost-effective and relevant processes. It is relevant that organizations focus on the management of logistics in those areas that will affect positively both inbound and outbound activities (Azeem, 2018; Hadrawi, 2019; Li & Warfield, 2011; Li, 2011).

Logistics relates to the overall management of the collection, storage and transportation of resources to its end destination. Logistics management includes the identification and determination of productivity and accessibility of potential wholesalers and suppliers. Typically, in any organization, the activities are inbound and outbound. Logistics management functions at varying degrees include customer service, production planning and scheduling, packaging, sourcing and procurement, and assembly. The use of logistics becomes very important in an organization as most manufacturing sector has different locations in which transportation of goods needs to be moved from the production center to areas where they are needed. Companies should understand the strategic value of logistics in order to compete effectively, adapt to new technologies and adopt relevant creative approaches. Best practices of strategic logistics companies can boost operating performance, guarantee customer loyalty and increase productivity (Hye, Miraz, Sharif & Hassan, 2020).

The emergence of technology and the advent of globalization has created a plethora of challenges and opportunities in business that need to be employed and mastered by the manufacturing sector. Effective logistics in the industry provides the avenue to generate a sustainable better benefit in the provision of goods and services (Tracey, Lim, & Vonderembse, 2005). The idea of logistic inbound and outbound management is to assess the planning, execution and control of the transportation of materials and finished products from manufacturing centers to final consumers. The interconnected activities always begin with an order by the customer and this is only completed when the goods get to the hand of the customers that demanded for them. However, in order to ensure that goods are delivered to the end-users, there a need for a network from the various parties that include those that bought in small quantities, dealers, suppliers, producers, and the suppliers of rough product (Waskita, 2007). It is therefore important that industries must strive to ensure that manufacturers provide the right things in the right places in order to post maximum profits.

Today, one of the companies that deal with logistic inbound and outbound practices is the cement industry. This is because there is an increasing demand for cement from the government, firms and private individuals. The means through which products get to the end users are very important after the productions hence there is need for logistics to be in place for smooth distribution of the finished product to areas where they are needed. Cement is described as a hydraulic binder, which is hardened by the application of water. It can be described theoretically as a material of adhesivity and coherence which allows mineral fragments to be bonded to a complete compact complex. It's practically a need that has no near alternatives. In Nigeria, cement is used for the construction of roads, bridges, drainages, rehabilitation works, and building of highways as well as public buildings. As a result, it is an essential commodity that forms part of the daily life of an average Nigerian citizen. The Nigerian cement industry is among the early import-substitution industries in the world. The history of cement production in Nigeria started in the year 1957. Originally three cement plants were commissioned by the Olfnretsew, Southern, and Midwestern regional governments. Other firms such as Ashaka Cement, Benue Cement Company (BCC), West African Portland Cement Company (WAPCO), and Northern Nigerian Cement Company (CCNN) were subsequently founded. Today, Nigeria is home to numerous cement manufacturing companies with

equipment in different part of the nation in various parts of the country. Among the leading firms in the country include: Dangote cement industry, Reagan cement enterprise, Lafarge cement, Adana White cement, and so on.

In the recent time, the cement company in Nigeria has witnessed tremendous growth. With a population of over 200 million people and a growth rate of about 4 percent per annum, cement production and consumption are projected to rise in the coming years. However, government remains the country's largest cement consumer with an estimated 50 per cent of total consumption. The pace of road and bridge repair, as well as renovation of social infrastructure highlights the consistent patronage of the industry by the government but also expand the demand-supply gap that exists at present. The Nigerian cement industry has the capacity to make many contributions to the broader economy. Also, because of its existence, the industry is labor-intensive and is thus a significant employer of both skilled and unskilled labour. The sector also contributes substantially to the Gross Domestic Product (GDP) of the country and is a source of Foreign Direct Investment. The cement industry plays a major role in the overall economic growth and enhancement of social welfare through the construction, maintenance and reconstruction of major highways, bridges, networks, and public infrastructures. Therefore, it becomes necessary to examine the logistic inbound and outbound practices as it affects organizational performance in the cement industry in Nigeria using the Dangote cement industry which is the biggest in Africa.

1.2 Statement of the problem

With the recent global climate that has make the demand for cement increasing in the world. Much is expected from the manufacturing companies as effective and efficient delivery of their final product need to get to the final consumers. More so, providing these goods at a lower cost becomes so important. Therefore, to adjust with the high rate of demand for cement becomes important and the instability in the market, companies now look beyond their comparative cost advantage. The prompt responds to customers need in the market, the quality of the product as well as the flexibility are now been emphasized upon. Also, transformation is being witnessed by firms through the link between suppliers and customers in a means to ensure that raw materials needed and the final goods move from the place of supply to the customers. This is because, today, success in an organization is not measured by a single transaction, but competition is measured in many instances as a network of cooperation with different firms that are also on supply value chain. This

therefore makes different aspects of logistics in terms of inbound and outbound to be put in place so as to get effective and efficient provisions of goods and services.

In Nigeria, the cement industry plays strong role as regard growth and development of the nation in terms of job creation, contributing to the gross domestic products and helping in the building of different sectors of the economy. Due to the important role of this industry there are increasing numbers of players which has led to highly competitive behaviour in the industry. As a result, different cement industries are devising several means to ensure that they surpass their competitors. One of the strategies put in place is the aspect of logistics which is both inbound and outbound. It is believed that this method is useful in ensuring efficiency in industries.

Despite many views and studies in the literature in the area of the impact inbound and outbound logistics practices on the organizational structures scholars have not considered to determine the combine effect of both the outbound and inbound logistics practices on the performance of an organization in the cement industries. The question that then comes to mind is that what are the main effect of logistics inbound and outbound practices on the performance of firm in the cement industries? This is the question which this study tries to examine so as to guide the manufacturing industries in the country.

1.3 Research Questions

The research questions addressed in this study are as follows:

i. What are the key inbound and outbound logistics practices within Dangote cement industry in Nigeria?
ii. What are the effects of the key inbound and outbound logistics on organizational performance in Dangote cement industry in Nigeria?
iii. Is there any relationship between inbound and outbound logistics on organizational performance in Dangote cement industry in Nigeria?
iv. What are the major challenges facing inbound and outbound logistic practices by the Dangote cement industry in Nigeria?

1.4 Research Objectives

The main objective of this study is to examine the impact of inbound and outbound operations on organizational performance at Dangote cement industry in Nigeria. The specific objectives are:

i. To identify the key inbound and outbound logistics practices at Dangote cement industry in Nigeria.
ii. To interrogate the impact of the key inbound and outbound logistics practices on organizational performance at Dangote cement industry in Nigeria.
iii. To examine whether there is a significant relationship between inbound and outbound practices and organizational performance at Dangote cement industry in Nigeria.
iv. To identify the major challenges facing inbound and outbound practices at Dangote cement industry in Nigeria.

1.5 Research Hypothesis

The following hypothesis are formulated and tested for this study

H_{01}: Inbound logistic practices have no significance effect on organizational performance.

H_{02}: Outbound logistic practices have no significance effect on organizational performance.

H_{03}: Inbound logistic practices has no significant relationship with organizational performance.

H_{04}: Outbound logistic practices have no significant relationship with organizational performance.

1.6 Justification of the Study

Most extant studies on this aspect, both in the developed and developing countries have looked on either the effect of inbound practices on the performance of the organizational (Khan & Rottanawiboonsom, 2019) or effect of outbound logistics practices on organizational performance (Ahmed, 2017; Shobha & Subranabya, 2016). None of the studies have been able to determine the effect of both inbound and outbound logistic practices on organizational performance a gap which this research intends to fill so as to guide the policy makers in the manufacturing sector on how to formulate their policy to ensure free flow of movement of goods from the where they are been produced to the destination so as to improve the quality and efficiency of the companies. Also, most studies in this area have, in most cases neglected the cement industries which are one of the important industries that deal with incoming and outgoing of goods and services. This study so justifies its focuses on the Cement Industry in Nigeria which is also considered as the biggest Cement Industry in Africa.

This study will also add to the existing literature in the area of logistic practices both in terms of inbound and outbound for the management of the cement industries by focusing on the development of the practice in a developing country like Nigeria where the biggest cement industry is located.

The cement companies in Nigeria, especially, Dangote cement industry will benefit from the study because the documentation of how the practice of logistic inbound and outbound practices is carried out in the companies, the critique of the practice and the documentation of the challenges will give impetus to the companies to devise better ways of practicing the same. The recommendations given will guide them in strengthening the practice in such organizations.

1.7 Scope of the study

The study focused on Dangote cement industry in Nigeria. Dangote cement industry is selected because it is the largest cement industry in Nigeria and West Africa as a whole. Also, the company has many plants and distributors and a major employer of labors in Nigeria.

1.8 Organization of the study

This study is organized in six chapters. The first chapter focused on the study background. The second contained the literature review on the subject matter in terms of the conceptual, theoretical literature and empirical findings. Chapter three focused on the methodology employed for the research. The fourth chapter deals with the data presentation and analysis. Chapter five contained the discussion of findings while chapter six deals with summary, conclusions, recommendations, limitation of the study, contribution to knowledge as well as suggestion for further studies.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

The focus of this chapter is on the review of literature in the area of logistic inbound, outbound operations and organizational performance. The review begins with conceptual issues, followed by theoretical literature, as well as empirical literature on studies carried out in the developed countries, Africa in general and Nigeria specifically. It also reviews aspects of literature that are considered relevant to the measurement of inbound and outbound operations and organizational performance that are relevant to the study as well as bringing out the literature gap which other studies ignored in the area of logistic operations.

2.2 Conceptual Issues

This section of the research work concentrated on the definition of logistic operations, in terms of inbound and outbound operations, and organizational performance. The concepts are necessary so as to guide the study.

2.2.1 Concept of Logistic Operations

In simple terms, logistics includes transferring material, information and funds from one business organization to another or from one business organization to the customer. This was described by Frankel et al (2015) as the preparation and coordination of material movement and other details of any major activity, including business or a political campaign. Closs and Savitskie (2013) see it as the art and science of management, engineering and technical activities related to specifications, design, implementation and maintenance of resources to support objectives, plans and operations. The Council of Logistics Management (1988), defined logistics as the method of preparing, enforcing and managing procedures for the effective and reliable transport and keeping of goods and services that include facilities and materials that are related. The concept consists of inbound, outbound, internal and outbound movements and material returns for environmental purposes. In general, logistics is the comprehensive planning and execution of a difficult operation. In a overall business setting, logistics means the control of the movement of products between the point of production and the point of consumption to satisfy consumers or corporations' requirements. The logistics-managed resources may include physical items such as shelter and other logistics instrument. Physical item typically includes the integration of knowledge management, material

processing, manufacture, packaging, distribution, transport. Logistics operations are basically a method of transportation that involves transporting goods from one location to another. Logistics includes a lot of things like packaging, supplies, transport, inventory, and sometimes, protection. Often involves unpacking and unloading shipping products

2.2.2 Concept of Inbound and Outbound Logistic

Inbound logistics includes all activities for the production, distribution, and retail operations that secure supply. The associated flow of information and materials involves various strategic and operational decisions which will influence costs of transport, handling and inventory. It involves all those activities that are required at the time of your requirement to make the products available for operational processes. It includes handling, transportation, stock control and inspection of materials and so on to facilitate production or market distribution.

Figure 1. Movement of the inbound logistic

Figure 1 shows that inbound logistic flows from the sourcing of the materials to order placement. Vendor supplier, transportation, receiving and sourcing. The flow moves in cycle to show how production can be facilitated. The flow shows how operations, which are important in order to make the products available for operational processes when needed.

On the other hand, outbound logistics deals with customer service and the channel of distribution. It refers to the movement of finished goods from the place of manufactured to the consumers.

Outbound logistics concentrates itself on the transportation of finished goods or product from the company to the final consumer. It covers all those activities that includes. Selecting, organizing, transporting, and so on which are involved in the outflow of merchandise from seller to the buyer. In the case of a tangible item, outbound logistics could be warehousing, material processing, inspection and transportation, etc., but for intangible items, such as services, it is synonymous with setting up to deliver customers to the service place.

Figure 2 below shows atypical outbound logistic flow.

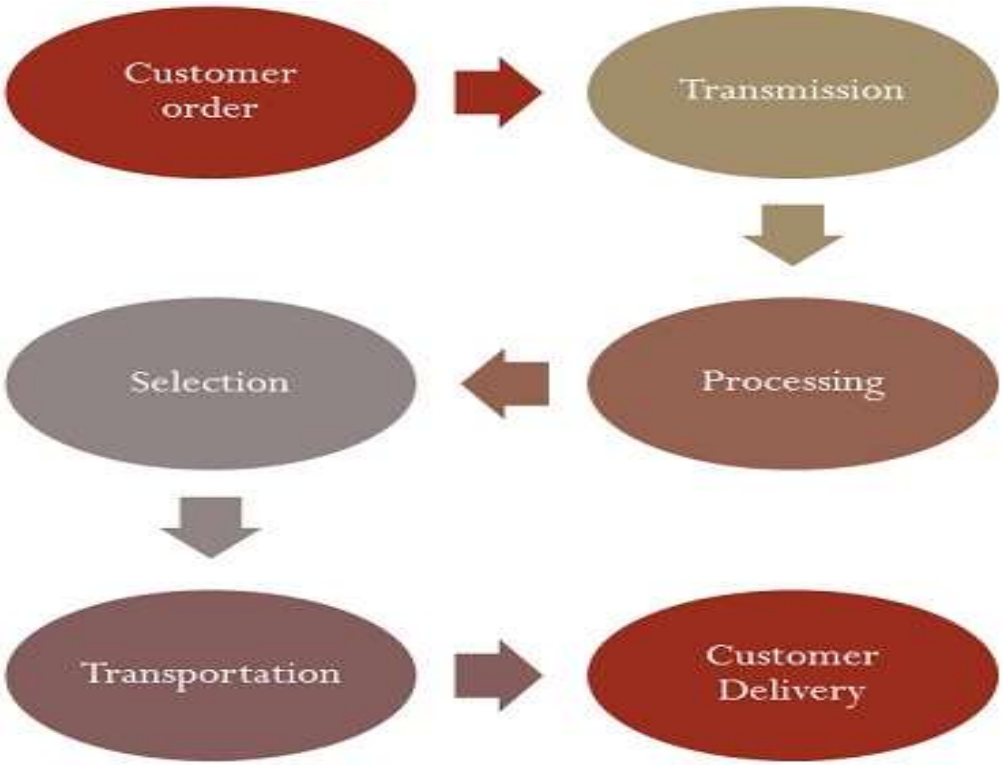


Fig. 2. Flow of outbound logistic

2.2.3 Concept of Organizational Performance

The concept of organizational performance in the literature depending on the aspect to which individuals sees it. Organizational success includes an organization's actual production or results as calculated against its expected output (or objectives and targets). Researchers in the field of organizational success includes strategic planning, logistics, accounting, lawful growth and development of organization. Khalil, Khalil and Khan (2019) described organizational performance to be a phenomenon of how well enterprises obtain their desired goals.

Organizational performance is a result produced by a company where the results can increase the value of the company itself. Every organization has objectives to be achieved determined by the standards that must be achieved. Griffin (2010) defined it as the extent to which an organization is able to meet the needs of its stakeholders and its own needs for survival Swanson (2000) described it as the valued productive output of a system in the form of goods or services.

In the literature, there are three categories Organizational performance can be subdivided into. They are financial performance which is basically in terms of profit, internal non-financial performance aspect that focuses on productivity of the organization and the external non-financial performance categories that deals with the customer satisfaction. Johnson, Wood, Wardlow and Murphy (2006) opined that organizational performance of an organization can be judged through some indicators that is the balanced scorecard that offer both qualitative and quantitative measures and acknowledge the expectations of different stakeholders. According to Kaplan and Norton (1996) Bartlett and Ghoshal, (2005) the balanced scorecard is a set of measures that provide managers a fast but comprehensive view of the business. The second is the related assessment of performance in choice of strategy. Both indicators make it possible for performance to be linked both in terms of short-term outputs and also in process management in the organization.

2.2.4 Logistic Inbound Practices

Harrington (2008), emphasis on logistics inbound practices and logistics outbound planning offers companies a chance to make significant savings and improves organizational efficiency. Three important inbound logistics activities may be defined even though there is no common concept of inbound logistics. Baker et al (2008) classified them into transportation process, warehousing and inventory control.

Transportation

Movement of goods from the manufacturer to customer is a crucial task in addressing logistic (Lambert, 2005). The balance between these factors leads to the productivity of organizations (Bowersox 2010). With regard to Foreign Trade Services (2003), transport activities include that can consolidate shipments. Inventory consolidation aims at achieving self-denials of scale with fewer transport costs per unit. Consolidation does not, however, occur at the cost of scheduled transportation, reliability and timely delivery (Ulku 2009).

Customs enforcement procedures at the entry points of a country will raise transactional costs. Efficiency of clearance determines the speed and predictability of delivery of inventories. Proper

documentation allows for quicker customs clearance and reduce its effect on global lead times in sourcing (Zamora-Torres, 2013). Electronic channels allow information to be sent directly to government departments, cutting on clerical efforts (Hanouz, Geiger and Doherty, 2014). According to Helo (2011), businesses are monitoring and monitoring shipments by gathering and handling product position information around the SC, helping to identify and reduce exemptions to eliminate delays and interruptions. Dukare, Patil and Rane (2015) say real-time monitoring offers traceability and visibility of cargo delivery.

Transport intermediaries in freight forwarding increase operating efficiency and boost service rates through their expertise and skills in the industry. Most freight forwarders provide related services such as warehousing, unloaded shipping, express parcel services and multimodal transportation arrangements (Asian Development Bank 2012).

Inventory Control

Inventory management, according to Jay and Barry (2006), ensures adequate inventory to satisfy increasing demand in a firm defending against disruption from stock outs. This reduces over-inventory, ensures sufficient efficiency, and increases customer satisfaction through availability of goods (Cheung and Lee, 2002). Customer orders are met in a sensitive and versatile way according to Kwon and Suh, (2004). It is achieved by inventory management activities such as; inventory level monitoring, cost control, lead times and accuracy (Axsater, 2006). Inventory rates are a crucial feature of businesses trying to balance supply and demand in order to prevent over-stocking. Automated production of new supply orders controls the inventory levels of the companies (Jacobs, 2010). Inventory may also be regulated by setting intervals of time or quantity levels to reduce the loss of storage (Jacobs, 2013). Keeping inventory is expensive, and the rates must be at optimal levels for businesses to be profitable (Adeyemi 2010).

Berman et al (2006) described inventory costs as a significant component of overall supply chain management costs. Industries regulate the flow of inventories and the keeping of supply chain (SC) production costs. Inventory expense is borne in many ways; it involves taxes, insurance costs, obsolescence and expense of storage in the form of rent or lease as an asset on the balance sheets. Companies must balance money kept aware of inventory and the resources required for daily operations (Goldsby et al., 2005). Reducing lead times for replenishment is critical when managing inventory. Organizations keep more safety stocks when volatility of demand and volatile lead times are present. This raises their cost of holding stocks and lowers customer satisfaction, while

shortening cooperation in the lead time and timely exchange of knowledge is of significance to SC partners (Chopra, 2004).

Companies achieve the accuracy of inventories by matching physical counts with inventory records in terms of quantity and location as per system inventory data. Cycle counting ensures timely detection, correction of inconsistencies and optimal stock rates are maintained. Periodic checks and object monitoring also eradicate product mistakes (Jacobs, 2013).

Warehousing

According to Ramaa (2012), organisations, through warehousing, link material flows from suppliers and buyers. They are pursuing efficiency in warehouses to improve customer service. Warehousing activities are used to determine order fulfilment and inventory management. Warehouse activities usually include: collecting, testing, putting away (transfer), and selecting orders. Receipt of goods starts shortly after delivery to the warehouse. Activities at this point include unloading, testing for correct quantity and updating proper records of quality and inspection as per the latest distribution (Koster et al., 2006). Incoming items may be processed for delivery directly to outbound vehicles commonly known as cross-docking. This method saves money for organizations by removing practices to put products in the warehouse as stock (Stephan and Boysen, 2011). After the goods have been purchased, they are moved to their respective warehouse storage position, this process is known as put away ready for order picking or transfer (Frazelle, 2001). Choosing orders involves bunching and arranging customer orders, choosing products from storage locations and then releasing the same for order fulfilment. This is driven by an object or stock-keeping unit (SKU)'s uniqueness or features (Koster et al., 2006). It can be handled as entire pallets, cartons, or divided into groups. Picking may be performed in variants of either the article or the order. When selecting by article, numerous purchaser orders are simultaneously selected while selecting a purchaser's order by order is treated at any time (Koster et al., 2006).

2.3 Theoretical Literature

In the literature on supply chain management there have been several theories used by different researchers depending on whether the country been used are developed, developing or emerging economies and based on the type of companies examined. Some of these theories are discussed below.

2.3.1 Value Chain Theory

This study relies on the *Value Chain* theoretical frame proposed by Michael Porter in 1985, which was first utilized in his book – "Competitive Advantage: Creating and Sustaining Superior Performance". The value chain theory according to Nweke (2017), explained the activities and operations of business ventures which are tied to its survival in the competitive business arena. These activities are bifurcated into primary and secondary activities. The primary activities according to Lysons and Farrington (2006) are subsumed into the following, marketing and sales, inbound logistics, and outbound logistics, amongst others. The secondary activities include the structural systems of the organization, which involves; technological input, human resource management, information system amongst others (Lysons and Farrington, 2006).

As a core mandate of the business organization, the value chain theory tends to explain profit making activities and various systems involves in achieving its core purpose. Also, the theory possesses the capacity in its explanation of identifying and categorizing different operations in the supply chain structure and how to optimum organisations financial performance by mean of establishing value relevance to goods and services in the transitional process from suppliers to customers (Nweke, 2017).

2.3.2 Transaction Cost Theory

Early studies of transaction cost theory, as described in the work of Coase (1971) and others, paid little attention to the internal functioning of the organization (Pitelis and Wahl 1998, as cited in Foss, 1999). Williamson (1995, 1981) further expanded the theory of transaction costs by highlighting the role of transaction costs in promoting vertical and organizational trust. Such elements of the transaction cost theory are evidence supporting the role of supply chain management within organizations. This theory is relevant to the Supply Chain Management Study as it explains how the industry can reduce the transaction costs associated with the distribution of products and the procurement of materials. Firms with lower transaction costs are therefore in a position to perform better in terms of supply chain management.

2.3.3 Resource Based View

Wernerfelt (1984) sees resource-based theory in an organization as resource packages that can be regulated and handled in a way that makes the businesses competitive. It is also true for businesses managed to have improved net profit and increased profits at the same expense relative to other

players in the industry. The theory holds that resources vary across firms, and resource rates disparities that continue over time allow firms to retain competitive advantage (Penrose, 1959, Wernerfelt 1984, Barney 1991; Chae, Olso and Sheu, 2014). Under the theory, various technical and organizational strategies may be viewed as tools to achieve sustainable competitive advantage. Organizational expertise, administrative skills, backend management, equipment, and manufacturing facilities, for example, are regarded as supplier tools (Dong et al. 2009). Also, various activities and practices related to the SCM (e.g., supply management practices, environmental management practices) are considered valuable tools for enhancing organizational efficiency (Narasimhan and Schoenherr 2012, Blome et al. 2013).

The theory suggests that businesses can access different resources that can provide them with competitive advantage, and that some of these resources cannot be traded in factor markets and are difficult to construct or imitate (Barney & Clark 2007). The theory emphasizes the capital of the company as their main determinant of its success and competitiveness in excellence (Cool, Almeida Costa and Derrick, 2002). Organizations should use their leverage to improve productivity by reducing operating bills and increasing the desire of consumers to pay for the goods and services of the company. If an company passes productivity to its clients, it gains a competitive advantage relative to those in the same industry (Van Fleet and Cory, 2002) By inbound logistics companies, it may obtain physical, human expertise, knowledge and strategic capital and combine them in order to build special and firm specific capacities in the way they deliver goods to customers (Karia and Wong, 2009).

2.3.4 The Theory of Collaborative Paradigm

The Resource-based view of the company describes competitive organizational advantage as the possession of specific resources and capacity. Nowadays, through outsourcing of non-core components and skills, two or more organizations' resources are combined by interaction allowing more efficient resource management firms (Haakansson and Snehota 1995; Halldorsson, Kotzab et al. 2007). As a result, the organization's 'collaborative paradigm'/relational view (RV) (Dyer and Singh 1998; Duschek 2004) has made it difficult to rely exclusively on the resource view by arguing that 'important resources are not limited to a single entity, but can span firm boundaries and be embedded in inter-business routines and processes, that is, the supply chain' (Golek 2004). Recently, as sustainability has changed from the level of the enterprise to the level of the supply chain, this has become one of the essential resources that cannot be provided by the efforts of

individual enterprises alone. Collaborative relationships between firms help businesses build sustainability tools and expertise that would otherwise be difficult to obtain, for example. Knowledge related to sustainability through inter-organizational learning, joint environmental solutions like product and process design, and so forth.

2.3.5 The Manufacturing Strategy Theory

The manufacturing strategy theory have been seen to be important in the area of SCM studies from different researchers (Swamidass & Newell, 1987; Simangunsong et al, 2011). The theory incorporates the contingency theory-based model that conceptualizes the relationship between a changing environment, managerial decision making and performance of an organization. Similarly, corporate performance is related positively to the manufacturing manager's role in strategic decision making. Alignment with the characteristics of the market climate, strategic goals and the SC structure boost firm efficiency (Simangunsong et al, 2011). Decision-making in the production plan illustrates how an organization plans to perform on the market by making internal choices consistent with its competitive cost, efficiency, flexibility, reliability and delivery speed goals to achieve global success.

A lot of contingency theory postulates that if the world is complex, then differentiating the organization and using more sophisticated integrative tools are useful (Swamidass & Newell, 1987). According to Simangunsong et al, (2011) surviving in today's highly competitive and rapidly evolving world also requires companies to build strategies that provide the right sort of versatility to succeed in their unique environments.

2.4 Empirical Review

Over the last decade the concept of logistic inbound and outbound practices has expanded and has become a key subject on organizational performance.

Vasquez and Corrales (2016) examined the key determinants of production in the 7 top cement industry in Mrxico with Cemex toping the group. The authors employed both augmented productions along with error correction model, they concluded that cement production exchange rate is positively related to export and negatively with external competition and overall economic activities showed a strong effect on production.

The impact of Supply Chain Collaboration on performance in car industry has been examined by Jamal (2019) in his own contribution. He conducted an empirical inquiry between the automotive

supply chain departments in Pakistan. Data from 232 supply chain members including suppliers, manufacturers and retailers have been collected; Data analyzes were carried out using Factor Analysis and multiple SPSS regressions. The study reveals that the sharing of information, joint decision making and electronic data interchange have no significant consequences for functions, while the two supply chain management approaches.

Gyula (2015) investigated the impact of supply chain performance on the overall organizational performance. The research made use of Romanian dataset of firms to estimate the impact of different areas of performance in the context of a supply chain on the overall organizational performance. Analysis follows a balanced scorecards approach, identifying four areas of performances in the context of supply chains. Logistics costs and revenues measure the performance in a supply chain from a financial perspective. The paper chooses customers' satisfaction, delivery dependability, speed and flexibility as the major coordinates of the marketing performance in the context of a supply chain. Operational performance in the context of a supply chain performance area defined by a balanced scorecard. Results show that financial, marketing and innovation do have a positive and statistically significant impact on the overall organizational performance. While all the estimated coefficients have the expected sign, not all the performance areas and metrics employed in the analysis are statistically significant.

Khalil, Khalil and khan (2019) investigated the relationship between supply chain management practices and organizational performance of 207 small and medium enterprises in Pakistan. PLS-SEM estimation techniques was used to analyze the set hypothesis. They concluded that strategic partnership with supplier and the level of information sharing had no influence on organizational performances while quality of information sharing, internal supply chain process and lean practice had significant influences on organizational performance. However, all the fine supply chain management practices impacted positively and significant on innovation.

Hashim, Baig, Amjad, Nazam and Akraim (2020) assessed the impact of SCM practices on organization performance through moderator role of innovative culture using Pakistan textile industry. A total of 236 respondent were used for the study with smart – PLS estimation techniques used in estimating the respond from the respondents on the administered questioners. They concluded that SCM practices have significant impact on organizational performance. In the same vein, Hai and Son (2019) assessed the effect of Logistic services on firm's financial performance.

Employing both Multi regression and factor analysis, they concluded that internal logistic, inbound logistics and outbound logistics have significant positive relationship with firm's financial performance.

Tonggo and Nazaruddin (2020) examined the effect of supply chain management on competitive advantage and operation organization performance in PT. PLN Persero North Sumateria region. Employing stratified random sampling for a total of 109 respondent and using structural equation model with smart PLS, they found that a supply chain management has a significant effect on competitive advantage of organizational performances. Although, the findings of their study show a good outcome, however, their study only focused on the aspect of Logistic outbound operation in the company and failed to analyzed the effect of the Logistic inbound. The failure to capture the effect of the Logistic inbound may have an after-mat effect on the organization.

Ristovska, Kozuhharov and Petkovski (2017) assessed the impact of logistics management practices on company's performance among 80 examinees from 80 different companies in the Republic of Macedorva. Using survey method, findings revealed that in order to reduce the overall cost of companies, adequate inventory, storage, warehouse, transport and information management should be a paramount target for logistics managers in the companies. Also, in order to increased business efficiency, customer satisfaction and competitiveness, there is necessity of the logistic managers to optimally manage all logistics activities.

Alumbugu, Shakantu and Isado (2020) investigated the analysis of outbound logistics channels for construction national in the Nigeria manufacturing sector. The study was carried out in five states of the country including Abuja. Observations, archival records of transactions and direct measurement onsite were used for data collection. Descriptive statistics was employed in the data analysis and finding revealed that six logistic outbound channels can be used for delivering materials to the final users and also the drivers of effective delivery of construction materials are average transportation cost in respect to cost per average ton and average transportation cost with respect to average distance. The study however failed to look at the aspect of the Logistics inbound operations that would have complemented the study.

Kamran, (2018) assessed the impact of effective logistics management on organizational performance in the designing industry with a view to ensure reduction in wastage. The study concluded that for effective and efficient flow of materials to ensure growth in an organization

there is need for management to put in place both inbound activities and outbound activities. Furthermore, the study shows that effective performance management in an organization has a positive and significant relationship with suppliers on time delivery of finished goods, inventory management cost of the organization and satisfaction of consumer. The study however failed to look at the different logistics inbound and outbound variable which would have given a robust outcome.

Khan and Rattanawiboonsom (2019) investigated the effect of inbound logistics capability on the performance of firm using Bangladesh Garment Industry. The study focused on both tangible and intangible benefits of the organization using 120 garment factories. Structural equation model was employed and findings revealed that effective inbound logistics capabilities in an organization has a positive relationship with the performance of the firm in terms of return on Asset, reducing cost and improving productivity and negatively correlated with tangible performance of the firm in terms of customers satisfaction. The study also failed to examine the effect of the different inbound logistics variables which would have been able to describe which of these variables really affect the performance of the firm.

In another study Ugoani (2019) explored the role of purchasing and supply management in manufacturing profitability in Nigeria. Using exploratory research design and adopting descriptive and regression estimation techniques, the study concluded that purchasing and supply management leads to manufacturing profitability in the country. Akindele and Osho (2016) examined the imperative of supply chain management in a competitive business environment using 50 respondent company 25 management staff and 25 distributions in Ondo and Ekiti states in Dangote Cement Company. The study employed, inferential statistics and analysis of variance to estimate the data collected from the response of the respondent. They concluded that supply chain management has predictive ability on the organizational performance in the company.

2.6 World's 10 Largest Cement Companies

Cement is one of the most innovative inventions in building history and can be attributed to the rapid growth of infrastructure worldwide. The top 10 cement industries in the world as at 2020 are provided in the table below

Table 1 World's 10 Largest Cement Companies

Name	Country	Year	Plants	Tonnes in Olfnoillim	Rank
LafargeHolcim	Switzerland	2015	180	386	1st
Anhui Conch	China	1997	32	288	2nd
China National building Material	China	2005	96	176.22	3rd
Heiderberg Cement	Germany	1874	79	121	4th
Cemex	Mexico	1906	56	87	5th
Italcementi	Italy	1864	60	76.62	6th
China Resources Cement Holdens	China			71	7th
Taiwan Cement Corporation	China	1946	6	64	8th
Eurocement	Russia	2002	17	45	9th
Votorantion Cimentos	Brazil		34	45.02	10th

Source: https://www.constructionkenya.com/5390/largest-cement-companies-world/

Table 1 presents the lists of the top 10 world cement industry is presented in the table above. The largest producer of cement is LafargeHolcin in Switzerland which have a total of 386 million tonnes round the world. This is followed by Anhui Conch, China National Building Materials, Helderberg Cement and Cemex been the other top 4 with 288, 176.22, 121 and 87 while the last is in Brazil.

In West Africa, the top 5 companies are listed below

Table 2. Top 6 Cement companies in Africa

Rank	Company	Capacity (mt/yr)
1	Dangote Cement	30
2	LafargeHolcim	22.2
3	Heidelberg Cement	7.4
4	WACEM	6.7
5	BUA Group	4
5	Vicat	4

Source: https://www.globalcement.com/magazine/articles/1079-cement-in-west-africa

From table 2 above, the top cement company in West Africa is Dangote Cement Industry with capacity of 30 followed by Lafarge Holcim with 22.2. The last two that falls in the 5th position in ranking are BUA group and Vicat. All these companies deal with the distribution of cement from the place where they are been manufactured to where they are needed. However, the processes of moving from one area to the other involves Logistics.

2.7 Conceptual framework for the Study

Based on the different arguments and discussion above, the research provides a conceptual framework of inbound logistics and outbound practices and links it to organizational performance as shown in figure 2.1. The organizational performance of the respective cement firms would be the dependent variable in the present analysis. Organizational performance is proxied by sales, profit, efficiency, effectiveness and resource utilization. The independent variables are the Logistic inbound and Logistic outbound which can either have a positive or negative effect on the part of the organizational performance which is the dependent variable.

Conceptual Framework of the Model

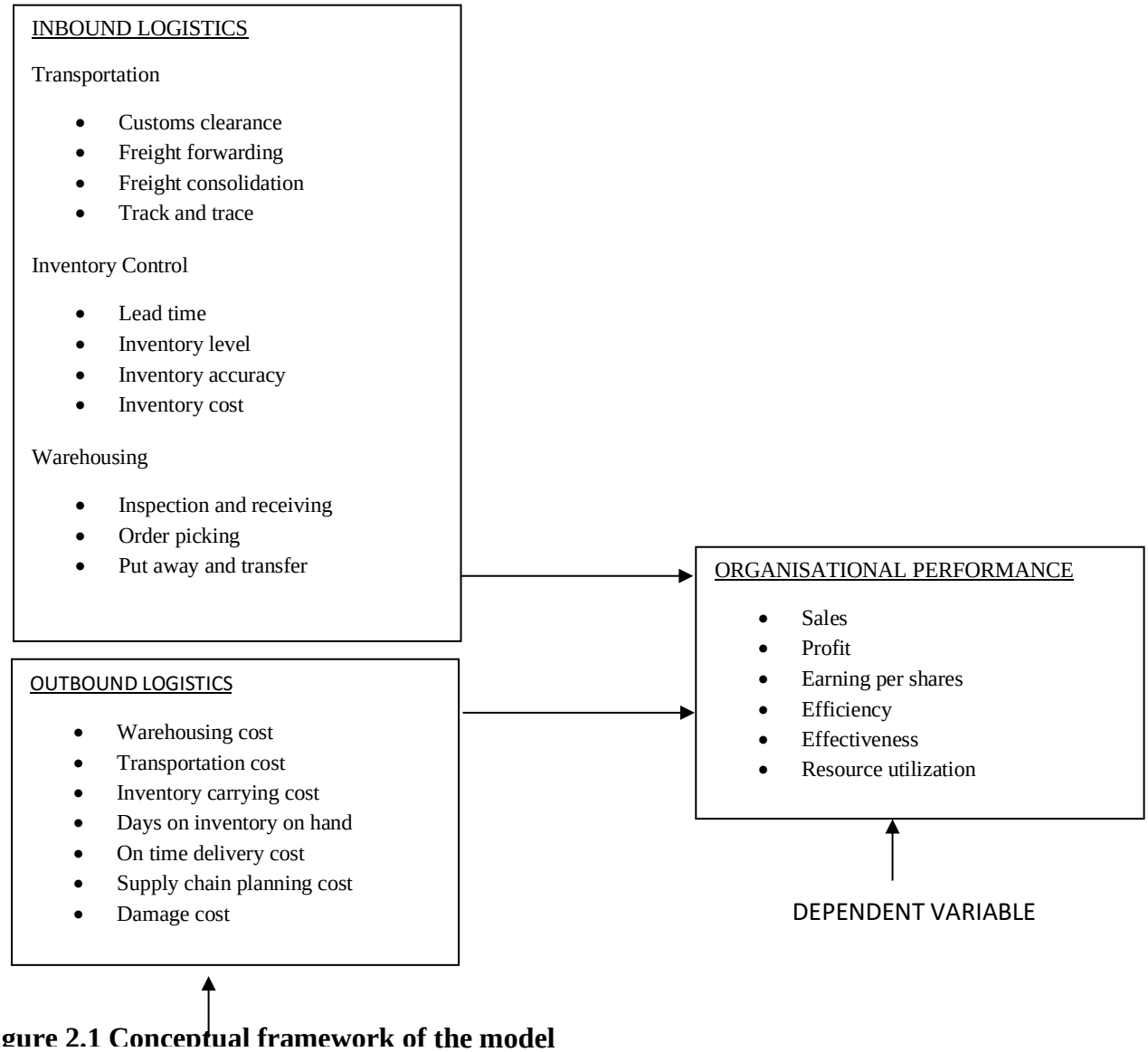


Figure 2.1 Conceptual framework of the model

From the conceptual framework shown above in Figure 2.1, the study underlined the existence of three factors of inbound logistics practices and also some major variables for the outbound logistic practices. The inbound consist of transportation, inventory management, and warehousing while the outbound variables includes variables on cost. The dependent variable which is organizational performance is captured with sales, profits, effectiveness, efficiency, earning per shares and resource utilization.

2.8 Summary of Literature and Literature Gap

Emanating from the theoretical and empirical literature reviewed. It is pertinent that different theories have been employed in the logistic processes involving inbound and outbound and findings over the years from empirical perspective have been mixed based on the industries and countries used. Based on the different studies reviewed it is evident that only few studies have been carried out in Nigeria and also in the manufacturing industries. However, those that worked in Nigeria have not really looked at the cement company which is one of the companies that employed a number of workers and also have different customers and stakeholders. In addition, the method employed in most of the studies cannot be used to generate better recommendations that could guide policy makers in the country.

The present study therefore bridges this gap by focusing on the cement industry using Dangote cement industry which is situated in Nigeria and one of the highest distributors of cement in Nigeria. Also, it is noteworthy that most of the literature either focused on inbound or outbound without investigating the two aspect together in terms of organizational performance. This study combined both the inbound and outbound logistics and the effect on organizational performance.

Furthermore, existing literatures have failed to look at the impact of some of the major inbound operations such as transportation, inventory and warehousing and major Logistics outbound operations such as transportation cost, warehousing cost, inventory carrying cost, on time delivery, supply chain planning costs and others on the performance of an organization. This study differs from others in this regard as it went further to see the impact of the Key Logistic inbound and outbound operations on the organizational performance which other studies ignored.

Finally, most studies in the literature uses factor analysis method. This study builds on the same previous studies but also include multiple regression and correlation in other to see the effect on the organizational performance by focusing on the practices relevant in the cement industry.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter describes the methods and procedures followed by the researchers in conducting the research in order to respond to the research goals set out in chapter one. The chapter is organized as follows: research design, population of the study, sample size and sampling techniques, data collection methods, validity of the instrument, reliability of the instruments, model specification and methods of data analysis.

3.2 Research Design

Research design is a laid down plan on how the researcher intends to answer the research question and meet the research objectives. In doing this, the researcher will have to determine the appropriate strategies to be employed. The survey research design will be adopted in selecting samples from the population of the organisation in this study. The research design will make use of oral interview and questionnaire in eliciting information from the respondents. This approach was chosen because the analysis aims to provide a broad overview of the effects of inbound and outbound logistics on organizational performance in the cement industry. Alreck and Settle (1995), suggested that the use of survey approach is the best because it has the benefit of being appropriate for dissemination over a broad geographical region and to a large number of organizations.

3.3 Population of the Study

Population is the total area or total number that the researcher wishes to predict. In this study, the population will consist of the senior staff, junior staff and management personnel of the organisation (Dangote Cement PLC Lagos Plant) that works in the Logistic and Distribution department. This was based on the main research objective on the impact of inbound and outbound logistic on the organizational performance in the Dangote Cement Industry.

3.4 Sample Size and Sampling Techniques

Sample size is a subset or part of the population being studied (Nwana, 2005). The sample size for this study is 96. Purposive and simple random sampling methods was used to select from all senior staff, junior staff and management personnel so that all personnel will have an equal opportunity of being selected.

3.5 Data Collection Method

Data for this study will be collected through primary source. The main tool that will be used for the collection of the data will be through the use of questionnaire. The questionnaire is divided into four sections which includes; the demographic characteristics section, the logistic inbound section, logistic outbound section and the organizational performance section. Five – point Likert scale will be used for the questionnaire regarding the logistic inbound, logistic outbound and organizational performance. The Likert scale are coded with; 1= Strongly Disagree (SD), 2= Disagree(D), 3= Neutral/undecided (U), 4= Agree (A) and 5=Strongly agreed (SA). The content validity will be used to test the accuracy of the methodology used to ensure that the tests accurately calculate the principles that should be checked (Sekaran, 2006).

3.6 Validation of the Research

. The questionnaire was submitted to my supervisor for corrections and necessary input. The vital modification made were incorporated prior to administering of the instruments to the respondent. The modifications made were useful so as to address the objectives of the study.

3.7 Reliability of Instrument

In order to determine the reliability of the instrument, a pre-study study will be carried out from two other companies other than the cement industry so as to confirm the consistency of the instrument used in the study. Furthermore, adding to validating the tools by professionals, the data will be encoded with the Statistical Package for Social Sciences for reliability procedures. The Cronbach's alpha will be used for the test. The reliability coefficient obtained from the data will be used to determine the reliability of the instrument. However, for the data to be reliable and the statistically consistent, it is expected that the coefficient of the tool should not be less than 0.75 correlation coefficient as stated by Siegel (1956).

3.8 Model Specification

The second objective of this study is to examine the effect of inbound and outbound logistics on organizational performance. In order to achieve this, multiple regression will be employed. Three models will be specified. The first one to capture the effect of inbound and outbound logistics on organizational performance, the second to capture the impact of the inbound variables on organizational performance and the third to capture the impact of outbound logistics variables on organizational performance.

Model 1

The first model captures the impact of inbound and outbound logistics on organizational performance and the functional form is specify as

OP = f (INBL, OUBL) 3.1

Where:

OP = Organizational performance (Dependent variable)

INBL = Inbound logistic (Independent variable)

OUBL = Outbound logistics (Independent variable)

In mathematical form, the model takes the form

$$\boldsymbol{OP = \beta_0 + \beta_1 INBL + \beta_2 OUBL + U_t}$$

Where:

β_0 = Constant

β_1 and β_2= Coefficient of the independent variables

U_t = Error term

Model II

The second model will be used to capture the impact of inbound logistic variables on the organizational performance. The model takes the functional form as

OP = f (TRA, INVC, WAH)

Where:

OP = Organizational Performance (Dependent Variable)

TRA = Transportation (Independent Variable)

INVC = Inventory control (Independent Variable)

WAH = Warehousing (Independent Variable)

The mathematical form is specified as:

$$\boldsymbol{OP = \alpha_0 + \alpha_1 TRA + \alpha_2 INVC + \alpha_3 WAH + \mu_t}$$

Where:

$\boldsymbol{\alpha_0}$ = Intercept

$\boldsymbol{\alpha_1 - \alpha_3}$ = Coefficient of the independent variable

$\boldsymbol{u_t}$ = Error term

Model III

The third model is used to capture the impact of outbound logistics variables on organizational performance, the functional form of the model is specified as

$$\boldsymbol{Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7)}$$

Where:

Y = Organizational Performance (Dependent Variable)

X_1 = Warehousing cost

X_2 = Transportation cost

X_3 = Inventory carrying cost

X_4 = Ontime delivery cost

X_5 = Supply chain planning cost

The mathematical form of the model is specified as

$$\boldsymbol{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu_t}$$

Where:

β_0 = Intercept

$\beta_1 - \beta_7$ = Coefficient of the independent variable

$\boldsymbol{u_t}$ = Error term

3.9 Method of Data Analysis

Once the data is collected from the field, it will be checked for completeness, coded and entered. The entered data will be cleaned for any errors before the final analysis began. Section 2, 3 and 4 of the questionnaires will be analysed using factor analysis in order to reduce the factors to only significant ones. This will also help in testing the validity of measures used in the study.

The demographic characteristics data of the respondent will be analysed using descriptive statistics especially the frequency and percentages. In order to determine the extent to which firms in the cement industry practice SCM, an analysis of questions relating to this section will be carried out using their mean scores and standard deviations.

Correlation and regression analyses were run with inbound and outbound logistics as the independent variable and organizational performance as the dependent variable. The regression will be performed in order to fulfill objective 2 - the impact of inbound and outbound logistics on the organizational performance. The results will be interpreted based on their coefficients, the level of significance of the coefficient of inbound and outbound logistics, the R-squared, adjusted R - squared, significance of F statistic. The whole analysis will be aided by the use of Statistical Package for Social Sciences (SPSS) and Excel.

3.10 Ethical Consideration

The thesis affirms the formality to comply with all the ethical standards in the beginning of primary analysis. The research strictly forbade partiality or self-disappointment. The legal challenges have been kept from being ignored. The commitments and agreements were met using knowledge and analysis methods correctly. In the context of data security, confidentiality and data privacy, the research study and survey were created. In addition. The consent of the respondents was necessary for the survey and proactive mentoring was undertaken for the confidential correspondence, the details of the respondents and the documents. The professional competence has been granted to comply with the privacy and confidentiality policies and laws. In performing the study, a data protection law was observed. The manipulation or interpretation of data or respondents has been strictly regulated to ensure an honest study result. Information from respondents or the methods and correspondence will not be shared with others during the study, but only for research purposes. Therefore, the questionnaire was only issued to workers with consent approval because of the sensitive nature of the questions.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS OF RESULT

4.1 Introduction

The focus of this chapter is on the presentation of data and analysis of the result obtained from the response of the respondent from the questionnaire administered. The chapter is structured into four different sections, so as to be in line with the research questions and objectives of the study. The first section focused on the response rate of the respondents on the administered questionnaire. Section two deals with the demographic characteristics of the respondent. The third section presents the responses of the respondents based on their views concerning logistic inbound and outbound operations while the fourth sections focused on the test of hypothesis. The result obtained is used for the conclusion and recommendation for the study. Findings from the result is used to draw out the conclusion and recommendations for the study.

4.2 Data presentation

4.2.1 Response Rate

A total of 100 questionnaire was distributed to the staff of Dangote Cement Industry. Out of the 100 questionnaires distributed 96 of the respondents returned back their response while only 4 of questionnaires were not retrieved. The response rate represents 96 percent of the total sample which shows that a higher percentage of the respondent view were captured. This imply a good response rate. The result is presented on the table 4.1 below

Table 4.1. Response rate

Questionnaire	Frequency	percentage
Completed and returned	96	96
Non response	4	4
Total	**100**	**100**

Source: Computed by Author' 2020

4.2.2: Demographic Characteristics of Respondents

Table 4.2 below shows the distribution of respondents based on their demographic characteristics

Table 4.2 Demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
SEX		
Male	79	82.3
Female	17	17.7
Total	**96**	**100.0**
AGE		
20 – 29 years	2	2.1
30 – 39 years	39	40.6
40 –49 years	47	49.0
50 years and above	8	8.3
Total	**96**	**100.0**
MARITAL STATUS		
Single	14	14.6
Married	77	80.2
Others	5	5.2
Total	**96**	**100.0**
Educational Qualification		
Postgraduate/Professional	10	10.4
BSc/HND	29	30.2
OND/NCE	30	31.3
SSCE/GCE	24	25.0
Others	3	3.1
Total	**96**	**100.0**
Work Experience		
Less than 5 years	5	5.2

5 – 10 years	45	46.9
11 -15years	33	34.4
16 years and above	13	13.5
Total	**96**	**100.0**
Position		
Senior Staff	69	71.9
Junior Staff	21	21.9
Management Staff	6	6.3
	96	**100.0**

Source: Author's survey, 2020

The characteristics of the respondents based on their biodata are displayed in Table 4.2. following the field survey results presented in the table, out of the 96 respondents, 79(82.3%) of the respondents are male while 17(17.7%) of the respondent are female. This reveals that there was more male respondent than female. From the response of the respondent based on their age structure, 2(2.1%) falls within the age of 20-30 years. 39(40.8%) are within 31-40 years. 47(49.0%) falls between 41-50 years while 8(8.3%) are ages between 50 years and above. As regard marital status of the respondent 77 (80.2%) of the respondents are married. 14(14.6%) are single while 5(5.2%) are neither married nor single as at the time of the study. In terms of the highest academic education qualification in the industry. 10(10.4%) of the respondents has postgraduate degree, 29(30.2%) have first degree certificate.

Those with either OND or NCE degree accounts for 31.3% of the respondent. 24(25.0%) have secondary school certificate while only 3(3.1%) has other certificates aside those listed on the questionnaire. In terms of years of work experience, 5(5.2%) of the respondents have less than 5years work experience. 45(46.9%) have between 5 to 10years work experience 33(34.4%) have between 11-15 years' work experience while 13 accounting for 13.5% of the respondents have been in the industry for over 15 years in the service. Based on the respondent position, 69(71.9%) are senior staff, junior staff accounted for 21.9% with 21 of them been among the respondent while 6(6.3%) are management staff.

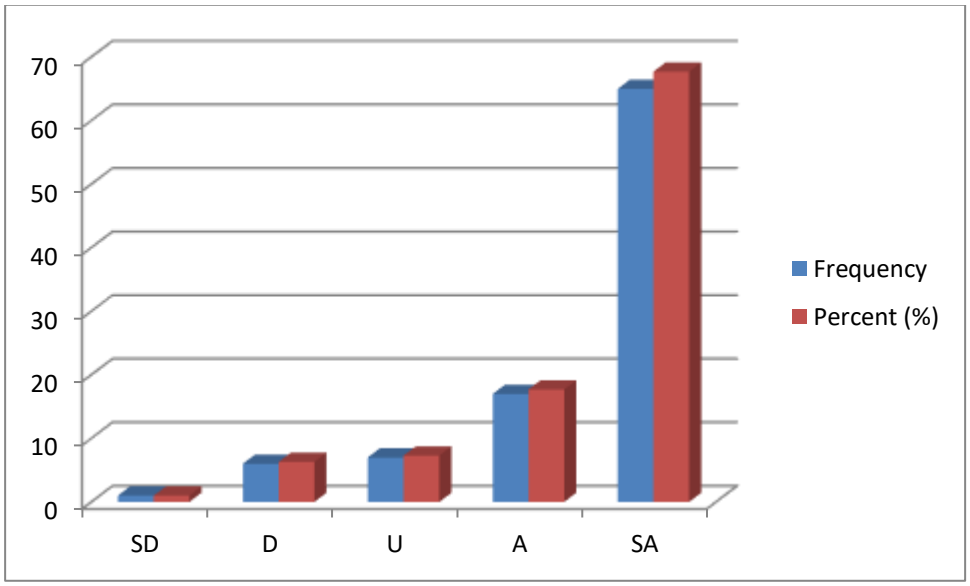
Table-4.3 Inventory control policies are in accordance with global standards

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	15	15.6
Neutral/undecided	6	6.3
Agree	15	15.6
Strongly agreed	57	59.4
Total	**96**	**100**

Source: Authors computation, 2020

Table 4.3 indicated that of the 96 responses 57 (59.4%) Strongly agreed and 15 (15.6%) agreed that inventory control policies are in accordance with global standards; 6 (6.3%) were neutral. 15 (15.6%) were not in support and 3 (3.1%) were strictly not in agreement in terms of inventory control policies being in accordance with global standards. Thus, we conclude that the inventory control policies are in accordance with global standards.

Figure-4: 1 -*Dimension Simple Bar-charts of inventory control policies are in accordance with global standards.*



Source: Survey via Microsoft Excel, 2020.

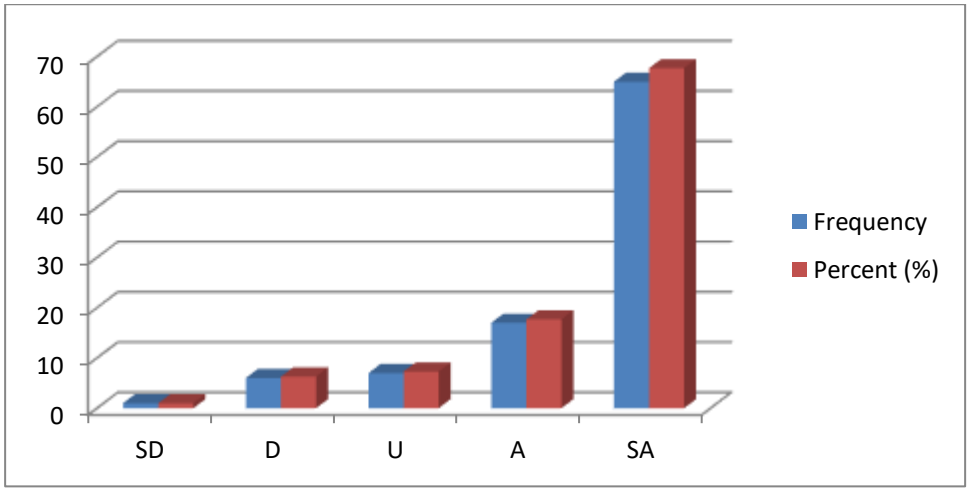
Table 4.4 Warehouse management has helped the company to reduce the risk of stock out during production.

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	9	9.4
Neutral/undecided	2	2.1
Agree	22	22.9
Strongly agreed	58	60.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.4 presented the responses of respondents on whether warehouse management has helped the company. Out of the 96 responses, 58 (60.4%) Strongly agreed and 22 (22.9%) agreed that Warehouse management has helped the company to reduce the risk of stock out during production; 2 (2.1%) of the selected re respondent were neutral/undecided, while 9 (9.4%) disagreed and 5 (5.2%) strongly disagreed with the assertion that that Warehouse management has helped the company to reduce the risk of stock out during production. Thus, we conclude that the Warehouse management has helped the company to reduce the risk of stock out during production.

Figure-4: 2 --Dimension Simple Bar-charts of Warehouse management has helped the company to reduce the risk of stock out during production



Source: Survey via Microsoft Excel, 2020.

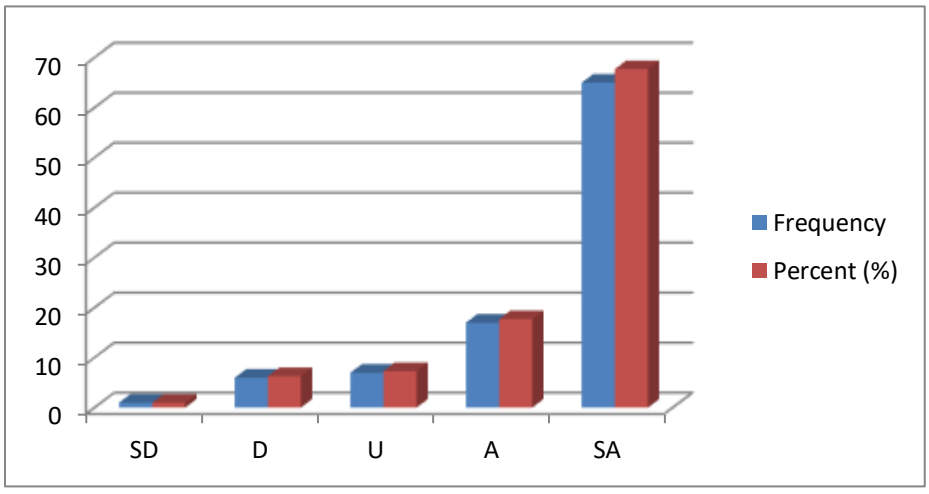
Table 4.5 There is a Just in Time (JIT) delivery of raw materials to the warehouse

Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	6	6.3
Neutral/undecided	6	6.3
Agree	37	38.5
Strongly agreed	43	44.8
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.5 showed that out of the 96 respondent that respond to the questionnaire, 43 (44.8%) Strongly agreed and 37 (38.5%) agreed that there is a Just in Time (JIT) delivery of raw materials to the warehouse; 6 (6.3%) of the respondents werenNeutral/undecided, while 6 (6.3%) disagreed and 4 (4.2%) strongly disagreed with the assertion that that There is a Just in Time (JIT) delivery of raw materials to the warehouse. Thus, we conclude that There is a Just in Time (JIT) delivery of raw materials to the warehouse.

Figure-4: 3 --Dimension Simple Bar-charts of There is a Just in Time (JIT) delivery of raw materials to the warehouse



Source: Survey via Microsoft Excel, 2020.

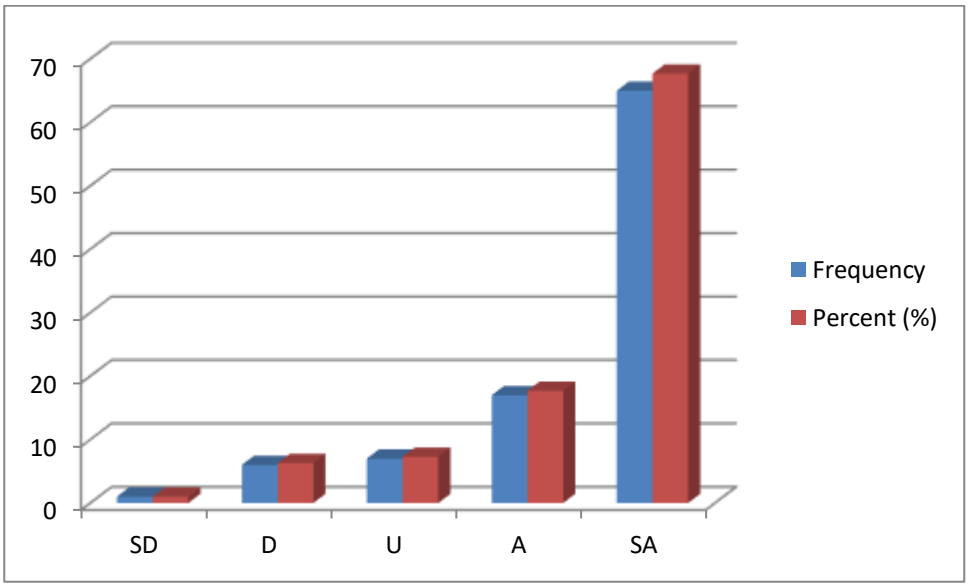
Table 4.6 Company-wide coordination and management of inventory has improved productivity and reduce product defect

Respondent options	Frequency	Percent (%)
Strongly disagree	2	2.1
Disagree	5	5.2
Neutral/undecided	12	12.5
Agree	30	31.3
Strongly agreed	47	49
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.6 presented the views of the respondent on whether companywide coordination and management of inventory has improved productivity and reduce product defect Out of the 96 responses, 47 (49.0%) Strongly agreed and 30 (31.3%) agreed that Company-wide coordination and management of inventory has improved productivity and reduce product defect; 12 (12.5%) of the respondents were Neutral/undecided, while 5 (5.2%) disagreed and 2 (2.1%) strongly disagreed with the assertion that that Company-wide coordination and management of inventory has improved productivity and reduce product defect. Thus, we conclude that the Company-wide coordination and management of inventory has improved productivity and reduce product defect.

Figure-4: 4 --Dimension Simple Bar-charts of Company-wide coordination and management of inventory has improved productivity and reduce product defect



Source: Survey via Microsoft Excel, 2020.

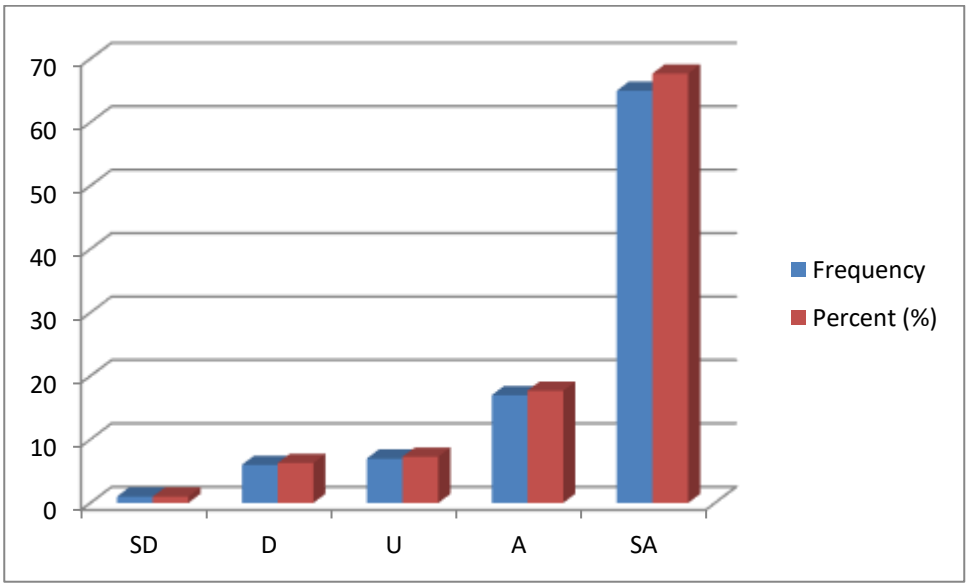
Table 4.7 Lowest inventory handling cost leads to improved production capacity

Respondent options	Frequency	Percent (%)
Strongly disagree	8	8.3
Disagree	4	4.2
Neutral/undecided	7	7.3
Agree	20	20.8
Strongly agreed	57	59.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.7 shows that out of the 96 responses, 57 (59.4%) Strongly agreed and 20 (20.8%) agreed that Lowest inventory handling cost leads to improved production capacity; 7 (7.3%) of the respondents were Neutral/undecided, while 4 (4.2%) disagreed and 8 (8.3%) strongly disagreed with the Lowest inventory handling cost leads to improved production capacity. Thus, we conclude that the lowest inventory handling cost leads to improved production capacity.

Figure-4: 5 --Dimension Simple Bar-charts of lowest inventory handling cost leads to improved production capacity.



Source: Survey via Microsoft Excel, 2020.

Table 4.8 Inadequate resources have hindered implementation of inbound logistics practices

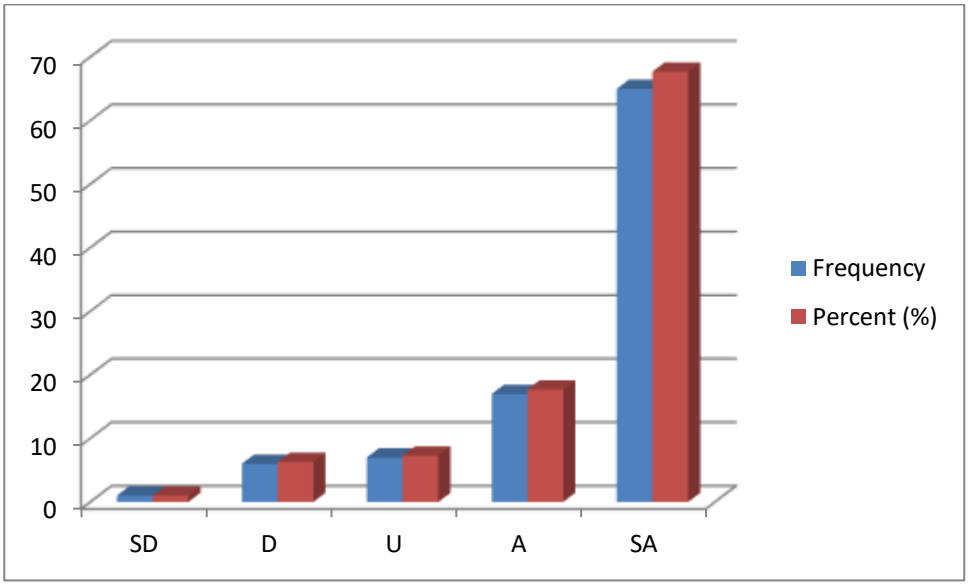
Respondent options	Frequency	Percent (%)
Strongly disagree	2	2.1
Disagree	7	7.3
Neutral/undecided	9	9.4
Agree	20	20.8
Strongly agreed	58	60.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.8 shows that out of the 96 responses, 57 (59.4%) Strongly agreed and 20 (20.8%) agreed that inadequate resources have hindered implementation of inbound logistics practices; 7 (7.3%) of the respondents were Neutral/undecided, while 4 (4.2%) disagreed and 8 (8.3%) strongly disagreed with the assertion that inadequate resources have hindered implementation of inbound

logistics practices. Thus, we conclude that inadequate resources have hindered implementation of inbound logistics practices.

Figure-4: 6 --Dimension Simple Bar-charts of inadequate resources have hindered implementation of inbound logistics practices



Source: Survey via Microsoft Excel, 2020.

Table 4.9 Transferring goods to their correct locations in the warehouse reduces operational costs

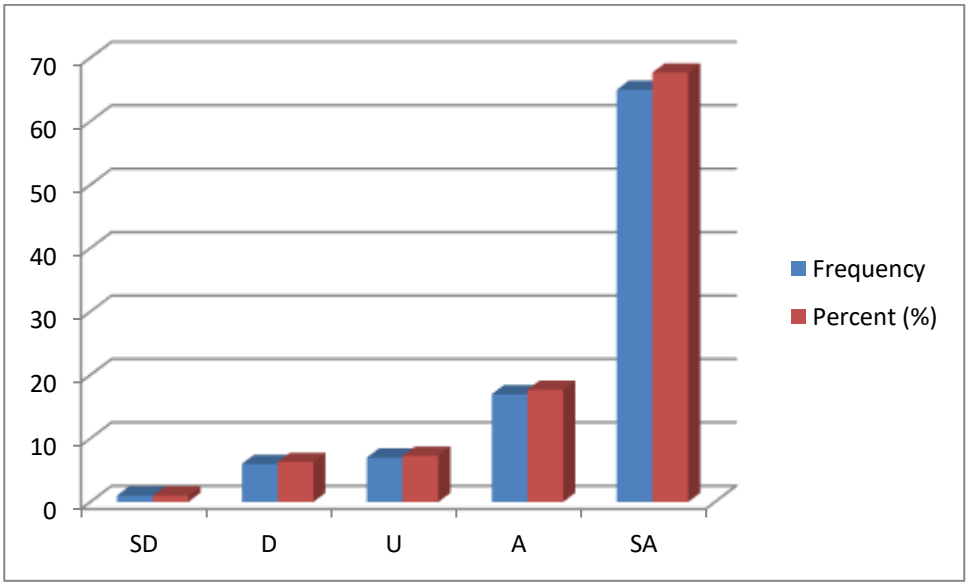
Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	10	10.4
Neutral/undecided	5	5.2
Agree	20	20.8
Strongly agreed	57	59.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.9 shows that out of the 96 responses, 57 (59.4%) Strongly agreedd and 20 (20.8%) agreed transferring goods to their correct locations in the warehouse reduces operational costs; 5 (5.2%)

of the respondents were Neutral/undecided, while 10 (10.4%) disagreed and 4 (4.2%) strongly disagreed with the assertion that transferring goods to their correct locations in the warehouse reduces operational costs. Thus, we conclude transferring goods to their correct locations in the warehouse reduces operational costs.

Figure-4: 7--Dimension Simple Bar-charts of Transferring goods to their correct locations in the warehouse reduces operational costs



Source: Survey via Microsoft Excel, 2020.

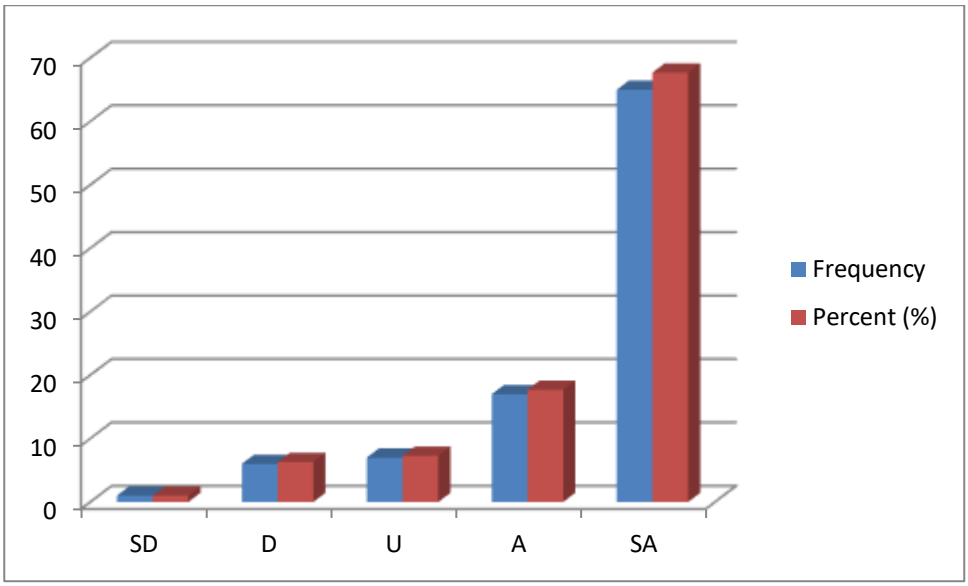
Table 4.10 Effective inventory control has helped the company to reduce overhead cost

Respondent options	Frequency	Percent (%)
Strongly disagree	2	2.1
Disagree	5	5.2
Neutral/undecided	5	5.2
Agree	21	21.9
Strongly agreed	63	65.6
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.10 shows that out of the 96 responses, 63 (65.6%) Strongly agreedd and 21 (21.9%) agreed that effective inventory control has helped the company to reduce overhead cost; 5 (5.2%) of the respondents were Neutral/undecided, while 5 (5.2%) disagreed and 2 (2.1%) strongly disagreed with the assertion that effective inventory control has helped the company to reduce overhead cost. Thus, we conclude that effective inventory control has helped the company to reduce overhead cost.

Figure-4: 8--Dimension Simple Bar-charts of effective inventory control has helped the company to reduce overhead cost



Source: Survey via Microsoft Excel, 2020.

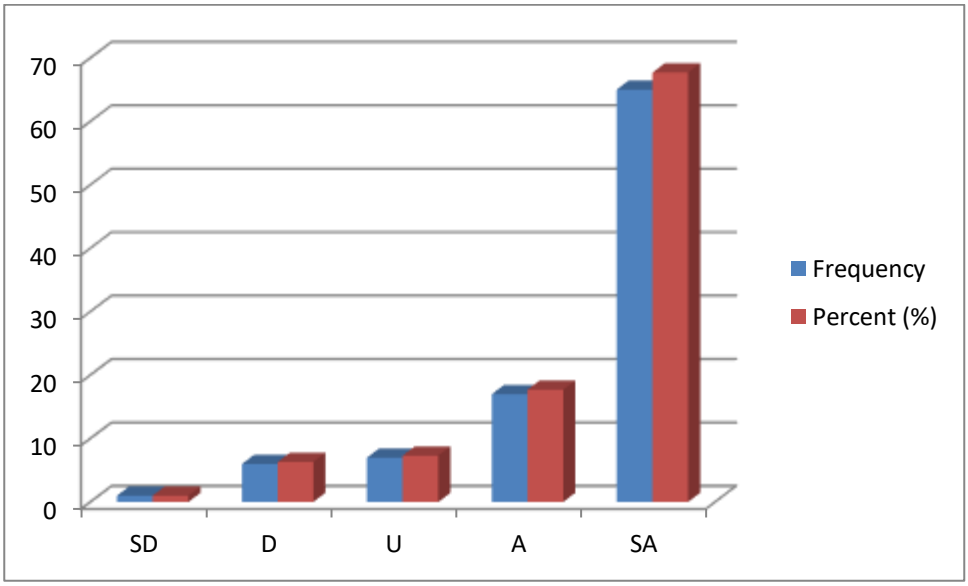
Table 4.11 Adoption of modern transportation management techniques has helped to reduce risk of accidents

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	8	8.3
Neutral/undecided	11	11.5
Agree	9	9.4
Strongly agreed	63	65.6
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.11 shows that out of the 96 responses, 63 (65.6%) Strongly agreedd and 9 (9.4%) agreed that adoption of modern transportation management techniques has helped to reduce risk of accidents; 11 (11.5%) of the respondents were Neutral/undecided, while 8 (8.3%) disagreed and 5 (5.2%) strongly disagreed with the assertion that adoption of modern transportation management techniques has helped to reduce risk of accidents. Thus, we conclude that adoption of modern transportation management techniques has helped to reduce risk of accidents.

Figure-4: 8--Dimension Simple Bar-charts of Adoption of modern transportation management techniques has helped to reduce risk of accidents



Source: Survey via Microsoft Excel, 2020.

Table 4.12 Shorter shipment time leads to speedy delivery of goods to the customer

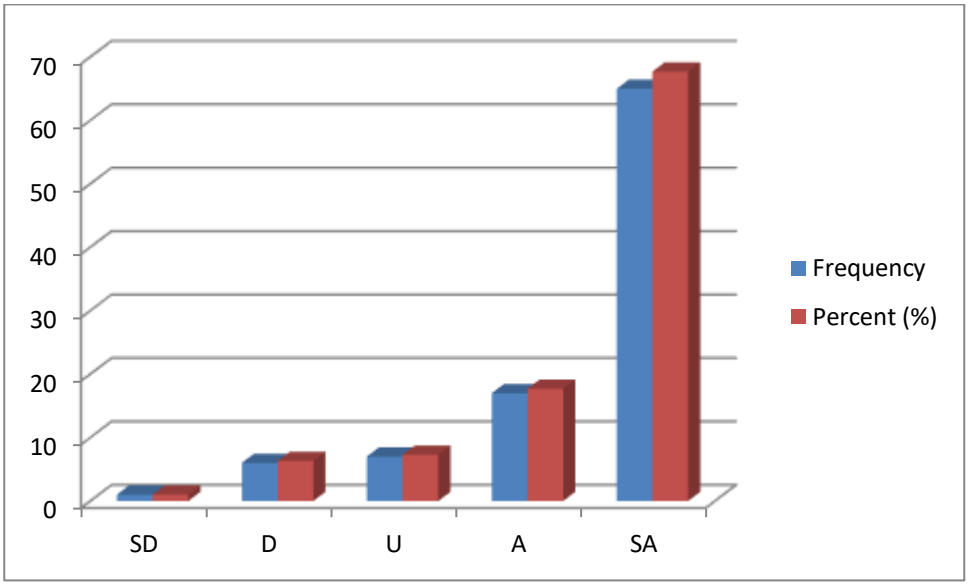
Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	5	5.2
Neutral/undecided	4	4.2
Agree	14	14.6
Strongly agreed	70	72.9

Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.12 shows that out of the 96 responses, 70 (72.9%) Strongly agreedd and 14 (14.6%) agreed that shorter shipment time leads to speedy delivery of goods to the customer; 4 (4.2%) of the respondents were Neutral/undecided, while 5 (5.2%) disagreed and 3 (3.1%) strongly disagreed with the assertion that shorter shipment time leads to speedy delivery of goods to the customer. Thus, we conclude that shorter shipment time leads to speedy delivery of goods to the customer.

Figure-4: 9--Dimension Simple Bar-charts of shorter shipment time leads to speedy delivery of goods to the customer



Source: Survey via Microsoft Excel, 2020.

Table 4.13 Lowest inventory handling cost leads to improved customer satisfaction

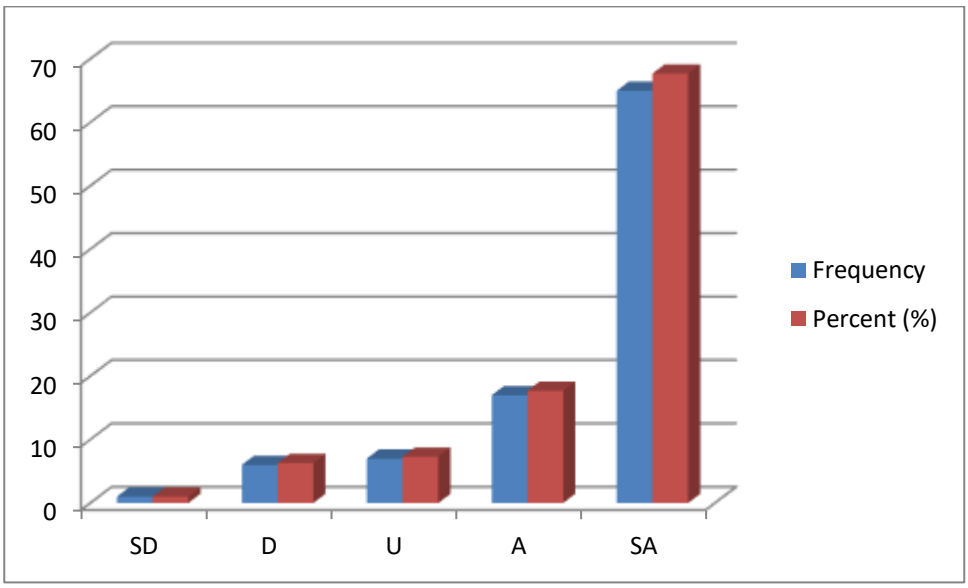
Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	5	5.2
Neutral/undecided	9	9.4
Agree	29	30.2
Strongly agreed	49	51

Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.13 shows that out of the 96 responses, 49 (51.0%) Strongly agree and 29 (30.2%) agreed that lowest inventory handling cost leads to improved customer satisfaction; 9 (9.4%) of the respondents were Neutral/undecided, while 5 (5.2%) disagreed and 4 (4.2%) strongly disagreed with the assertion that lowest inventory handling cost leads to improved customer satisfaction. Thus, we conclude that lowest inventory handling cost leads to improved customer satisfaction.

Figure-4: 10--Dimension Simple Bar-charts of lowest inventory handling cost leads to improved customer satisfaction



Source: Survey via Microsoft Excel, 2020.

Table 4.14 Inventory cost control leads to decreased supply chain management cost

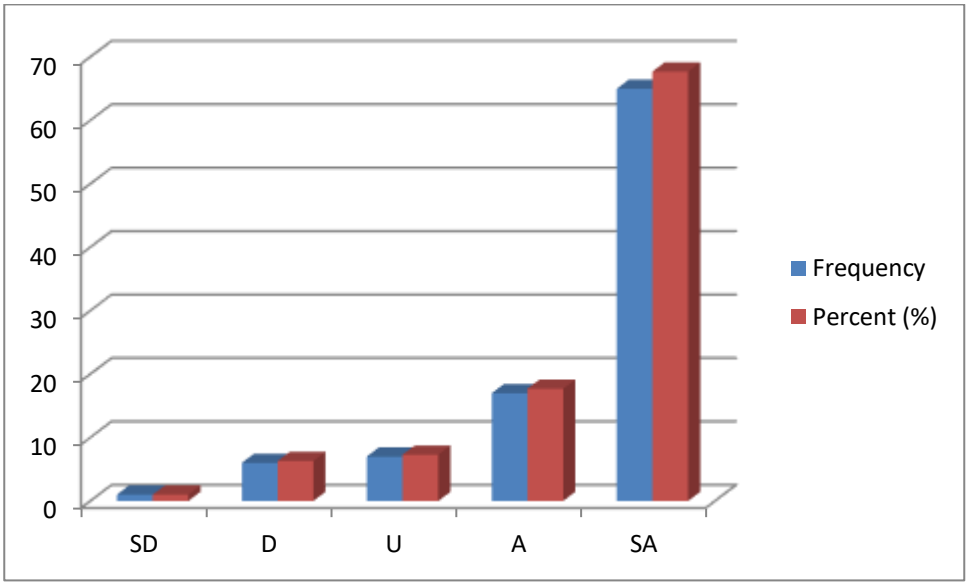
Respondent options	Frequency	Percent (%)
Strongly disagree	1	1.0
Disagree	4	4.2
Neutral/undecided	10	10.4
Agree	17	17.7
Strongly agreed	64	66.7

Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.14 shows that out of the 96 responses, 64 (66.7%) Strongly agreed and 17 (17.7%) agreed that inventory cost control leads to decreased supply chain management cost; 10 (10.4%) of the respondents were Neutral/undecided, while 4 (4.2%) disagreed and 1 (1.0%) strongly disagreed with the assertion that inventory cost control leads to decreased supply chain management cost. Thus, we conclude that inventory cost control leads to decreased supply chain management cost.

Figure-4: 11--Dimension Simple Bar-charts of Inventory cost control leads to decreased supply chain management cost



Source: Survey via Microsoft Excel, 2020.

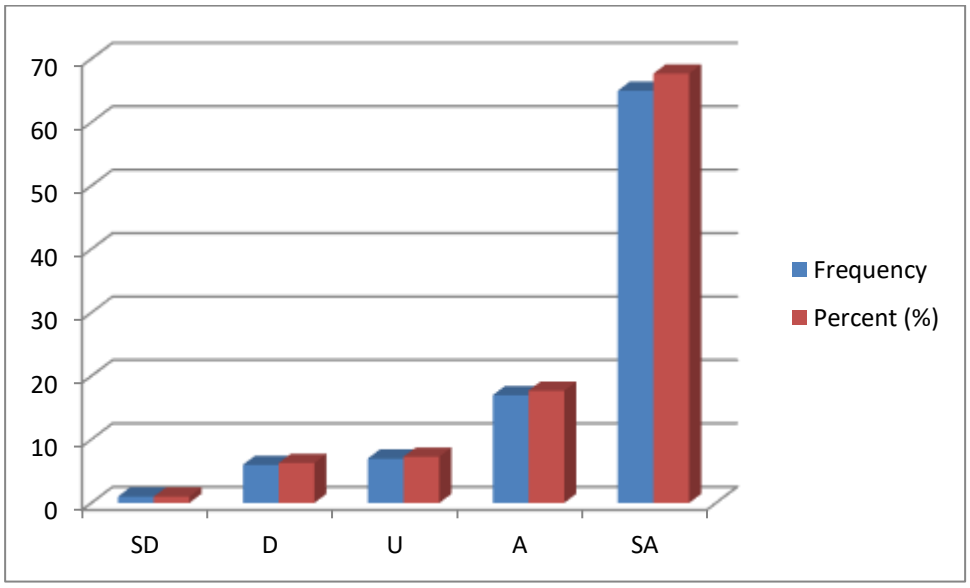
Table 4.15 Inventory carrying cost affects price of the goods

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	8	8.3
Neutral/undecided	4	4.2
Agree	16	16.7
Strongly agreed	63	65.6
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.15 shows that out of the 96 responses, 64 (66.7%) Strongly agreed and 17 (17.7%) agreed that inventory carrying cost affects price of the goods; 10 (10.4%) of the respondents were Neutral/undecided, while 4 (4.2%) disagreed and 1 (1.0%) strongly disagreed with the assertion that inventory carrying cost affects price of the goods. Thus, we conclude that inventory carrying cost affects price of the goods.

Figure-4: 12--Dimension Simple Bar-charts of inventory carrying cost affects price of the goods



Source: Survey via Microsoft Excel, 2020.

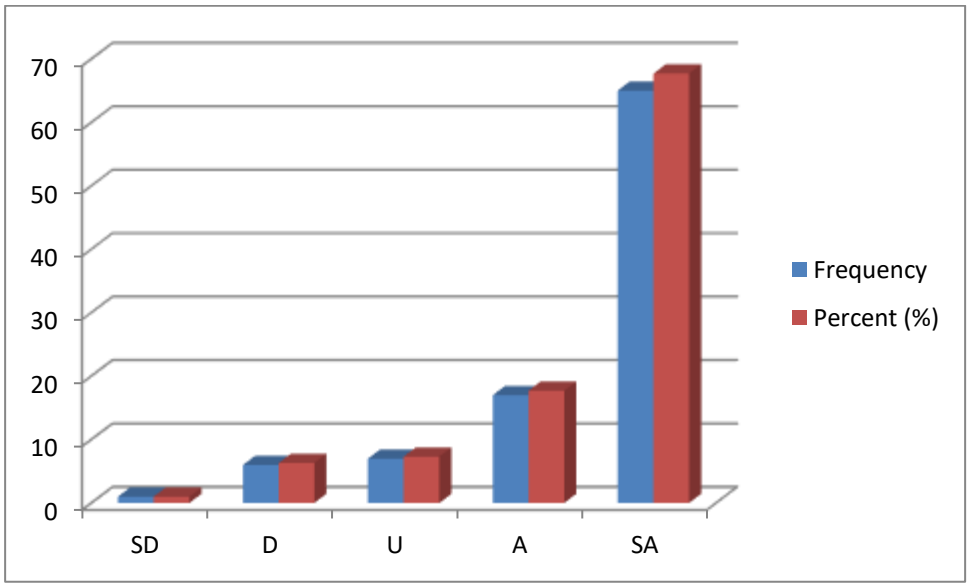
Table 4.16 lower cost of warehouse management has helped the company to reduce overhead cost

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	0	0
Neutral/undecided	18	18.8
Agree	29	30.2
Strongly agreed	38	39.6
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.16 shows that out of the 96 responses, 38 (39.6%) Strongly agreed and 29 (30.2%) agreed that lower cost of warehouse management has helped the company to reduce overhead cost; 18 (18.8%) of the respondents were Neutral/undecided, while 0 (0%) disagreed and 3 (3.1%) strongly disagreed with the assertion that lower cost of warehouse management has helped the company to reduce overhead cost. Thus, we conclude that lower cost of warehouse management has helped the company to reduce overhead cost.

Figure-4: 13--Dimension Simple Bar-charts of lower cost of warehouse management has helped the company to reduce overhead cost



Source: Survey via Microsoft Excel, 2020.

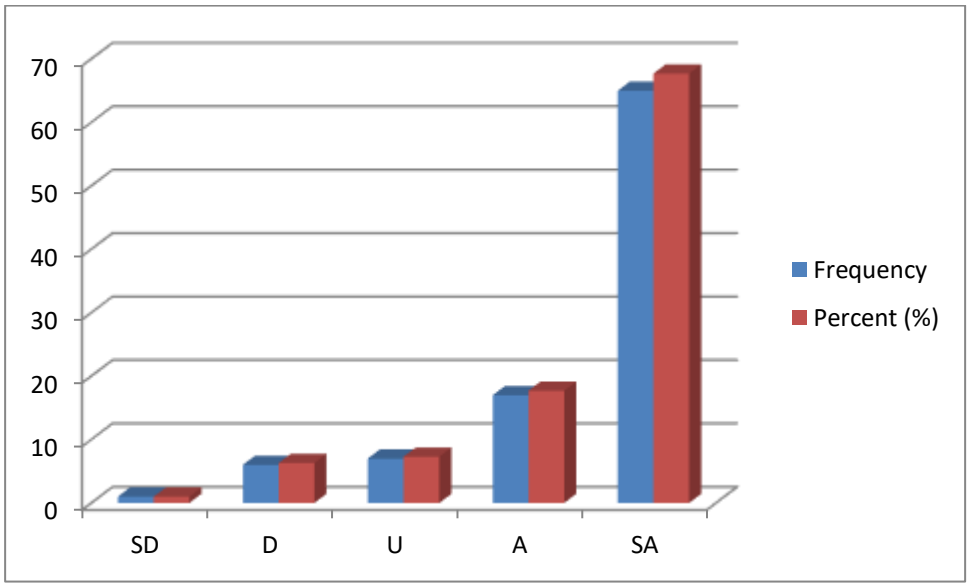
Table 4.17 Transportation cost has affected the prices of the goods

Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	5	5.2
Neutral/undecided	3	3.1
Agree	42	43.8
Strongly agreed	42	43.8
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.17 shows that out of the 96 responses, 42 (43.8%) Strongly agreed and 42 (43.8%) agreed that transportation cost has affected the prices of the goods 3 (3.1%) of the respondents were Neutral/undecided, while 5 (5.2%) disagreed and 4 (4.2%) strongly disagreed with the assertion that transportation cost has affected the prices of the goods. Thus, we conclude that transportation cost has affected the prices of the goods.

Figure-4: 14--Dimension Simple Bar-charts of transportation cost has affected the prices of the goods



Source: Survey via Microsoft Excel, 2020.

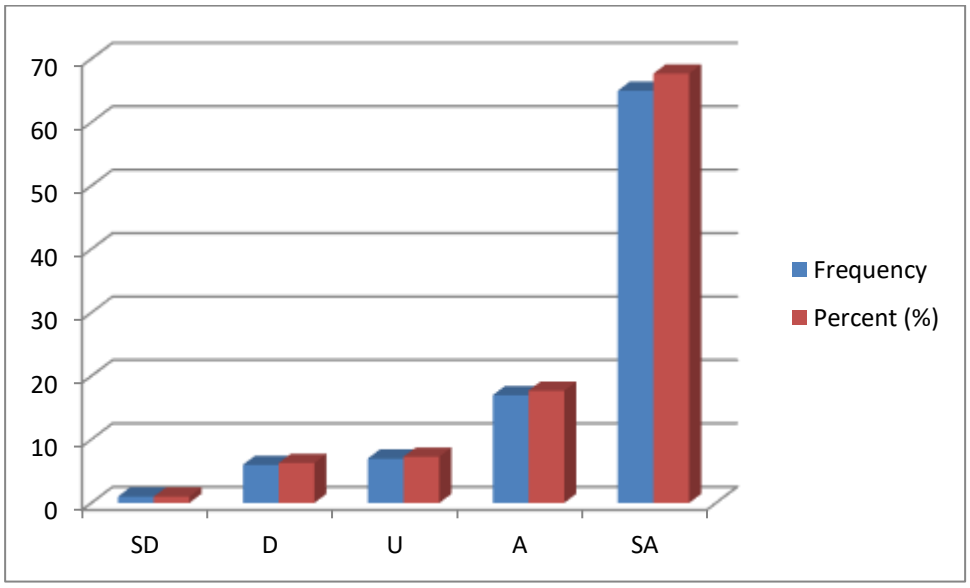
Table 4.18 Lower transportation cost has given the company an edge over competitors

Respondent options	Frequency	Percent (%)
Strongly disagree	7	7.3
Disagree	11	11.5
Neutral/undecided	9	9.4
Agree	32	33.3
Strongly agreed	37	38.5
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.18 shows that out of the 96 responses, 37 (38.5%) Strongly agreed and 32 (33.3%) agreed that lower transportation cost has given the company an edge over competitors, 9 (9.4%) of the respondents were Neutral/undecided, while 11 (11.5%) disagreed and 7 (7.3%) strongly disagreed with the assertion that lower transportation cost has given the company an edge over competitors. Thus, we conclude that lower transportation cost has given the company an edge over competitors.

Figure-4: 15--Dimension Simple Bar-charts of lower transportation cost has given the company an edge over competitors



Source: Survey via Microsoft Excel, 2020.

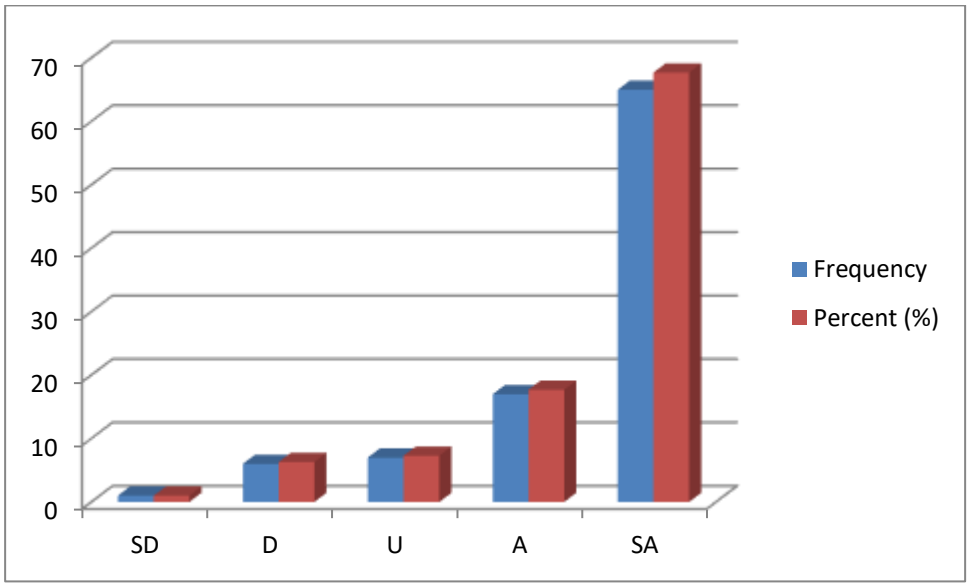
Table 4.19 On time delivery has given the company a competitive advantage over competitors

Respondent options	Frequency	Percent (%)
Strongly disagree	10	10.4
Disagree	6	6.3
Neutral/undecided	6	6.3
Agree	19	19.8
Strongly agreed	55	57.3
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.19 shows that out of the 96 responses, 55 (57.3%) Strongly agreedd and 19 (19.8%) agreed that on time delivery has given the company a competitive advantage over competitors, 6 (6.3%) of the respondents were Neutral/undecided, while 6 (6.3%) disagreed and 10 (10.4%) strongly disagreed with the assertion that on time delivery has given the company a competitive advantage over competitors. Thus, we conclude that on time delivery has given the company a competitive advantage over competitors.

Figure-4: 16--Dimension Simple Bar-charts of on time delivery has given the company a competitive advantage over competitors



Source: Survey via Microsoft Excel, 2020.

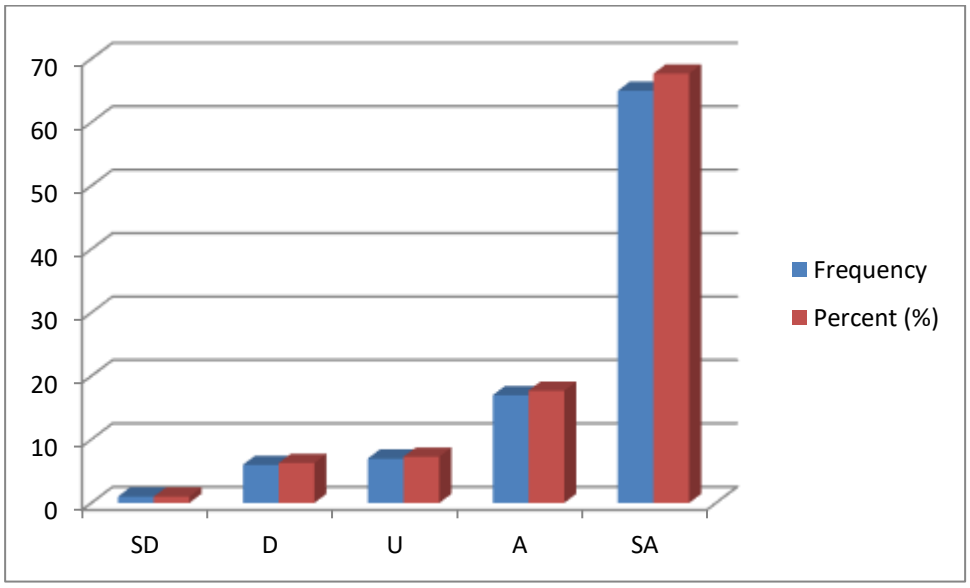
Table-4.20 The cost of inventory at hand has affected the price of the goods

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	7	7.3
Neutral/undecided	8	8.3
Agree	14	14.6
Strongly agreed	62	64.6
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.20 shows that out of the 96 responses, 62 (64.6%) Strongly agreed and 14 (14.6%) agreed that the cost of inventory at hand has affected the price of the goods, 8 (8.3%) of the respondents were Neutral/undecided, while 7 (7.3%)disagreed and 5 (5.2%) strongly disagreed with the assertion that the cost of inventory at hand has affected the price of the goods. Thus, we conclude that the cost of inventory at hand has affected the price of the goods.

Figure-4: 17--Dimension Simple Bar-charts of the cost of inventory at hand has affected the price of the goods



Source: Survey via Microsoft Excel, 2020.

Table 4.21 Lower cost of inventory at hand improved service delivery of goods to the customer

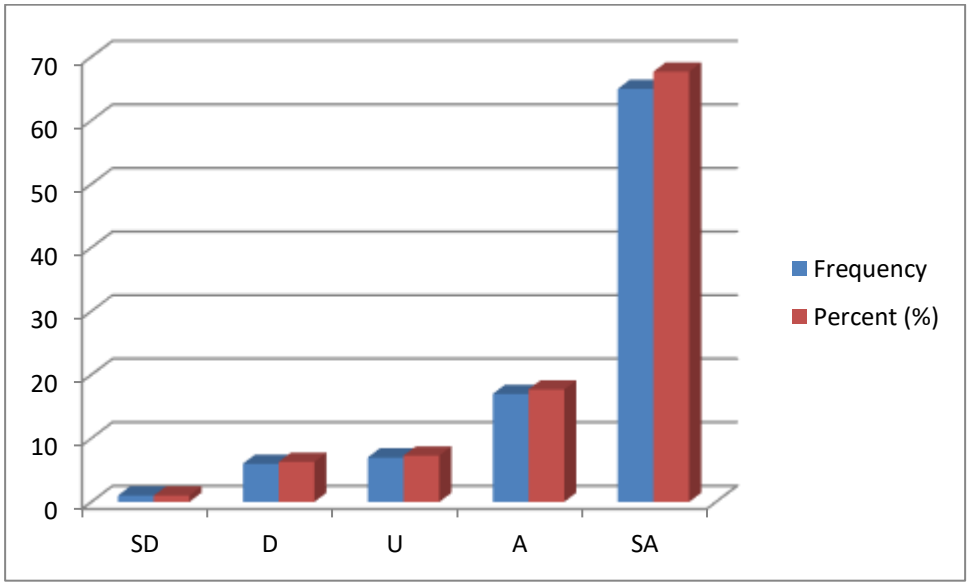
Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	6	6.3
Neutral/undecided	10	10.4
Agree	23	24
Strongly agreed	53	55.2

Total	**96**	**100**

Source: Authors computation, 2020.

Table- 4.21 shows that out of the 96 responses, 53 (55.2%) Strongly agreed and 23 (24.0%) agreed that lower cost of inventory at hand improved service delivery of goods to the customer, 10 (10.4%) of the respondents were Neutral/undecided, while 6 (6.3%)disagreed and 4 (4.2%) strongly disagreed with the assertion that lower cost of inventory at hand improved service delivery of goods to the customer. Thus, we conclude that lower cost of inventory at hand improved service delivery of goods to the customer.

Figure-4: 18--Dimension Simple Bar-charts of lower cost of inventory at hand improved service delivery of goods to the customer



Source: Survey via Microsoft Excel, 2020.

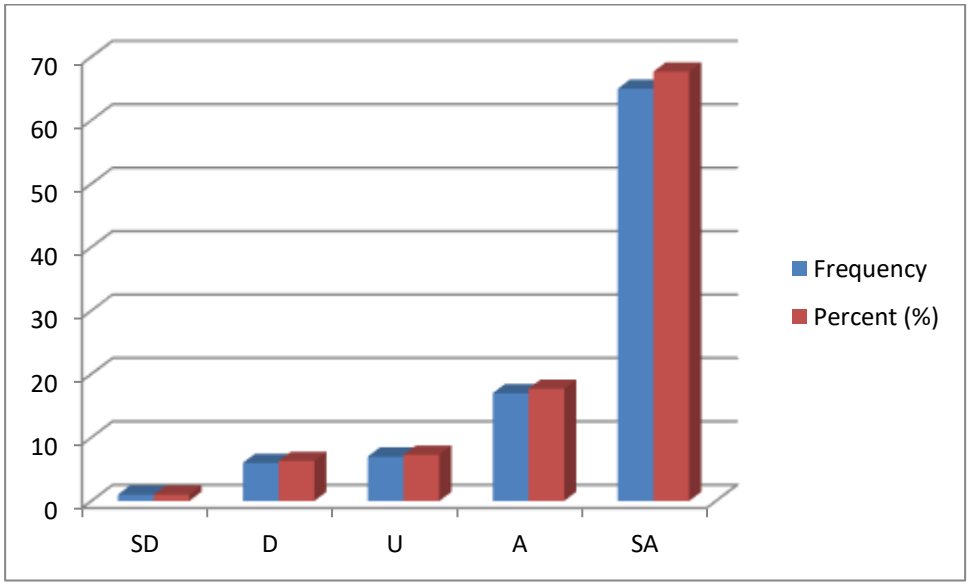
Table 4.22 Effective warehousing techniques has helped to reduce the rate of product defects

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	8	8.3
Neutral/undecided	9	9.4
Agree	16	16.7
Strongly agreed	60	62.5
Total	**96**	**100**

Source: Authors computation, 2020.

Table- 4.22 shows that out of the 96 responses, 60 (62.5%) Strongly agreedd and 16 (16.7%) agreed that effective warehousing techniques has helped to reduce the rate of product defects, 9 (9.4%) of the respondents were Neutral/undecided, while 8 (8.3%)disagreed and 3 (3.1%) strongly disagreed with the assertion that effective warehousing techniques has helped to reduce the rate of product defects. Thus, we conclude that effective warehousing techniques has helped to reduce the rate of product defects.

Figure-4: 19--Dimension Simple Bar-charts of effective warehousing techniques has helped to reduce the rate of product defects



Source: Survey via Microsoft Excel, 2020.

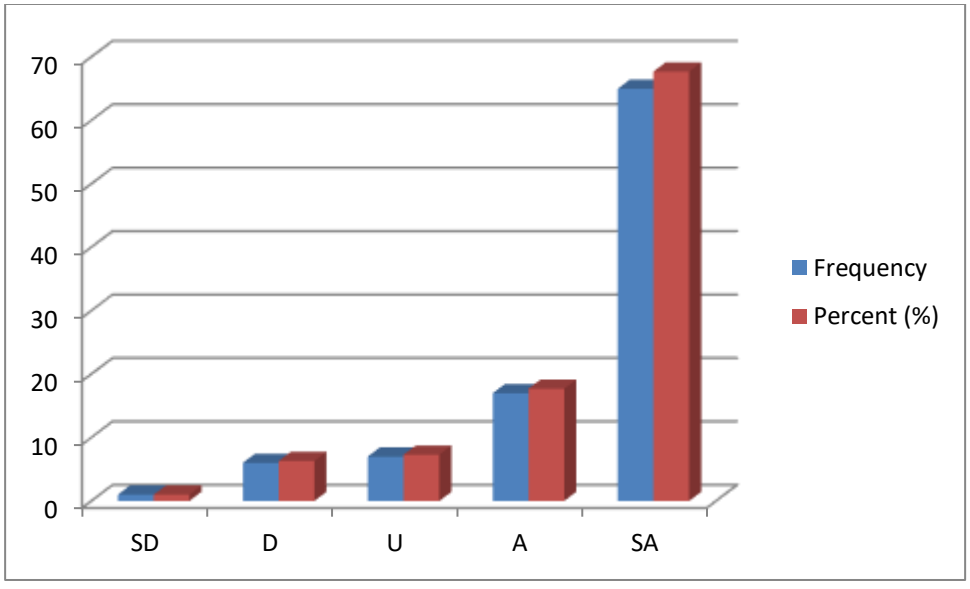
Table 4.23 Warehousing cost has affected the price of the product

Respondent options	Frequency	Percent (%)
Strongly disagree	6	6.3
Disagree	7	7.3
Neutral/undecided	7	7.3
Agree	19	19.8
Strongly agreed	57	59.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.23 shows the response of the respondents on whether warehousing affects price of the product, out of the 96 responses, 57 (59.4%) Strongly agreed and 19 (19.8%) agreed that warehousing cost has affected the price of the product 7 (7.3%) of the respondents were Neutral/undecided, while 7 (7.3%) disagreed and 6 (6.3%) strongly disagreed with the assertion that warehousing cost has affected the price of the product. Thus, we conclude that Warehousing cost has affected the price of the product.

Figure-4: 20--Dimension Simple Bar-charts of warehousing cost has affected the price of the product



Source: Survey via Microsoft Excel, 2020.

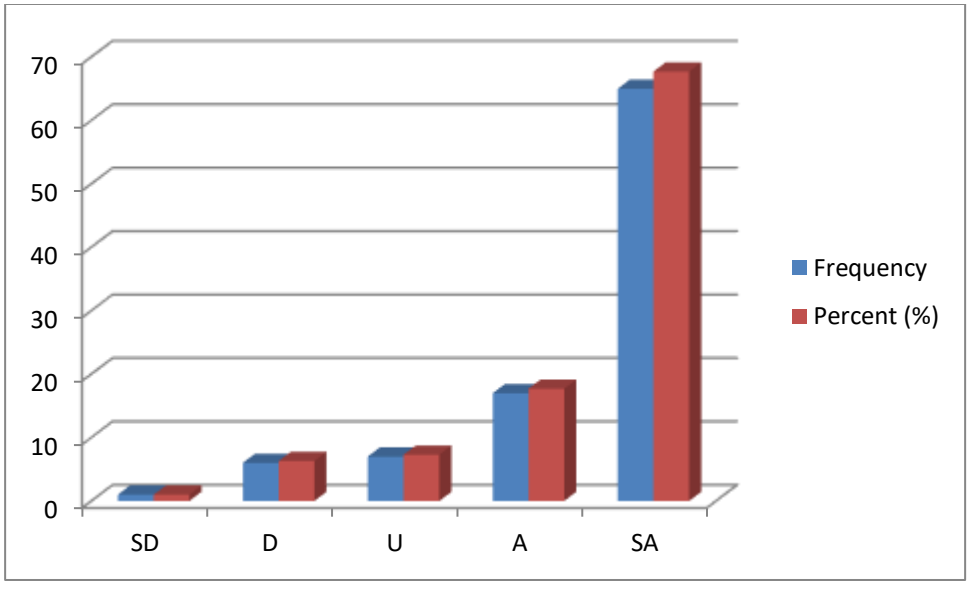
Table 4.24 Effective supply chain planning leads to improved customer satisfaction

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	8	8.3
Neutral/undecided	7	7.3
Agree	20	20.8
Strongly agreed	56	58.3
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.24 shows the response of the respondents on whether effective supply chain leads to improved customers satisfaction in the company. 56 (58.3%) Strongly agreed and 20 (20.8%) agreed that effective supply chain planning leads to improved customer satisfaction, 7 (7.3%) of the respondents were Neutral/undecided, while 8 (8.3%) disagreed and 5 (5.2%) strongly disagreed with the assertion that effective supply chain planning leads to improved customer satisfaction. Thus, we conclude that effective supply chain planning leads to improved customer satisfaction.

Figure-4: 21--Dimension Simple Bar-charts of effective supply chain planning leads to improved customer satisfaction



Source: Survey via Microsoft Excel, 2020.

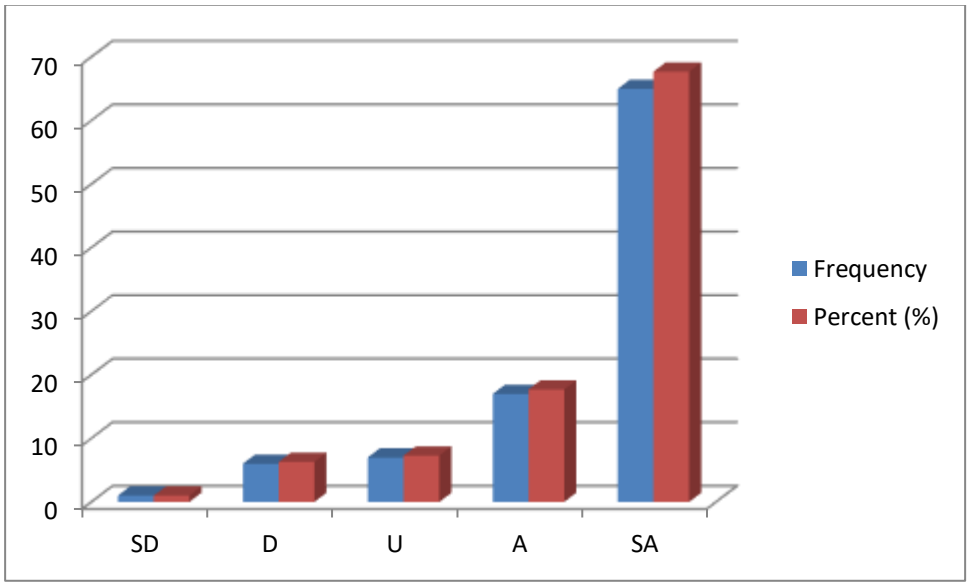
Table 4.25 Supply chain planning increases the service delivery of product

Respondent options	Frequency	Percent (%)
Strongly disagree	2	2.1
Disagree	3	3.1
Neutral/undecided	0	0
Agree	27	28.1
Strongly agreed	58	60.4
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.25 shows that out of the 96 responses, 56 (58.3%) Strongly agreed and 20 (20.8%) agreed that supply chain planning increases the service delivery of product, 7 (7.3%) of the respondents were Neutral/undecided5 while 8 (8.3%) disagreed and 5 (5.2%) strongly disagreed with the assertion that supply chain planning increases the service delivery of product. Thus, we conclude that supply chain planning increases the service delivery of product.

Figure-4: 22--Dimension Simple Bar-charts of supply chain planning increases the service delivery of product



Source: Survey via Microsoft Excel, 2020.

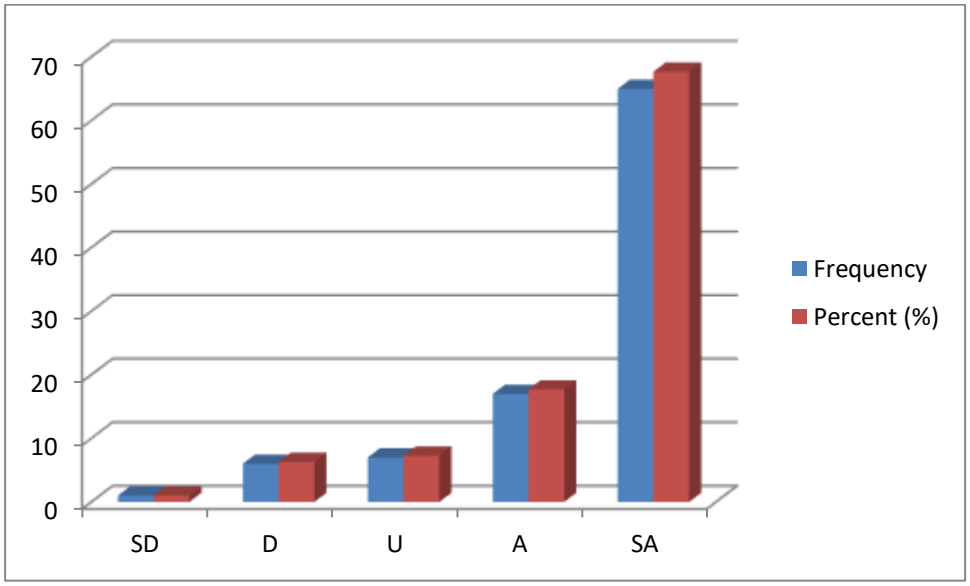
Table 4.26 On time delivery leads to an increase in the level of customer satisfaction

Respondent options	Frequency	Percent (%)
Strongly disagree	4	4.2
Disagree	11	11.5
Neutral/undecided	7	7.3
Agree	22	22.9
Strongly agreed	52	54.2
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.26 shows the response of the respondents in terms of whether on time delivery encourages customers satisfaction, out of the 96 responses, 52 (54.2%) Strongly agreed and 22 (22.9%) agreed that on time delivery leads to an increase in the level of customer satisfaction, 7 (7.3%) of the respondents were Neutral/undecided, while 11 (11.5%) disagreed and 4 (4.2%) strongly disagreed with the assertion that on time delivery leads to an increase in the level of customer satisfaction. Thus, we conclude that on time delivery leads to an increase in the level of customer satisfaction.

Figure-4: 23--Dimension Simple Bar-charts of on time delivery leads to an increase in the level of customer satisfaction



Source: Survey via Microsoft Excel, 2020.

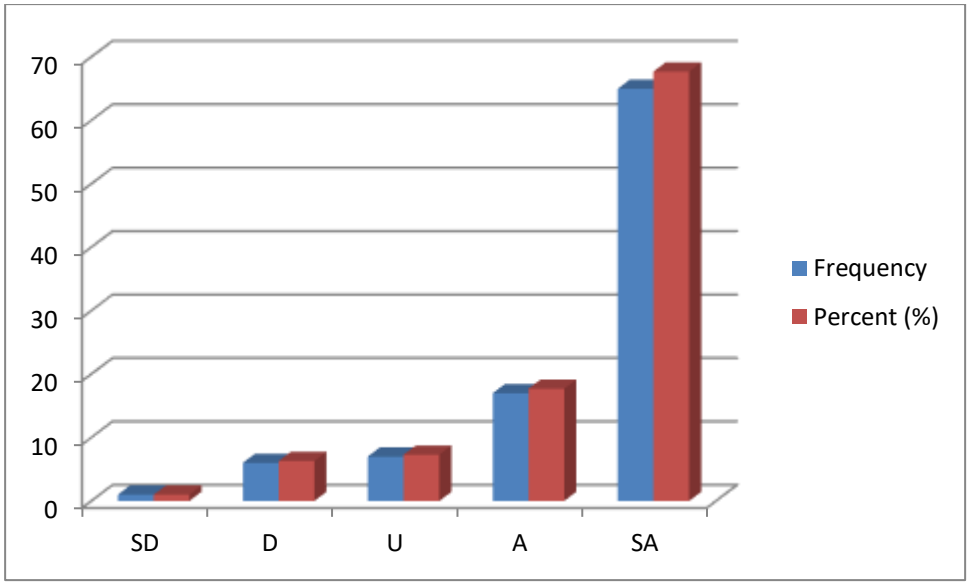
Table 4.27 On time delivery has affected the sales margin of the company

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	9	9.4
Neutral/undecided	8	8.3
Agree	22	22.9
Strongly agreed	54	56.3
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.27 shows that out of the 96 responses, 54 (56.3%) Strongly agreedd and 22 (22.9%) agreed that on time delivery has affected the sales margin of the company, 8 (8.3%) of the respondents were Neutral/undecided, while 9 (9.4%) disagreed and 3 (3.1%) strongly disagreed with the assertion that on time delivery has affected the sales margin of the company. Thus, we conclude that on time delivery has affected the sales margin of the company

Figure-4: 24--Dimension Simple Bar-charts of On-time delivery has affected the sales margin of the company



Source: Survey via Microsoft Excel, 2020.

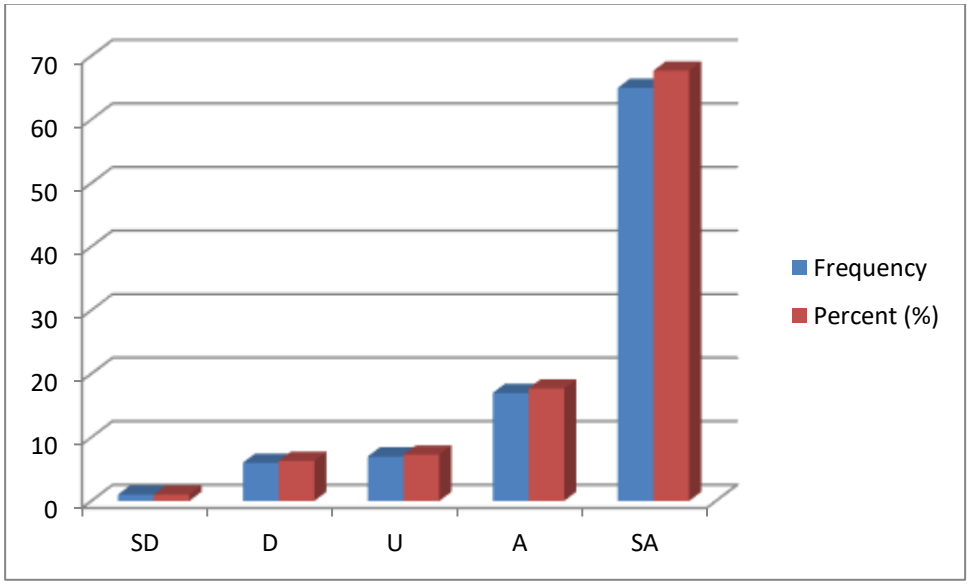
Table 4.28 Inbound and outbound logistics has improved the profitability of the firm

Respondent options	Frequency	Percent (%)
Strongly disagree	5	5.2
Disagree	8	8.3
Neutral/undecided	2	2.1
Agree	5	5.2
Strongly agreed	76	79.2
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.28 shows that out of the 96 responses, 76 (79.2%) Strongly agreed and 5 (5.2%) agreed that inbound and outbound logistics has improved the profitability of the firm, 2 (2.1%) of the respondents were Neutral/undecided, while 8 (8.3%) disagreed and 5 (5.2%) strongly disagreed with the assertion that inbound and outbound logistics has improved the profitability of the firm. Thus, we conclude that inbound and outbound logistics has improved the profitability of the firm.

Figure-4: 25--Dimension Simple Bar-charts of inbound and outbound logistics has improved the profitability of the firm



Source: Survey via Microsoft Excel, 2020.

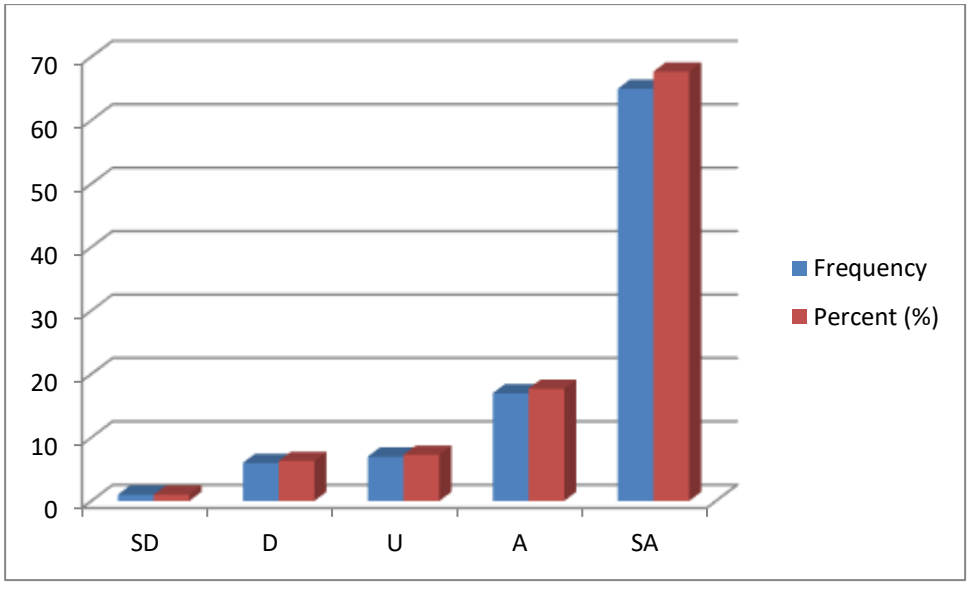
Table 4.29 Inbound and outbound logistics has improved the sales margin of the firm

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	7	7.3
Neutral/undecided	5	5.2
Agree	16	16.7
Strongly agreed	65	67.7
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.29 shows that out of the 96 responses, 65 (67.7%) Strongly agreed and 16 (16.7%) agreed that inbound and outbound logistics has improved the sales margin of the firm, 5 (5.2%) of the respondents were Neutral/undecided, while 7 (7.3%) disagreed and 3 (3.1%) strongly disagreed with the assertion that inbound and outbound logistics has improved the sales margin of the firm. Thus, we conclude that inbound and outbound logistics has improved the sales margin of the firm.

Figure-4: 26--Dimension Simple Bar-charts of Inbound and outbound logistics has improved the sales margin of the firm



Source: Survey via Microsoft Excel, 2020.

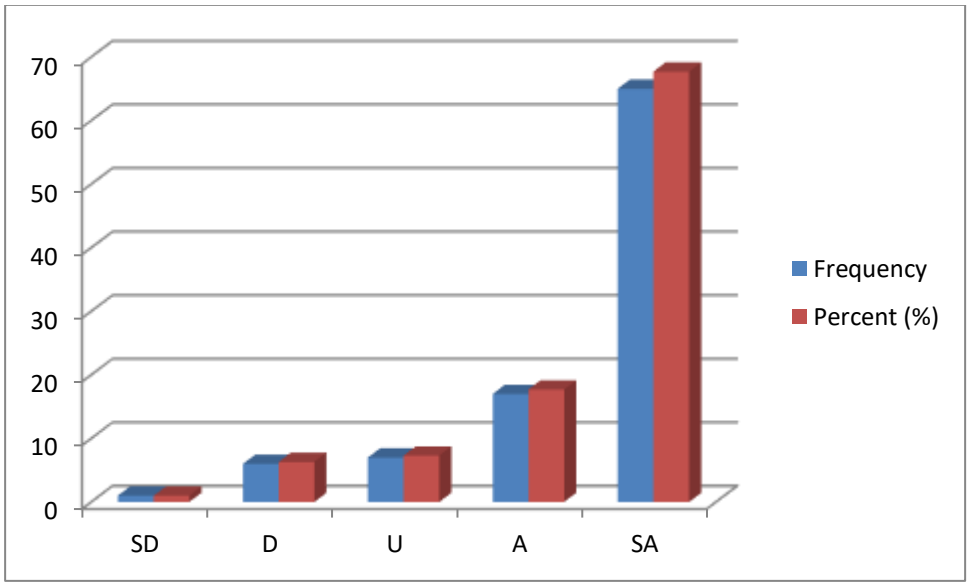
Table 4.30 Inbound and outbound logistics has improved the effectiveness of service delivery offered by the firm

Respondent options	Frequency	Percent (%)
Strongly disagree	3	3.1
Disagree	10	10.4
Neutral/undecided	6	6.3
Agree	30	31.3
Strongly agreed	47	49
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.30 shows that out of the 96 responses, 47 (49.0%) Strongly agreedd and 30 (31.3%) agreed that inbound and outbound logistics has improved the effectiveness of service delivery offered by the firm, 6 (6.3%) of the respondents were Neutral/undecided, while 10 (10.4%) disagreed and 3 (3.1%) strongly disagreed with the assertion that inbound and outbound logistics has improved the effectiveness of service delivery offered by the firm. Thus, we conclude that inbound and outbound logistics has improved the effectiveness of service delivery offered by the firm.

Figure-4: 27--Dimension Simple Bar-charts of Inbound and outbound logistics has improved the effectiveness of service delivery offered by the firm



Source: Survey via Microsoft Excel, 2020.

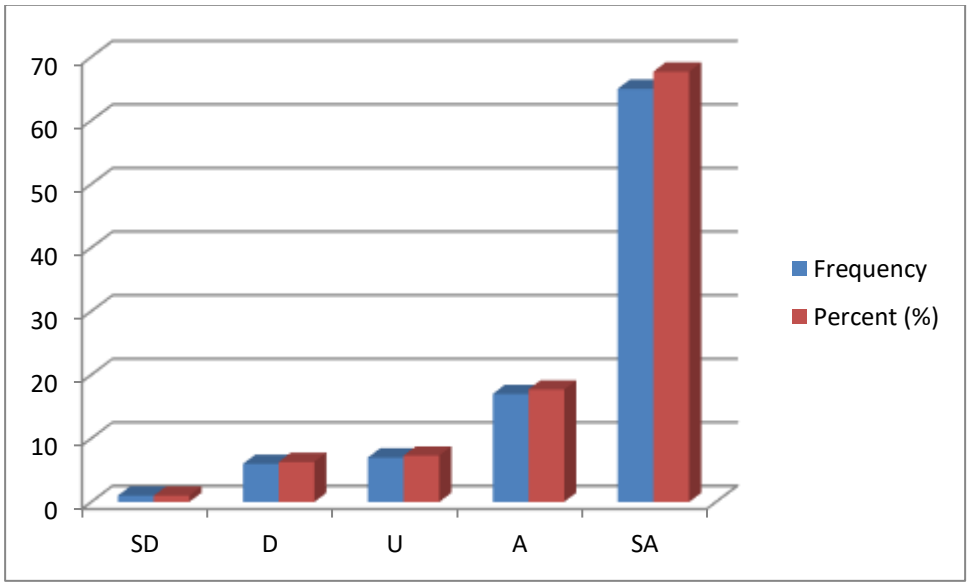
Table 4.31 Inbound and outbound logistics has improved the level of customer satisfaction of the firm's product

Respondent options	Frequency	Percent (%)
Strongly disagree	2	2.1
Disagree	8	8.3
Neutral/undecided	10	10.4
Agree	11	11.5
Strongly agreed	65	67.7
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.31 shows that out of the 96 responses, 65 (67.7%) Strongly agreedd and 11 (11.5%) agreed that inbound and outbound logistics has improved the level of customer satisfaction of the firm's product, 10 (10.4%) of the respondents were Neutral/undecided, while 8 (8.3%) disagreed and 2 (2.1%) strongly disagreed with the assertion that inbound and outbound logistics has improved the level of customer satisfaction of the firm's product. Thus, we conclude that inbound and outbound logistics has improved the level of customer satisfaction of the firm's product.

Figure-4: 28--Dimension Simple Bar-charts of inbound and outbound logistics has improved the level of customer satisfaction of the firm's product



Source: Survey via Microsoft Excel, 2020.

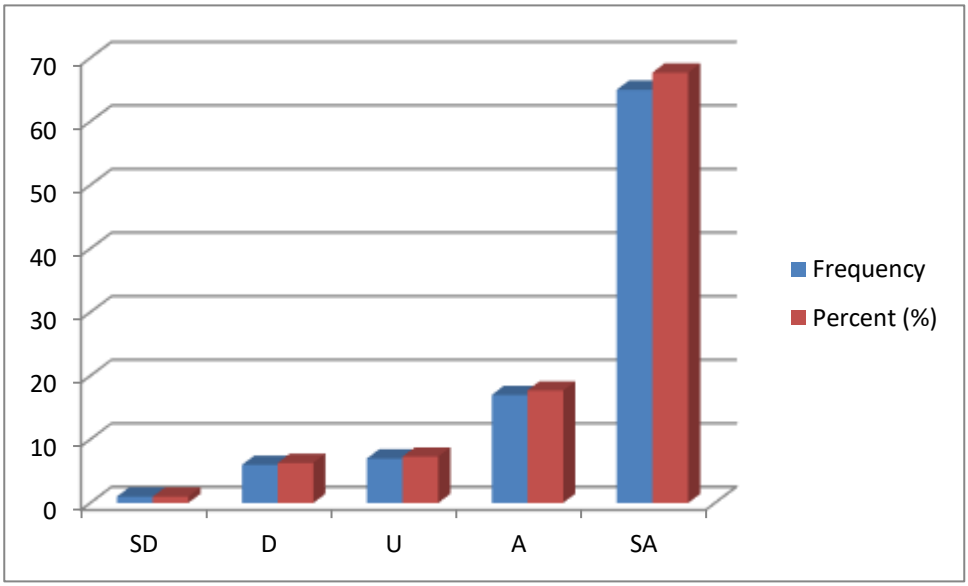
Table 4.32 Inbound and outbound logistics has improved the volume of production of the industry through effective stock taking

Respondent options	Frequency	Percent (%)
Strongly disagree	1	1
Disagree	6	6.3
Neutral/undecided	7	7.3
Agree	17	17.7
Strongly agreed	65	67.7
Total	**96**	**100**

Source: Authors computation, 2020.

Table-4.32 presented the response of the respondents based on whether inbound and outbound logistics improved volumes of productions. Out of the 96 responses, 65 (67.7%) Strongly agreed and 17 (17.7%) agreed that inbound and outbound logistics has improved the volume of production of the industry through effective stock taking, 7 (7.3%) of the respondents were Neutral/undecided, while 6 (6.3%) disagreed and 1 (1.0%) strongly disagreed with the assertion that inbound and outbound logistics has improved the volume of production of the industry through effective stock taking. Thus, we conclude that inbound and outbound logistics has improved the volume of production of the industry through effective stock taking.

Figure-4: 29--Dimension Simple Bar-charts of inbound and outbound logistics has improved the volume of production of the industry through effective stock taking



Source: Survey via Microsoft Excel, 2020.

Test of Hypothesis

Hypothesis One

H_0: Logistic inbound and outbound operations have no significant impact on organizational performance in Dangote Cement Industry

H_1: Logistic inbound and outbound operations have no significant impact on organizational performance in Dangote Cement Industry.

In order to achieve this hypothesis, simple linear regression was employed and the result is presented below

Table 4.33 Simple Linear Regression Model Statistics Summary of Logistic Inbound and Outbound Operation prediction of Organizational Performance

Multiple R	0.638
R Square	0382
Adjusted R Square	0.366
Standard error	2.88966
Observation	96

Source: Researchers computation via SPSS 20

Table 4,33 presented the simple linear regression model statistics summary in terms of the multiple R-square, the R – square, the adjusted R square, standard error and the observation. From the result, the findings show that the independent variable accounted for about 38% in the variation of the dependent variable, hence, inbound and outbound logistics operations are better predictors of the organizational performance in Dangote PLC. The unexplained variation of about 62% is being captured by the stochastic random variable.

Table 4.34. ANOVA and Coefficient of Simple Regression Statistics Output of inbound and outbound logistic on organizational performance

	Df	SS	MS	F	Sig. of F	Decision
Regression	2	479.439	239.720	28.709	0.000	Reject Ho
Residual	93	776.531	8.350			
Total	95	1256.000				

	Coefficients	Standard Error	t Stat	p-value
Intercept	1.408	3.353	0.420	0.676
Inbound logistic	0.308	0.042	7.271	0.000
Outbound Logistic	0.281	0.071	3.958	0.000

Source: Researchers computation using SPSS 20

Table 4.33 indicated that the regressor (logistic inbound and logistic outbound) had combined significantly to the prediction of organizational performance with (F (1, 95) = 28.709 $\rho < 0.01$. R^2 = 0.382). Furthermore, based on the weight of the estimate of both the inbound and outbound in terms of their contributions with ($\beta = 0.308, \rho < 0.01\ for\ logistic\ inbound\ and\ \beta = 0.281, \rho < 0.01\ for\ logistic\ outbound$) respectively. The R – square value indicates that inbound and outbound predict organizational performance and based on the significant of the variables at 1% we conclude that the inbound and outbound logistic have significant impact on organizational performance.

The study move further to test for the key inbound and outbound operations on organizational performance and the results are presented on Table 4.35 and 4.36 respectively.

Table 4.35. ANOVA and Coefficient of Simple Regression Statistics Output of inbound and outbound logistic on organizational performance

	Df	SS	MS	F	Sig. of F	Decision
						Reject
Regression	3	219.629	73.210	6.499	0.000	Ho
Residual	92	1036.371	11.265			
Total	95	1256.000				

	Coefficients	Standard Error	t Stat	p-value
Intercept	15.275	2.963	5.155	0.000
Transportation	0.171	0.086	1.988	0.056
Inventory Control	0.574	0.130	4.401	0.000
Warehousing	0.130	0.061	2.131	0.022

Source: Researchers computation using SPSS 20

In table 4.35, the individual contribution of the inbound logistics variables are tested. The result shows that inbound logistic variables impacted positively on the organizational [performance of Dangote Cement Industry with ($F = (1, 94) = 6.499,\ \rho < 0.01$; $\beta = 0.171, \rho <$ $0.1\ for\ Transportation$, $\beta = 0.574, \rho < 0.01\ for\ inventory\ control\ and\ \beta = 0.130, \rho <$ $0.05\ for\ Warehousing$). Based on the F statistics, the overall result was significant, hence we reject the null hypothesis.

Table 4.36. ANOVA and Coefficient of Simple Regression Statistics Output of inbound and outbound logistic on organizational performance

	Df	SS	MS	F	Sig. of F	Decision
						Reject
Regression	5	498.959	99.792	11.864	0.000	Ho
Residual	90	757.041	8.412			
Total	95	1256.000				

	Coefficients	Standard Error	t Stat	p-value
Intercept	6.959	3.353	2.193	0,031
Transport Cost	0.137	0.039	3.153	0.020
Warehousing Cost	0.455	0.156	2.911	0.005
Inventory Cost	0.235	0.156	1.509	0.135
On Time delivery	0.338	0.042	2.300	0.024
Supply Chain cost	0.164	0.071	1.822	0.052

Source: Researchers computation using SPSS 20

In table 4.35, the individual contribution of the inbound logistics variables are tested. The result shows that inbound logistic variables impacted positively on the organizational [performance of Dangote Cement Industry with ($F = (1, 94) = 11.864,\ \rho < 0.01$; $\beta = 0.137, \rho <$ $0.05\ for\ Transportation\ Cost$, $\beta = 0.455, \rho < 0.01\ for\ Warehousing\ Cost,\ \ \beta =$ $0.235, \rho > 0.1\ for\ Inventory\ control\ cost,\ \ \beta = 0.338, \rho <$ $0.05\ for\ On\ time\ delivery\ \ Cost\ and\ \beta = 0.164, \rho < 0.1\ for\ Supply\ Chain\ Cost$). Based on the F statistics, the overall result was significant, hence we reject the null hypothesis and conclude that the logistic outbound variable has positive impact on organizational performance.

Hypothesis Two

H_0: There is no significant relationship between logistic inbound operations and organizational performance in Dangote Cement Industry

H_1: There is a significant relationship between logistic inbound operations and organizational performance in Dangote Cement Industry

In order to achieve this hypothesis, the Pearson Moment Correlation techniques was employed and the result is presented below

Table 4.37. Correlation between Inbound Logistic operations and organizational performance

Variable	Mean	Std Dev	N	R	P	Remarks
Performance	21.7500	3.63608	96	0.403**	0.00	Significant
Logistic Inbound	38.9521	4.50350				

Source: Author's computation, 2020

It is shown in the table above that there is a significant relationship between inbound logistic operations and organizational performance in the Dangote Cement Industry (r= .403** N=96 ρ<0.001). Furthermore, the mean value for logistic inbound operations and organizational performance falls within the minimum and maximum value and both have a low standard deviation of 4.50350 for logistic inbound and 3.63608 for performance.

Hypothesis Three

H_0: There is no significant relationship between logistic outbound operations and organizational performance in Dangote Cement Industry

H_1: There is a significant relationship between logistic inbound operations and organizational performance in Dangote Cement Industry

In order to achieve this hypothesis, the Pearson Moment Correlation techniques was employed and the result is presented below

Table 4.38. Correlation between Logistic Outbound operations and organizational performance

Variable	Mean	Std Dev	N	R	P	Remarks
Performance	21.7500	3.63608	96	0.409**	0.00	Significant
Outbound Logistics	67.2917	7.32970				

Source: Author's computation, 2020

Table 4.38 revealed that there is a significant relationship between outbound logistic operations and organizational performance in the Dangote Cement Industry (r= .403** N=96 ρ<0.01). Furthermore, the mean value for logistic outbound operations and organizational performance. Furthermore, the mean value for logistic outbound operations and organizational performance falls within the minimum and maximum value and both have a low standard deviation of 7.32970 for logistic inbound and 3.63608 for performance.

CHAPTER FIVE
DISCUSSION OF FINDINGS

5.1 Introduction

This chapter focused on the discussion of findings obtained from the response of the respondents on the questionnaire administered. The outcome of the findings is used to draw up the conclusions and suggested recommendations for the research work.

5.2 Discussions

This section of the chapter deals with the discussion of findings with respect to issues that were common, issues that were different and other relevant issues not covered.

Issues that were common

The study examined the impact of logistic inbound and outbound operations on the organizational performance at Dangote Cement Industries. To achieve the objectives of the study based on the research questions, four hypotheses were formulated. However, the first objective was to determine the key drivers of inbound and outbound logistics in the organizations. Responses from the respondents showed the key logistic inbound logistics are transportation, inventory control and warehousing. It was noted that the distribution of raw materials from source to the factory where they are used in production is important for the company to thrive. This will also help in the distribution of raw materials and goods to the different plants and final consumers when all these are in place. A good transportation system leads to efficient delivery of their goods and make distributions easy. In terms of inventory control, it is important that stocks and raw materials are kept in a better place to at any particular time so as to avoid stock-outcome or overstocking. As a result, it becomes necessary to ensure First In First Out (FIFO) and Last In First Out (LIFO) principles takes place in the organization so as to ensure that the organization grows.

Furthermore, the key outbound logistics are transportation cost, warehousing cost, inventory control cost, On – Time Delivery Cost, Supply chain cost are the major outbound logistics. The transportation cost deals with the middlemen that supply goods from the warehouse to the desired destination. Effective transportation cost to wholesalers, retailers, final consumer or even to other plants are important. There is a need to consider the number of fleet of vehicles, experience of the driver and rate of accidents.

The second objective was based on the impact of logistic inbound and outbound operations on organizational performance. To achieve the objective an addressed the hypothesis, Regression analysis along with the Analysis of Variance was employed. It was noted that logistic inbound and outbound impacted positively on the performance of an organization. The joint combination of Logistic inbound and outbound operation predicted organizational performance in the Dangote Cement Industry by 49 percent with (F (2, 93) =28. 709, $\rho < 0.01$). The corresponding contribution from the result indicated that it inbound and outbound logistic impacted positively and significantly on organizational performance in the Dangote Cement industry with $\beta = 0.308$, $\rho < 0.01$ for Logistic inbound operations and $\beta = 0.281$, $\rho < 0.01$ for Logistic outbound operation. This findings is in line with the study by Kamran (2018) on the impact of effective logistics management on organizational performance that concluded that for effective and efficient flow of materials to ensure growth in the organization, there is need for management to put in place both inbound and outbound logistics operation. Also, study by Alumbugu, et al (2020) also confirmed positive and significant impact of logistic inbound and outbound on organizational performance. Based on the findings, the null hypothesis of no significant impact of logistic inbound and outbound operation on organizational performance was rejected. Therefore, it is concluded that logistic inbound and outbound operation has significant positive effect on organizational performance.

The third objective focused on if any significant relationship exists between logistic inbound operation and organizational performance. To addressed the objective and achieve the hypothesis, Pearson moment correlation techniques was employed. The findings revealed that there a strong and significant positive relationship exists between Logistic inbound operation and organizational performance with (r = 0.403**, $\rho < 0.01$). These findings compliment the work by Khan and Rattanawiboonsom (2019) that found positive and significant relationship of Logistic inbound operation and firm performance in Bangladesh. There findings also supported a significant relationship between inbound logistic operation and organizational performance. Based on the findings, the null hypothesis of no significant relationship between inbound logistics and organizational performance was rejected. Hence, the study concluded that Logistic inbound operation has significant effect on organizational performance in the Dangote Cement Industry. This finding addressed the third research questions.

The fourth objective of the study was to determine if any significant relationship exists between outbound logistic operation and organizational performance. To address the objective and achieve the hypothesis formulated, the Pearson Moment Correlation technique was employed and findings revealed that outbound logistic operation has positive and significant relationship with organizational performance with ($r = 0.457^{**}$, $\rho < 0.01$). These findings is in line with the work by Hai and Son (2019) that found positive an significant relationship between Logistic outbound operations and firm financial performance on their study on the effect of logistics serviced on on firm financial performance. Moreover, the work by Kwateng, Manso and Osei-Mensa (2014) on the impact of outbound logistic management on manufacturing sector in Ghana also found a positive significant relationship between outbound logistics and the performance of manufacturing firm. Therefore, based on the findings, the null hypothesis of no significant relationship between inbound logistics and organizational performance is rejected

Issues that were different

Although, some findings show a positive relationship and effect of logistics inbound and outbound operations on organizational performance. However, Mwangi and Waweru, (2013) in their study on the role of transport in supply management using Safaricom limited as a case study opined that transportation cost with respect to supply chain and inbound transport sometimes delays the delivery of commodities and affect the performance of the organization. Khan and Rattanawiboonsom (2019), also confirmed that in some situation inbound logistic impacted positively with the productivity of an organization and negatively connected with the firm performance

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter focused on the summary of findings, conclusion. Recommendations, contributions to knowledge, limitations of the study and possible suggestions for further research in the area of Logistics inbound and outbound operations.

6.2 Summary of Findings

This study examined the impact of logistic inbound and outbound operations on organizational performance at the Dangote Cement Industry in Lagos, Nigeria. The main purpose was to ascertain whether logistic inbound and outbound contributed positively or negatively on the performance of the industry.

The summary of the findings from the study revealed as follows;

1. The key logistic inbound operations of the industry are transportation, inventory control and warehousing.
2. The key logistic outbound operations in the company are transportation cost, warehousing cost, inventory control cost, Supply Chain Delivery, On – Time – Delivery,
3. Logistic inbound and outbound operation jointly predict organizational performance in the Dangote Cement Industry with (F (2, 93) =28. 709, R^2= .490; $\rho < 0.01$). Furthermore, they impacted positively and significant in determining organizational performance in the industry with $\beta = 0.308$, $\rho < 0.01$ for logistic inbound operations and $\beta = 0.281$, $\rho < 0.01$ for Logistic outbound operation. The result shows a significant value at 1%. Hence, the null hypothesis (H_0) of logistic inbound and outbound has no significant effects on organizational performance in Dangote Cement Industry is rejected. Hence, we concluded that logistic inbound and outbound operation has positive impact on organizational performance.
4. There is a significant positive relationship between logistic inbound operations and organizational performance at the Dangote Cement Industry with (r = 0.403**, $\rho < 0.01$). Based on the findings, the null hypothesis of no significant relationship between inbound logistics and organizational performance is rejected.

5. The is a significant positive relationship between logistic outbound operations and organizational performance at the Dangote Cement Industry with (r = 0.457**, $\rho < 0.01$). Therefore, based on the findings, the null hypothesis of no significant relationship between inbound logistics and organizational performance is rejected

6.3 Conclusion

Logistic is an important parameter for any manufacturing industry to grow. As a result, the place of both inbound and outbound logistics in an organization cannot be underestimated as they provide the manufacturing industry a free flow of resources and ensure efficiency in the distribution of resources from the source to the various destinations where these goods are needed. The study has been able to examine the effect of logistic inbound and outbound operations on the organizational performance of Dangote Cement Industries and concluded as follows:

i. That the key logistic inbound operations in the Dangote Cement Industry are transportation, inventory control and warehousing. These logistics helps in effective performance of the organization.
ii. That the key Logistic inbound and outbound operations contributed positively to the performance of the organization and stand as a significant factor that determines the organizational performance in terms of effective distribution of goods.
iii. That the Logistics inbound variables in terms of transportation, inventory control and warehousing have significant positive relationship with the organizational performance of Dangote Cement Industry.
iv. That the Logistic outbound variables have positive and significant relationship with the organizational performance.
v. That for effective and efficient flow of materials in the company, there is need for the acceptance of Logistic inbound and outbound operations.

vi. VI. That the results also support the theoretical and empirical evidence of previous studies showing significant consequences for organization's performance in the manufacturing industry by logistical inbound and outbound operations

6.4 Recommendation

Based on the findings, it is glaring that Logistic inbound and outbound operations impacted positively on the organizational performance. Hence, the study recommended as follows:

i. Companies should engage in Logistic inbound and outbound operations so as to help ease their means of distribution on the good produced to where they are needed.
ii. There is need for effective transportation system in order to ease movement of finished products and warehouse for keeping raw materials prior to when it will be needed
iii. Companies should ensure on time delivery of their goods to customers so as not to bring unnecessary additional costs that may scare away customers.
iv. Inventory control is needed to ensure that stocks and raw materials are kept in a better place so as to guide against stock outfall or over stocking.
v. For effective an efficient growth of the company, it is important to adopt the principle of First In First Out (FIFO) and Last In First Out in the company. This will enable customers to have more trust in the company and hence improves their sales and customer patronage.

6.5 Suggestion for Further Research

This study has provided empirical evidence on the Impact of Logistic inbound and outbound operations on organizational performance using Dangote Cement Industries. Although, the study has contributed to knowledge, yet there are further areas in which other studies may focus at. First, only Dangote Cement Industries was used in this study. Further studies may look at other Cement Industries operating in the country and do a comparative analysis with that of Dangote. Secondly, only five outbound variables were used in this study, further research may look at another relevant outbound variable too. Third, due to the presence situation in the country, the number of respondents were limited to 96. Further studies should make use of more respondent as it will give a more robust finding. Fourth, the study focused on the organizational performance of the firm, further studies should look at the impact on the financial performance of the industries.

6.6 Contribution to Knowledge

The study examined the effect of logistic inbound and outbound operations on organizational performance. The study contributed to knowledge in the following areas:

i. Most studies focused on either inbound logistic or outbound logistic effects on manufacturing company performance. However, this study combined both logistic inbound and outbound effect on the organizational performance.
ii. Studies that deals with inbound or outbound logistics effects on performance failed to look at the key components of the inbound and outbound logistics which this study addressed so as to see individual contributions on the organizational performance.
iii. The study addressed the issue of inbound and outbound logistics on the Cement industries in Nigeria which only few studies that addressed it does not examine it in the Cement industry
iv. The study has been able to add to the existing literature and concluding that inbound and outbound logistics impacted positively on the performance of an organization,

6.7 Limitation of the Study

Despite the contribution to knowledge, the study is limited to some constraint**.** First, the present pandemic limited the total number of respondents that would have been used for the study. Hence, only the limited respondents' responses are used for the conclusion and recommendations. Secondly, the time constraint limits a thorough research for the study. Third, the distance and unwillingness of some respondents to attend to the questionnaire limited the ideas that would have been included for the study.

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APPENDIX

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.619[a]	.512	.490	2.88652	.512	28.872	2	93	.000	.931

a. Predictors: (Constant), outbound_logistics, Inbound_logistics

b. Dependent Variable: PERFORMANCE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	481.125	2	240.563	28.872	.000[b]
	Residual	774.875	93	8.332		
	Total	1256.000	95			

a. Dependent Variable: PERFORMANCE

b. Predictors: (Constant), outbound_logistics, Inbound_logistics

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.362	3.181		.114	.910
	Inbound logistics	.233	.031	.041	7.516	.000
	outbound logistics	.299	.043	.603	6.893	.000

a. Dependent Variable: PERFORMANCE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	15.2157	25.7813	21.7500	2.25044	96
Residual	-9.08628	4.43184	.00000	2.85597	96
Std. Predicted Value	-2.904	1.791	.000	1.000	96
Std. Residual	-3.148	1.535	.000	.989	96

a. Dependent Variable: PERFORMANCE

Correlations

Correlations

		PERFORMANCE	Inbound Logistic
PERFORMANCE	Pearson Correlation	1	.403**
	Sig. (2-tailed)		.000
	N	96	96
Inbound Logistic	Pearson Correlation	.403**	1
	Sig. (2-tailed)	.000	
	N	96	96

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

Correlations

		PERFORMANCE	Outbound Logistic
PERFORMANCE	Pearson Correlation	1	.457**
	Sig. (2-tailed)		.000
	N	96	96
Outbound Logistic	Pearson Correlation	.457**	1
	Sig. (2-tailed)	.000	
	N	96	96

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.618[a]	.321	.308	3.35632	.175	6.499	3	92	.000	1.748

a. Predictors: (Constant), Inbound inventory, Inbound Transportation, Inbound warehousing

b. Dependent Variable: PERFORMANCE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	219.629	3	73.210	6.499	.000[b]
	Residual	1036.371	92	11.265		
	Total	1256.000	95			

a. Dependent Variable: PERFORMANCE

b. Predictors: (Constant), Inbound inventory, Inbound Transportation, Inbound warehousing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.275	2.963		5.155	.000
	Inbound warehousing	.130	.061	.058	2.131	.022
	Inbound Transportation	.171	.086	.097	1.988	.055
	Inbound inventory	.574	.130	.439	4.401	.000

a. Dependent Variable: PERFORMANCE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	16.7525	24.0903	21.7500	1.52049	96
Residual	-9.86098	4.50248	.00000	3.30290	96
Std. Predicted Value	-3.287	1.539	.000	1.000	96
Std. Residual	-2.938	1.341	.000	.984	96

a. Dependent Variable: PERFORMANCE

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	S
1	.630[a]	.397	.364	2.90027	.397	11.864	5	90	

a. Predictors: (Constant), Transportationcost, outbound_supplyChainCost, outbound_WarehouseCost, outbound_Otd, ou

b. Dependent Variable: PERFORMANCE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	498.959	5	99.792	11.864	.000[b]
	Residual	757.041	90	8.412		
	Total	1256.000	95			

a. Dependent Variable: PERFORMANCE

b. Predictors: (Constant), Transportation cost, Supply Chain Cost, Warehousing Cost, Ontime delivery inventory Cost

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.959	3.174		2.193	.031
	On time delivery	.338	.147	.260	2.300	.024
	Supply Chain Cost	.164	.090	.068	1.822	.052
	Warehouse Cost	.455	.156	.310	2.911	.005
	Inventory Cost	.235	.156	.182	1.509	.135
	Transportation cost	.137	.039	.043	3.153	.000

a. Dependent Variable: PERFORMANCE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	489.239	4	122.310	14.516	.000[b]
	Residual	766.761	91	8.426		
	Total	1256.000	95			

a. Dependent Variable: PERFORMANCE

b. Predictors: (Constant), outbound_inventoryCost, outbound_supplyChainCost, outbound_WarehouseCost, outbound_Otd

ALL ITEMS

Reliability Statistics

Cronbach's Alpha	N of Items
.895	30

INBOUND LOGISTIC

Reliability Statistics

Cronbach's Alpha	N of Items
.766	9

OUTBOUND LOGISTICS

Reliability Statistics

Cronbach's Alpha	N of Items
.801	16

ORGANIZATIONAL PERFORMANCE

Reliability Statistics

Cronbach's Alpha	N of Items
.782	5

QUESTIONNAIRE

Dear Respondent,

I am a Masters student in the Department of International Business, National College of Ireland Dublin1, Ireland conducting research on the topic "Impact of Logistic (Inbound and Outbound) operations on organizational performance using Dangote cement industry as a case study. This questionnaire is basically for research purpose as all information from you will be treated with strict confidentiality.

Thank you for your cooperation.

Yours Faithfully,

Feyisayo Odunjo

SECTION A: BIODATA

1. Gender: Male ( ) Female ( )
2. Age Group: 20-30 ( ) 31-40 ( ) 41-50 ( ) 50 and above ( )
3. Marital Status: Married ( ) Single ( ) Others ( )
4. Highest Educational Qualification: Postgraduate ( ) Professional Certificate ( ) B.Sc/HND ( ) OND/NCE ( ) SSCE/GCE ( ) Others ( )
5. Work Experience: Less than 5 years ( ) 5-10 years ( ) 11-15years ( ) 16 years and above ( )
6. Position: Senior staff ( ) Junior staff ( ) Management Staff ( )

SECTION B:

This section contains items dealings with the effect of logistic inbound operation and logistic outbound operations on organizational performance

Kindly tick your choice from the scale giving to each of the questions

SECTION B: INBOUND LOGISTICS						
No	**ITEMS**	**SD**	**D**	**U**	**A**	**SA**
		1	**2**	**3**	**4**	**5**
1	Inventory control policies are in accordance with global standards					
2	Warehouse management has helped in reducing the risk that may arise in the course of stock out during production					
3	Raw materials get to the warehouse in time					
4	The large coordination and perfect administration of inventory has improved productivity and reduce product defect					
5	Lowest inventory handling cost leads to improved production capacity					
6	Inadequate resources have hindered implementation of inbound logistics practices					
7	Effective movement of goods to where they are kept helps in the reduction of cost of operation					
8	Effective inventory control assist in the reduction of cost of overhead.					
9	Adoption of modern transportation management techniques has helped to reduce risk of accidents					

SECTION C: OUTBOUND LOGISTICS						
No	**ITEMS**	**SD**	**D**	**U**	**A**	**SA**
		1	**2**	**3**	**4**	**5**
1	Shorter shipment time brings about instant supply of finished goods to the hand of the customer					
2	Lowest inventory handling cost leads to improved customer satisfaction					
3	The control of the cost of inventory helps in the reduction of the management of supply chain in the company					
4	Inventory carrying cost affects price of the goods					
5	lower cost of warehouse management has assisted the organization in the reduction of overhead cost					
6	Transportation cost has affected the prices of the goods					
7	Lower transportation cost has given the company an edge over competitors					
8	On time delivery has given the company a competitive advantage over competitors					
9	The cost of inventory at hand has affected the price of the goods					
10	Lower cost of inventory at hand improved service delivery of goods to the customer					
11	Effective warehousing tactics and method assist in the reduction of the rate of product defects					

12	The cost of the goods produced are affected by the cost incurred in warehousing					
13	Effective supply chain planning leads to improved customer satisfaction					
14	Supply chain planning increases the service delivery of product					
15	On time delivery of goods brings about high level of customer patronage and satisfaction					
16	On time delivery has affected the sales margin of the company					
SECTION D: PERFORMANCE						
No	**ITEMS**	**SD**	**D**	**U**	**A**	**SA**
		1	**2**	**3**	**4**	**5**
1	Inbound and outbound logistics has improved the profitability of the firm					
2	Sales margin of the organization has been improved with the adoption of logistic inbound operation and outbound operation					
3	Logistic Inbound and that of outbound operations has upgraded the effectiveness of service delivery offered by the firm					
4	Inbound and outbound logistics has improved the level of customer satisfaction of the firm's product					
5	Inbound logistics and outbound logistics in the organization has bring about improvement in the					

	volume of production of the industry through effective stock taking					