Factors Influencing the Distribution Performance (The Case of Muger Cement Factory)

Addis Ababa University COLLEGE OF BUSINESS AND ECONOMICS School of Commerce

Department of Marketing Management

Post Graduate Program

By

Tefera Workalemahu

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By
Tefera Workalemahu

Advisor;
Getie Andualem (Ph.D.)

Declaration

I, Tefera Workalemahu, declare that the Marketing management thesis entitled *factors influencing the distribution performance: an empirical study in Muger cement factory is my original work and is not been presented for degree in any other university.* This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Approved by Board of Examiners

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Thesis Advisor	Signature	Date
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Internal Examiner	Signature	Date
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External Examiner	Signature	Date

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Abbreviation and Acronyms

CBE	*Commercial Bank of Ethiopia*
CA	*Cronbach`s Alpha*
EX-IM	*Export-Import*
EDI	*Electronic data interchange*
EPOS	*Electronic Point of sale system*
ERP	*Enterprise Resource planning*
FMCG	*Fast moving consumer Goods*
GIS	*Geographical Information System*
IDF	*Industrial Development Fund*
IS	*Information system*
IT	*Information technology*
IOS	*Inter-organizational Information System*
JIT	*Just in Time*
MIS	*Management Information System*
OPC	*Ordinary Portland cement*
PC	*Person Correlation*
PDM	*Physical Distribution management*
PLC	*Portland Limestone cement*
PPC	*Portland Pozzolana cement*
PC	*Pozzolana Cement*

Sig	*Level of Significance*
SPSS	*Statistical Package for the social science*
SCM	*Supply Chain Management*
3PL	*Third party Logistic Provider*
UK	*United Kingdom*
USA	*United States of America*
USAID	*United states Agency for International Development*
VIF	*Variance Inflation Factor*

Abstract

The purpose of this study was to examine factors that influence the distribution performance of Muger cement factory. The guiding research question of this study was `` To what extent dose financial capacity, transport outsourcing and information system impact the distribution performance of Muger cement factory.

The study used a stratified method of sampling technique on sample respondents Muger cement management staffs comprising of 2-top management, 9-process owners and 82-team leaders: who are located at Muger, Tatek and Addis Ababa cement. A structured questionnaire was developed by the researcher and a quantitative data was gathered and used. From the distributed 93-questionaire, 78 of them are responded which constitute more than 80 percent of response rate.

A correlation and regression analysis as well as an explanatory approach was employed to explain the extent of relationship between variables of interest. Further, statistical methods such as, descriptive statistics (like mean), Statistical Package for Social Scientist (SPSS) version 20 was also used to analyze the data. Additional, tables and charts were used to present the study results.

The finding indicates that; financial capacity, transport outsourcing and information system had a significant positive impact on the distribution performance of the factory. It also indicates that; financial capacity and information system followed by transport outsourcing have the greatest influence on distribution performance respectively.

The finding of the study implies that financial capacity, transport outsourcing and information system must be given due attention if the factory wants to enhance its distribution performance.

Based on the result obtained in the analysis and conclusion made; the researcher recommend that the factory need to have an efficient payment system with liquidity in place together with training of employees with respect to proper planning and management of outsourcing and implementation of an information technology like ERP and GIS to ensure its distribution competitiveness in the industry

***Key Words**: Financial capacity, Transport outsourcing, information system, distribution performance*

CHAPTER ONE

1.0 Introduction

This chapter is an introductory chapter basically deals with issue like background of the study where a gap in literature is going to be investigated, statement of the problem whereby the reason why a further research is needed is also being justified. A research questions, scope of the study, limitation of the study and other elements are presented.

1.1 Background of the study

Marketing channel decisions are among the most important decisions that management faces today. Indeed, if one looks at the major strategy of the marketing mix (product, price, promotion and distribution), the greatest potential for achieving a competitive advantage now lies in distribution (Obaji, 2011).

Distribution, as one of four elements of marketing complex, is an inseparable part of marketing decisions which involves all the decisions about distribution of products to the end user. The issues of distribution were analyzed by a number of marketing specialists (Berman, 1999; Kim, 1996; Delton, 1997; Frazier, 1999; Kotler, 2003; Rosenbloom, 1999; Stern, 2006; etc.), paying a big attention to the elaboration of the procedures of marketing channel design (Gudonaviciene Alijosiene, 2008).

Distribution still offers a new frontier for competing successfully, especially if the emphasis is placed on the design and management of superior marketing channel systems to provide excellent customer services. Yet designing optimal marketing channel systems to boost sales, formulating innovative distribution strategies and managing channels system effectively is not a simple task. (Obaji, 2011)

The level of the economy has put distribution into a less important position and scarcity or short supply of products. Most management today are interested on profit maximization without due attention to the effect of distribution on the company and economy as a whole. For any organization to be effective there should be effective distribution strategy and management process to convey finished products from the manufacturer to the final consumers.

Cement is a homogenous product where cost differentiation is the main strategic issue to secure competitive advantage in the market. Cement prices are somewhat price inelastic. Though, at times when the private companies may decrease consumptions, governments never stop buying cement to practically affect their infrastructural investments (Selim & Salem, 2010).

When demand exceeds, supply firms or by in large the government, may be involved in quota distribution to optimize the distribution and create price stability (Rensburg and Niekerk, 2010). Customers are supposed to wait to the long queue before they get the cements. This has two effects in the market. The first is that it would create producers complacency as they could sell their products at wished prices leading them to be not as such customer focused. The second issue is on the customer side where they feel so much dissatisfied on the current non availability and where the possibility comes, they would switch to the new entrants due to the prior developed hatred.

As defined by Heizer and Render (2007), "Supply chain management is the integration of the activities that procure materials and services, transform them into intermediate goods and final products and deliver them to the customers". Fawcett, Ellram and Ogden (2007) indicated that the nature of competition has changed in that competitions coming to be among different supply chains as it is helpful to leverage the strength of the suppliers and customers to gain the competitive edge. This shows that the satisfaction of the customer is given a due consideration and the process requires well aligned and integrated partnership with suppliers and other members of the supply chain members. Internal functionality walls need to be demolished and everyone works together as a process team to serve the best interest of the ultimate customer.

Internally, most firms are organized functionally, not integrated as a flow of processes. As described by Hoole (2005), most of the people wear the hut of functionality. This leads to the lack of common thought of an integrated approach within and across organizations. Marquez (2010) discussed information sharing is important in the supply chain net works. It would enable them to be fast and responsive to the market and makes demand change with lower costs. Sharing critical information is vital to reduce the level of inventory and costs while delivering improved performance level within the supply chain levels. He also reiterated that, unless and otherwise the flow of information is both effective and efficient, lack of trust and bullwhip effect would appear into the system. The information technology and connectivity in Ethiopia is not yet as such developed. Mulat and Tadesse (2002), in the survey they survey found out that the

number of internet subscribers were only 6487, the number of subscribers per 1000 people in Addis Ababa, for other towns and for the country as a whole were 2.4, 0.24 and 0.1, respectively.

Because of the current imbalance of demand and supply, customers are not given due consideration and have to keep for their waiting list to come from a long queue.

The researcher hardly finds enough literature on the current supply chain practice in the Ethiopian Cement Industry. However, from the country's experience in the area of procurement, logistics and distribution management, the researcher generally describes on how financial capacity, transport outsourcing and information system impact the distribution performance of a firm by taking Muger cement factory as a case study.

1.2 Overview of the industry

Muger Cement factory is a state owned enterprise established with a purpose of producing and supplying cement and carrying out related activities that are important for the attainment of its objective. Initially it was Established with an authorized capital of Birr 334,716,000.00 /three hundred thirty four million seven hundred sixteen thousand birr / of which birr 257,516,000.00/ two hundred fifty seven million five hundred sixteen thousand birr/ is paid up in cash & in kind, is formed in 1999 through amalgamation of two formerly independent factories: i.e., Muger Cement Factory and Addis Ababa Cement Factory. The Factory is located about 90kms North West of the capital city, Addis Ababa, on the elevation of about 2450mts above sea level. The mother plant of the factory has three production lines with production capacity of 5000 tons of clinker per day. The first, second and third lines started operation in 1984, 1990 and 2011 respectively. The first and second line plants were established with long term loan secured from the development bank of Ethiopia and former East German Government plus a financial outlay from the treasury of Ethiopian government. The third line plant total capital outlay was USD138.37million out of which USD 90.98 million was a loan secured by commercial bank of Ethiopia (CBE) from EX-IM (Export-Import) bank of china and loaned out to the factory. And birr 692million loan secured from the industrial development fund (IDF). Addis Ababa Cement plant, formerly known as Addis Ababa Cement Factory, was built in 1964. Initially it had a production capacity of 70,000 tons of cement per annual. However following the obsolescence of the machinery and increase in the dust emission level which brought about pollution in the surroundings, the plant has been forced to stop production of clinker in

1996.Following this the previously raw mill has reconditioned into cement grinding plant by the factory engineers and now it can produce a minimum of 140,000 tons of cement per annual. This plant has two cement mills each with 12.5t/hr milling capacity.

Main Products / Services

As mentioned earlier Muger Cement Factory, the mother plant of the factory, is a factory with three clinker production lines at Muger and cement grinding mills located at Mugher, Tatek and Addis Ababa. The three lines total clinker production capacity of the enterprise is about 5,000 tons per day.

The main products of the Factory are:

- Ordinary Portland Cement (OPC)
- Portland Pozzolana Cement (PPC)
- Pozzolana Cement(PC)
- Portaland Limestone Cement (PLC)
- Low Heat of Hydration Cement based on customer order
- Valved paper sacks
- Gypsum
- Pure limestone
- Silica sand

In line with producing and supplying cement, the factory has a paper bag producing plant which is established in year 2000 with the objective of producing and supplying valved paper sacks, which are to be used for packing cement, lime, fillers and other products. Unlike other types of paper sacks which are made up of plastic materials, the paper made paper sack could easily decompose in the soil after use and, hence, are environment friendly products. The total annual production capacity of the Paper bag plant is 60 million pieces of paper sacks.

1.3. Statement of the problem

The term "distribution channels" can at the moment be replaced by the term "marketing channel". "Marketing channel" as a more complex term has been used in the USA since the 1970s, because the intermediaries include not only those who participate in the physical flow of a product from the manufacturer to the end user, but also those that have a role in the transfer of

product ownership, as well as other intermediary institutions that participate in the value distribution from production to consumption (Tipurić, 1993, 15-16).

Developing successful distribution strategy and having a well performing distribution scheme in today's fierce competitive environment is a complex undertaking. Market globalization and deregulation has intensified competitive rivalry and motivated manufacturers to re-examine their current strategies and inherent weakness of these strategies and their inability to address current challenges and opportunities (Stem et al. 2006).

Marketing researchers are more concerned with management issues like power, conflict, satisfaction and performance (Gaski 1996). Few empirical studies were conducted to study distribution intensity and structure. Most of ideas concerning channel design issues are underlying and theoretical that predicts the choice of channel based on some factors. Although these constructs have been well accepted by marketing scholars, empirical research has to be done to confirm these assumptions and to find new factors determining the channel choice and performance.

Liu & Yen, (2010); Luo, (2011); and Yeung & Tung (2012) studied a Hong Kong logistics service provider and found that a successful implementation of a quality management system is the key to survival and long-term prosperity for a logistics company. Several empirical studies have been done in Kenya, for example, Gichuru (2012) did a study on critical success factors in business process outsourcing of logistics companies in Kenya. She identified these factors to include investment of international companies in the local economy; internet connectivity; top management support; creation/expansion of a potential niche and necessary expertise.

Sohal, Millen, & Moss, (2000), conducted a study on Australian manufacturing firms to find out the influence of outsourcing on cost and agility of their supply chain. Study has found that transportation outsourcing has significant positive relationship with overall cost of the company and supply chain agility. Similar results have also been illustrated by (Gammelgaard & Larson, 2001; Vokurka & Lummus, 2000).

While most of the previous studies had tended to focus more on the managerial aspect of distribution and outsourcing of the distribution effort in a more advanced society, little has been done in this regard in a country like Ethiopia. Keebler & Plank, (2009) agreed that the findings of US firm could not represent the universe of companies nor could findings be generalized to

other countries. Furthermore: the socio, economic and cultural aspect of the countries also vary in handling the distribution effort. The effort to achieve generalization of the causal and extent of relationship between: Financial capacity, transport outsourcing and information system with respect to distribution performance called for empirical conformation, especially in Ethiopian cement producing firm. This study therefore intended to empirically examine how and to what extent dose, financial capacity, transport outsourcing and information system influence the distribution performance of Muger cement factory.

1.4 Research Question

1.4.1 Main Research Question

This research paper made an attempt to asses on the extent of influence that financial capacity, transport outsourcing and information system has on distribution performance of a cement producing factory by considering Muger cement as a case study.

1.4.2 Sub-research questions

1. To what extent dose financial capacity impact the distribution performance of Muger cement factory?
2. To what extent dose transport outsourcings impact the distribution performance of Muger cement factory?
3. To what extent dose information systems impact the distribution performance of Muger cement factory?

1.5. Research objective

1.5.1 General Objective

The main objective of this research paper was to make an assessment on factors affecting the distribution performance of a manufacturing industry by taking Muger cement factory as a case study**.**

1.5.2. Specific Objectives

1. To assess the extent of financial capacity influence on distribution performance
2. To assess the extent of transport outsourcing influence on distribution performance
3. To assess the extent of information systems influence on distribution performance.

1.6 Scope of the study

Geographical scope:-In this study, the researcher was examining clearly on how Muger cement factory; a cement and related product manufacturing company distribute its products to its numerous customers, so as to assess those factors affect the distribution performance.

However, the management staffs of the company who are located in the three plants namely Muger, Tatek and Addis Ababa cement were used in this research work.

Conceptual scope: Again the research work is limited to some of the factors that have a bearing on distribution performance. The research work is limited to the three factors that are: financial capacity, transport outsourcing and information system in their impact in the distribution performance of Muger cement factory cement distribution. The factor consideration is illustrative rather than being exhaustive.

Methodological Scope: - the research work was dependent in using a correlation and regression analysis tool throughout this research work to analyze the extent and direction of relationship that the dependent and independent variables have. Again the source of data is limited to primary source and the sample consideration went to management staffs of the factory being under investigated.

1.7 Significance of the Study

- This research work is very crucial for the management of Muger cement factory as it will make management to device means of cutting down cost on distribution activities in order to make reasonable profits by ensuring product availability to customers across the country.
- It will serve as a knowledge base for management to employ.
- It will enable the management to provide consumers with the right products at the right time, right place and at the right price which result to a substantial percentage of sales for the company.
- Finally, it will serve as a blue print of action guide to infant companies found in the country and as a compendium of knowledge for further research work in designing effective distribution channel strategies for various indigenous cement and other companies found in the country.

1.8 Definition of Terms

- **Distribution**: According to Philip kotler & Armstrong 2001, Distribution is the process of planning, implementing and controlling the physical flow of materials, final goods and related information from point of origin to points of consumption to meet customer requirements at a profit. Schewe and Smith (1980) defined distribution as the physical movement of products to the ultimate consumers. Production is not complete until goods reach the final consumers and products are worthless until they are made available to those who need them. It is this process of making goods available to those that need them that gives rise to distribution basis in a marketing strategy.
- **Distribution Strategy:** Distribution strategy explains the way products are delivered to end customers (Hooley, Piercy & Nicoulaud 2008, 361). Choosing the right distribution strategy is one of the most important choices for marketing and has serious impact on business' future success. Regardless of what the product or service is, providing it in the right place at the right time and at reasonable overweighs all other marketing efforts. (Zikmund & d'Amico 2001, 350)
- **Distribution Channel**: A distribution channel is a set of interdependent organizations that help make a product available for use or consumption by the consumer or business user. Armstrong and Kotler (2003) defined distribution channel as a set of inter-dependent organizations involved in the process of making a product or service available for use or consumption by the consumer or business buyer. In most contemporary markets, mass production and consumption have lured intermediaries into the junction between buyer and seller. Intermediaries provide economies of distribution by increasing the efficiency of the process.
- **Effectiveness**: Effectiveness is defined as the resource getting ability, and refers to an absolute level of output attainment, it is the extent to which the logistics function's goals are accomplished (Graeml, &Peinado, 2011; Fugate *et al.,* 2010).
- **Efficiency:** Efficiency is an internal functioning of logistics which refers to the ability of logistics function to manage resources wisely and generally is considered best represented through some ratio of the normal level of inputs to the real level of outputs (Graeml, & Peinado, 2011; Fugate *et al.,* 2010).

- **Firm Performance:** An assessment of how performance is on three specific areas of firm outcomes: financial performance, market performance, and customer value added (Richard, Devinney, Yip, & Johnson, 2009).
- **Information technology:** Information technology (IT) is defined by Bagchi and Skjoett-Larsen (2002), as a wide range of increasingly convergent and linked technologies that process the information as well as the information that business generates and use.
- **Transportation:** Transportation is defined as the activities involved in shipping any goods or finished products from suppliers to a facility or to warehouses and sales locations (Kenyon & Meixell, 2010).
- **Performance Measurement:** (Tuttle & Heap, 2008) defined the performance measurement as ―the process of quantifying action, where measurement is the process of quantification and action leads to performance‖.

1.9 Limitation of the study

This research investigation did not exhaust all the factors that influence distribution performance at Muger cement factory, and therefore there is a need for further research to identify any other factor that impacts distribution. Such factors may relate to geographical challenges, poor infrastructure, politics, and even legal mandate of the country. The list is illustrative rather than exhaustive.

Quantitative research method involves structured questionnaire with close ended questions. It leads to limited outcomes outlined in the research proposal. So the results cannot always represent the actual occurring, in a generalized form. Also, the respondents have limited options of responses, based on the selection made by the researcher. Quantitative research is difficult, expensive and requires a lot of time to perform the analysis. In order to curve the methodological limitations, expert in the area was consulted to give their insights in questionnaire preparation to better get the respondents insight with the subject under investigation and somehow curve the limitation in quantitative study.

1.10 Organization of the study

This thesis has been organized in to five chapters. The first chapter deals with the introduction section where more of introductory issues like background of the study, problem statement and other elements are being presented. Chapter two deal with a review of relevant and sufficient literature with respect to the subject matter, where both theoretical and empirical literature has been reviewed. Chapter there is about research methodology, basically deals with the sampling issues and method of data analysis to be followed. Chapter four is about data presentation and analysis. Chapter five is bout summary of findings, conclusion recommendation and indicating further research areas.

CHAPTER TWO

2.0 Literature Review

Both theoretical and empirical literature is going to be reviewed throughout this chapter. In the theoretical aspect sufficient and relevant theories on the subject under investigation will be reviewed. Again a relevant and sufficient empirical works also will also be investigated.

2.1 Introduction

This chapter has presented a review of relevant theoretical and empirical literature on factors that influence distribution performance such as financial capacity, transport outsourcing and information system in relation to the research questions: To what extent does financial capacity, transport outsourcing and information system impact distribution performance where by the performance is manifested in delivery schedule, quantity required, quality of product and distribution cost by taking Muger cement factory as a case study.

2.2 Theoretical Review

2.2.1. Components and Definition of Distribution

Distribution is the process of planning, implementing and controlling the physical flow of materials, final goods and related information from point of origin to points of consumption to meet customer requirements at a profit (Kotler and Armstrong, 2001). Schewe and Smith (1980) defined distribution as the physical movement of products to the ultimate consumers. Production is not complete until goods reach the final consumers and products are worthless until they are made available to those who need them. It is this process of making goods available to those that need them that gives rise to distribution basis in a marketing strategy.

Achison (2000) defined distribution as the process of getting products and services from producer to consumer or users, when and where they are needed. It provides time, place, possession utility and the transfer of ownership. Revzan (1971) defined distribution as managerial battle field in which marketing strategy and tactics either succeed or fail. It is imperative to make a thorough study of available alternatives before choosing one. This is because distribution system is a key external resource which normally takes years to build and cannot be easily changed. According to him distribution involves two aspects: Physical

distribution and channels of distribution. Physical distribution involves the physical flow of products from the producer to the consumer while channel of distribution involves the flow of title of goods from the producer to the consumer.

Achison (2000) denoted that unless products are distributed and delivered in the right quality, at the right time, in proper condition and at the right price; buyers may be reluctant to buy. He stressed further that distribution is regarded as a major consideration in strategic planning because it is an important marketing function that is responsible for making goods and services available to the consumers.

According to John O' Shaughnessy (1992) in his book competitive marketing: A Strategic Approach denoted that a distribution system is the network of people, institutions or agencies involved in the flow of a product to the consumers, together with the informational, financial, promotional and other services associated with making the product convenient and attractive to buy and re-buy.

2.2.2. Physical Distribution

Physical distribution is often regarded as "logistics", logistics refers to the interrelation and management of all the key element or activities involved in providing both raw materials and finished products to customers. According to Kotler & Armstrong (2001) Physical distribution is the task involved in planning, implementing and controlling the physical flow of materials, final goods and related information from point of origin to points of consumption to meet customer requirements at a profit.

Traditionally, Physical Distribution typically started with products at the plant and then tried to find low-cost solutions to get them to customers. However, today's marketers prefer market logistics thinking, which starts with the marketplace and works backward to the factory.

2.2.3 Physical distribution management (PDM)

Physical distribution management (PDM) is the term used to describe the management of every part of the distribution process. PDM can be contracted out to a specialist or is best developed as a specialist function within the organization. It is the process which ensure that the correct customer within a given timescale, as cost-effectively as possible (Little and Marandi, 2003).

Part of PDM would include being aware of what your competitors are offering, as suggested above. Elements for consideration would include:

- Costs involved
- Methods of transport – road, rail, plane, shipping, etc.
- Routes used
- Stock, storage and stock control
- Protection and delivery of stock
- Timing – a key element
- Evaluating the effectiveness of methods of distribution and being aware of other alternatives.

Distribution is an integral part of the marketing mix. With the right distribution strategy in place that is with the right mode of delivery the right speed of delivery to the appropriate place of purchase, customer satisfaction can be significantly increased. Failure to deliver these practical points will result in the loss of orders and income to the company and long-term customer loyalty will decline (Drummond and Ensor 2001)

The key objective of PDM is to find the most cost-effective way of meeting customer needs in relation to purchasing their product, whoever they are and wherever they are. Physical distribution management includes the following functions:

- Customer services
- Order processing
- Materials handling
- Warehousing
- Stock/inventory management
- Transportation

The key success factors of physical distribution management include all elements of the marketing mix:

- Product characteristics – how do they affect delivery requirements?
- Packaging – can the product be transported?
- Pricing – how much does distribution add to the cost of the product?
- Promotional campaigns – creating an awareness of the product and where and how it can be purchased.
- Timing is a critical element of PDM, as many Companies work on the delivery of materials and components on a 'Just in Time' basis (JIT). JIT is just as it sounds; it

means that the manufacturer of products, or the supplier of raw materials, must deliver the necessary material or components as and when required. For example, a window manufacturer, who makes windows for office buildings, will be making windows to order and will be require to deliver them at certain periodic times in the construction of the building. Because storing glass and the metal or plastic structures is difficult, the organization will deliver as and when the office block construction company needs it.

The concept of JIT was developed to encourage maximized efficiency of manufacturing. The process will reduce the storage space requirements, which is a direct cost saving to the organization, but it also means that the organization will only pay for the materials when they have taken delivery of them, rather than in a bulk order at the beginning of the contract. Both save significant amounts of money, which means that the cost saving can be passed onto the customer, making products cheaper to purchase.

JIT is much linked to qualify applications and improvements. Should the organization take a mass delivery of a component, and leave stock standing around, it could be damaged or problems with the delivery may not be discovered until it is too late. Therefore, quality assurance controls and measures can be implemented as the components are dispatched which then aids the quality improvement process. This then enables organization to work towards zero defects, which means zero wastage of time and material, which means cost effectiveness and quality improvement and ultimately a higher level of customer satisfaction.

Within the retail sector, JIT plays the same sort of role. You will note that retail outlets very rarely run out of standards of stock products, because they have good stock control processes and systems that enable JIT delivery of those stock items (Joan Feldman 1984).

Most retailers now work with electronic point of sale system (EPOS). EPOS registers your purchase at the point of sale, i.e. the payment checkout. The product is scanned into the computer as sold and the computer automatically registers this as a stock reduction. When the stock reduction reaches a certain minimum level, the computer automatically generates a message to place a stock order for that particular product to be in store by a certain delivery date. The EPOS system allows retailers to monitor frequency of purchase of certain products, which then enables them to forecast demand of their stock products. This in turn helps them plan for their stock

requirement and come to appropriate agreements with their suppliers on delivery and storage requirements (Jobber 2001)

2.2.4. Channel of Distribution

Every finished product can only get to the consumers through an effective and efficient channel of distribution. The term channel of distribution refers to the systems of marketing institution through which goods and services are transferred from original producers to the ultimate consumers.

Linus & Emola, (1998) define Channel of distribution as a series of marketing institutions through which title to or control of a product, service or idea is transferred from producer to customer, clients or business users. The key element in this definition is the passage of title or control over goods, services or idea and not necessarily their physical movement. Kotler & Armstrong (2001) view it as a set of interdependent organization involved in the process of making a product or service available for use or consumption by the consumer.

2.2.5. Channel of Distribution for Business marketing

This shows some common business description channel. The business marketer can use its own sales force to sell directly to business customers. It can also sell to industrial distributors, manufacturer's representatives/sales branches who in turn sell to business customers. It can as well use these representatives and branches to sell through industrial distributors. Thus business markets commonly include multilevel distribution channels. All of the institutions in the channel are connected by several types of flows and it can make distribution channel with only one or few level very complex, the flow includes

i. Physical flow of products

ii. Flow of ownership

iii. Payment flow

iv. Information flow and

v. Promotion flow.

2.2.6. Strategy

The Term "strategy" has been used in different ways by different authors with many meaning, its origin was derived from the Greek word *strategos'* and it means different things to different people.

- The military used the word "Strategies" to mean grand plans or design to win the war. Competition strategy, which may be defined as an art of guiding, forming or carving out a plan to achieve certain goals.
- While managers see it as broad areas of an organization operation. Simply defined as the basic long term objectives of resources necessary to achieve these goals.
- Strategy in Marketing deals with guideline plans developed by an organization to ensure survival in a competitive environment.
- Andrews (1971:28) observes that strategy is a pattern of essential business policy/decision and plan for achieving company's goal and objectives.
- Kotler & Armstrong (2001) viewing marketing strategy in holistic way as "a set of objectives, policies and rules that guide over- time, the firms marketing effort- its level, mix and allocation partly independently and partly in response to changing environment and competitive conditions.

The formation of strategy consists of environmental monitoring, identification of objectives, selection of target market, formulation of market mix and resource allocation. Thus, distribution strategy can be summarized as a set of objective services available to the point where such goods and services are needed within a competitive environment.

2.2.7. Distribution Strategy

Distribution strategy is the method a firm uses to get products and services to different channels and networks with objective to reach the end customer, either directly or indirectly. The intermediaries include the agents, wholesalers, distributors and also retailers. These elements help in ensuring that a firm has provided the customers with quality customer service that has an influence on the level of customer satisfaction (Palmer, 2011). Customers require convenience for the product offering such as the physical access. Distribution channels are important in a firm's level of competitiveness. This is because they affect the time when the product reaches the customer as well as final price of the product. Through distribution strategy, an organization gets

to understand the sales channels through enhanced knowledge, better segmentation on the distribution within the sales channels, the roles played by the intermediaries on the sales process, getting to understand centers of influence on the sales channel as well as the position of a firm in relation to the sales channel (Whetton, 2011).

Achison (2002:348) stated that before a decision about the distribution to be adopted for efficient channels network, company should identify the target consumer it intends to reach with its products. This is because distribution network can vary among companies, however for more narratives the following scope of the strategic alternatives companies could pursue include:

A. Exclusive distribution

B. Intensive distribution and

C. Selective distribution

A. EXCLUSIVE DISTRIBUTION

Suggest that one particular dealer serving a given area is granted sole right to sell a product and it is usually associated with products that the targeted customer would not mind to seek out for. Again by contrast, some producers purposely limit the number of intermediaries handling their products; availability and accessibility are deliberately restricted. Exclusive distribution often is found in the distribution of new automobile and prestige products which need to protect their image up market exclusivity and allows for higher- mark up.

B. INTENSIVE DISTRIBUTION

The aim of intensive distribution strategy is to secure as many outlets as possible in order to maximize availability and accessibility to potential buyers. This type of distribution is most suited to products where convenience of purchase and impulse buying are important factors influencing sales. Examples of product requiring intensive distribution are: cigarette, candies, cookies, soft drink, ice cream, tooth paste, petrol and other similar items are sold in many of outlets to provide maximum brand exposure and consumer convenience.

C. SELECTIVE DISTRIBUTION

This involves were a few selected distribution outlets are given the opportunity/right to distribute the company's goods. The manufacturer may want the distribution of the product to be as intensive as possible but may also want to protect the image of the company and its brands by exercising some control over the type of retailers selling it. Most televisions, furniture and small appliance brands are distributed in this manner. By using selective distribution they do not have to spread their efforts over many outlets, including many marginal ones. They can develop good working relationships with selected channel members and expect a better- than average with more control and less cost than does intensive distribution.

2.2.8. Distribution effectiveness and firm performance

Effectiveness as non economic performance or non financial measure has been concerned by Morgan *et al.,* (2004) as long term firm orientation. Meanwhile, Kaplan, and Norton (1992) measured non financial performance based on complement financial statements, such as "effective operational measures on customer satisfaction, internal business processes, and the organization's innovation and improvement activities" (p.71).Effectiveness had been known as indicators for customer satisfaction, conventionally considered to be an essential determinant factor for long term customer behaviors (Oliver,1980) and a significant predictor of positive performance in inter-organizational relationship (Inkpen, & Curral, 2004). Furthermore, according to Dossi, and Pateli (2010), non financial indicators are likely to be used for identifying the best practices within cooperative relationships. This has also been emphasized clearly by Johnson and Kaplan (1987) that non economic instrument could be significantly used as an expansion indication of a firm's long term goals. According to Kaplan, and Norton (1992), profitability and other financial measures actually occur due to non financial activities and accomplishments. On economic measures- improvement of effectiveness activities are considered to be the trigger of future financial utility. Malgharni (2010) emphasized that non financial performance is crucial to foresee the company's future performance as it could offer extra and increased data, separately from economic one, in which could be used for users 'decision making. In distribution channel, according to Pfeffer, and Salancik (1978), suppliers are effective if they deliver what was asked for, no matter if they are bound to filthier warehouses to manage-if they managed the task inefficiently. Meanwhile, Rhea *et al.*,(1987) gave some examples of distribution effectiveness referring to customers' satisfaction in that if

customer expected delivery order in two weeks and the firm can fulfill less or punctual than in two weeks, meaning the customers' satisfaction is fulfilled. On the contrary, it is ineffective if customers expect delivery order in two weeks, but the firm could not fulfill the demand in less than in two weeks or punctually.

As highlighted in the literatures, effectiveness is heavily significant in financial performance (Ataollah Mohammadi Malgharni, 2010; Ferri*et al.*, 2012). Innovation in distribution channels: Assortment (Fabricio, 2004); Order handling (Linda, 2009); Information system sharing (Nada, 2008); Inventory (Rajeev, 2008); warehousing and material handling (Heragu, 2009); packaging (Morgado, 2008); and transportation (Gunnar, 2009) are significantly positive in leading firm performance economic indicator.

2.2.9. Theory of Distribution Channel

Distribution is traditionally the fourth element of the Marketing Mix, also called place, preceding product, price and promotion. Distribution channels are the intermediary organizations or channels that a product passes through before it is consumed or used. Typically, these organizations are marketing or selling specialists and use economies of scale to bring success. In a context of industrial or consumer products, manufacturers differ on how they distribute their products to the consumer. Some of them distribute intensively (using a lot of intermediaries) or exclusively (directly to the consumer).

The role of distribution is to provide for a company, the accomplishment of the task of delivering the product at the right time, place and quantity at a minimum cost (Bucklin, 1966). Although the distribution problem was one of the first issues analyzed by the marketing researchers in the beginning of the 20th Century (Bartels, 1965), the distribution problem has an enormous importance in the marketing literature and managerial contexts today. According to Stern and Reve (1980), channel theory is divided into two orientations: economic and behavioral approaches. First analyses the efficiency of the channel, studying issues like channel design and structure. The latter is sociologically oriented, focusing on power, cooperation, satisfaction and conflict in channels.

The structure of channels requires a set of strategic decisions (Iyanda, 1990): The first decision determines the appropriate intermediary type, e.g. wholesaler, retailer, franchise, broker, direct sales force. The second is distribution intensity that is, how many intermediaries to include and number of levels of a channel structure. The second strategic decision in a channel, distribution

intensity, is a key element of the channel strategy (Iyanda,, 1990,Fulmer, I.S.; Gerhart, B. ;and Scott, K.S.,, 2003), and often dictate all the channel structure influencing the type of intermediary, the coverage of the market, and the kind of distribution (direct or indirect).

A variety of approaches has been taken to distribution channel, but distribution structure and intensity has received little attention in academic research (Iyanda,.1991; Rogers, E.M. 1983; Rosemary- Stewart,S.E,1961); Marketing researchers are more concerned about management issues like power, conflict, satisfaction and performance (Gaski 1996). Stern and El-Ansary (1982) affirmed that a channel is not easily selected; there are some constraints such as the availability of good middlemen, traditional channel patterns, product characteristics, company finances, competitive strategies, and customer dispersion question. Mcvey (1960) expressed the same idea when he stated that channels networks were not necessarily designed under the control of one type of organization and that they faced limited choices in designing the channels for their products. He added that ―choice of a channel is not open to any firm unless it has considerable freedom of action in matters of marketing policy (P 2). According to this approach, the producer has a variety of limitations, including limited choice of types of middlemen, customers and locations of trading areas.

Some logistics authors are of the view that the channel choice is a cost and financial decision (Lambert 1981; Bowersox 1969). Lilien*et al.* (1992) said the channel selection decision is not only an economic decision but also on the control aspects of channels and their adaptability. Wilkinson (2001) affirmed that current publications on channels did not explain how a given channel structure came to be and how it would change over time. The assumptions analyzed by the theory are simplistic and falls within the economic approach (Balderston, 1958; Baligh and Richartz, 1966).The channel design publications are not sure yet if a firm choose freely or adapt in a given channel structure. This decision depends on the innovation of the producer (Wilkinson, 2001). So, the questions arise; Are firms able to choose or only adapt in a given channel structure? What factors determine the choice of a channel or follow the structure in a channel?

The primary theoretical statement links distribution structure with class of products (Frazier and Lassar, 1996; Rangan*et al*., 1992). The class of products are related to the classification of consumer goods (convenience, shopping and specialty) first proposed by Copeland (1923). His intention was to create a guide for the development of marketing strategies by manufacturers. His purpose was to show how consumer buying habits affected the type of channel of distribution and promotional strategy (Bucklin, 1962). According to him, convenience goods are associated with intensive distribution, shopping goods require selective distribution and specialty goods are related with

exclusive distribution. Convenience goods are consumer goods and services that the consumer buys frequently, immediately and with a minimum of comparison effort. Shopping products are less frequently purchased and consumers spend considerable time and effort gathering information and comparing alternative brands. Specialty products are consumer goods with characteristics or brand identification for which a significant group of buyers is willing to make a special purchase effort (Kotler 1997)

Depot Theory

The flow in the distribution channel has been explained using parallel model, model postponement and speculation under Depot Theory. How fast do flows move to overcome separations and match a seller‘s small segment of supply with a buyer‘s small segment of demand? According to Aspin wall’s (1958) Depot Theory, goods move toward consumption at a rate established by the final consumer‘s need for replacement. As detailed in Aspin wall’s (1958) Parallel Systems Theory, replacement rate is inversely related to gross margin, services required, search time and consumption time. Thus, knowing replacement rate provides knowledge of the other characteristics determining rate of flow.

The question of which institutional depot (manufacturer, wholesaler, retailer, household, etc.) in the channel will hold and modify inventory is addressed by Bucklin‘s (1965) Theory of Postponement and Speculation‘. Alderson (1957) developed the postponement part, arguing that changes in modifying products and stocking inventory should be postponed to the latest possible point in the marketing flow because of reduced risk. Bucklin (1965) added the corollary theory of speculation that changes in form and holding inventory should be made at the earliest possible point in the marketing flow to take advantage of economies of scale. Thus, speculation takes advantage of the lower costs of modifying goods early to obtain economies of scale resulting in mass production, while postponement deals with reducing risk by modifying goods at the latest point for segmented demand resulting in today‘s mass customization.

Alderson‘s (1965) transvection represents one of the most powerful but underutilized constructs in marketing thoughts. A transvection includes all purchases and sales from the original seller, through intermediary purchases and sales to the final buyer of a finished product. That is, it links all the institutions (depots) in a channel. Alderson (1957, 1965) described what takes place in a channel transvection in terms of Sorts and Transformations‘. At each institutional depot, goods are alternatively sorted (sorted-out, accumulated, allocated or assorted) and transformed (modified, merchandised, stored, transported, or used). If the channel is regarded as structure, such as the banks

of a river, then the transvection represents process - the flow of the river. Therefore, aggregating the set of parallel channel-transvections taking place in a particular economy, such as the USA, for a given time frame, say a year, provides an exhaustive description of the marketing process'(Alderson and Miles, 1965: 122). Thus, most fundamental theories of channels of distribution can be synthesized into a logically coherent whole.

System Theory

Physical distribution can be viewed as a system of components linked together for the efficient movement of products. Using a system approach to describe physical distribution, the components include; customer service, transportation, warehousing, order processing, inventory control, protective packaging and materials handling (Miles, 1965). These components are interrelated, hence: decisions made in one area affect the relative efficiency of others. For example, a small business that provides customized personal computers may transport finished products by air rather than by truck, as faster delivery times may allow lower inventory costs, which would more than offset the higher cost of air transport. Viewing physical distribution from a system's perspective can be the key to providing a defined level of customer service at the lowest possible cost.

2.2.10 Distribution Performance

Shifting business environments are causing a growing number of IT managers to rethink how they handle distribution management. Growing dependence on extended and diffuse partner networks, for instance, is creating new operational complexities that have put a strain on traditional management practices. IT managers are wrestling with how to integrate distribution management operations in new geographical areas with a wide range of systems; from ERP (enterprise resource planning) applications to inventory management and supply chain management packages. Pulling together information from a variety of sources also carries with it security concerns, including access control (Cooper, 2006).

2.2.11Distribution channel and firm performance

It has been evidenced for years that distribution channel is important for its ability to reduce the expenditure of economic transaction (Williamson, 1981). Its capability of effectively supporting the competitiveness of firms, namely manufacturers, distributors, retailers, and customers, due to the distance that separates them apart, making distribution channel a significant function to enhance export performance (Leonidou, 1996; Zou, & Stan, 1998). Other studies that found

similar result of its essential role of distribution channel to be a determinant factor for export improvement can be found in Shouming (1998), besides product, price, and promotion strategy.

Many scholars have shown great interest in studying further about distribution channel due to its crucial role in improving firm performance. Leonidou (1989), Moore (1991), Heide (1994), and Morgan, and Hunt (1984) indicated that the growth of export oriented firm was significantly associated with the effectiveness of the relationship and cooperation between producers and the overseas importer. A study by Anderson *et al.*, (1997) also found that the effectiveness of channel members' coordination and communication among manufacturers, agents, distributors, and retailers improved channel member performance. According to the finding by Rose, and Shoham (2004), it was demonstrated that practical conflict that happened among channel members would not strengthen the affiliation, but on the contrary, it would reduce the effectiveness of strategy used, which, would in turn, alleviate their performance. An empirical study by Frazier *et al.*, (1989), which focused on industrialized manufacturers, found that the need of dealer to maintain an effective channel relationship in a seller's market was usually determined by the contribution of the manufacturers to the dealers' benefit.

Nevertheless, in terms of the members of distribution channel arrangement, it has been known that the motivation of making integrated channel is to improve better distribution channel performance. McNaughton (2002) examined the structural channel integration decision among 2,000 Spanish export oriented firms. It was found that the establishment of multiple distribution channels was motivated by serving overseas markets or importers in order to sustain the assets and service quality of exporters to maintain a good relationship with the customers.

Besides, Weigand (1991) noted that the application of unofficial channels could partially cause 'unfair behavior' and pricing by monopolistic channel members. A recent study by Kim (2009) also found significant results in the case of Korean firms, whereby efficient supply chain integration played an essential role for the competitiveness of sustainable supply chain management (SCM).

In addition, the characteristic of distribution channels is that when once established, it is usually difficult to change. Ramaseshan, and Patton (1994), and Zdenko (2011) argued that the channel members' position also took part in determining the performance. Rialp*et al.*,(2002) examined the integration of structural channels over firms in Spain that were engaged in exporting, and

invented obvious evidence that establishing linkage to importers could enhance export process. Interestingly, Kumar (2000) found that non integrated channels were recommended as well. Bret (1995) confirmed further that information exchange among members played crucial role in the relationship. The finding was also in line with John's (2006), which showed that trust became an essential element to maintain the relationship. Jennifer (2008) and Jiuh (2009) further asserted that commitment and trust are the key mediators in determining performance.

2.2.12 Information System

Supply chain management could be mentioned as a co-ordination of materials, information and financial flows along supply chain to satisfy the ultimate need of the customers (Stadtler, 2005). These days information is not only a resource, but it is a main resource of securing a competitive advantage in coordinating within and across organizations activities.

Though it still exists in some places, in old days, information were transferred through paper based media, like paper purchase requisitions, purchase orders, invoices, receiving forms and the so on. However, ineffective information communication is becoming a hindrance to supply chain collaborations as globalization brought about the essence of competition one supply chain with the other supply chain member (Fawcett et al. 2005).

According to Williamson, Harrison and Jordan (2004), collection of IT resources and communication networks, hardware IT applications, standards for data transmission and human skills and experiences is called inter organizational information system (IOS). They categorized the evolution of IOS into four phases as described below as:

- Phase One: information that passed through paper copies where sharing of information among supply chain was limited
- Phase Two: development of Electronic data interchange (EDI) – purchase orders, invoices as well as order status, pricing enquires and scheduling transactions were processed on it.
- Phase Three: Enterprise Resource Planning (ERP) systems were developed to integrate the business of suppliers and customers through an integrated database environment.
- Phase four: The use of Web Development Technologies enabled two way flow of information among strategic partners that allow accelerating their decision making in the SCM processes.

Bowersox, Closs and Cooper (2002), identified four reasons in which the importance of timely and accurate information are becoming important in this contemporary supply chain management era.

- Order status, inventory availability, delivery schedules, shipment tracking and invoices information are required by managers in timely manner to secure an outstanding level of customer satisfaction.
- In the case of uncertainty, information is becoming a substitute for inventory and other resources, where effectively applied it would enable to reduce costs immensely
- Enables to get a competitive advantage, as it increases the firm's flexibility in the utilization of its resources.
- The supply chain relationship among members is changing from adversarial to partnership as it is simplified and used via a based information sharing

In the study of Roberts (2000) and as cited by Williamson et al (2004), the use of internet in the process of SCM would enable to gain a 8-35% reductions in supply chain costs, 22-85% reduction in inventory, 12-24% delivery time improvements and 17-68% cycle time improvement.

2.1.13 Transport Outsourcing

For many companies cost of transport is the highest logistical cost. Transport cost is usually defined only as freight charges. Apart from freight charges, costs arise from carrying inventory in-transit, from numerous operations connected with frequent and small deliveries resulted from just in time deliveries. During a production plan preparation, it is vital to know exactly when material will be delivered. Focus on customer needs' satisfaction, order fulfillment, short transit time, on-time delivery; gives transport costs a new dimension. Unless considerable buffer stocks are kept, the production plan relies on accurate estimated delivery dates. Delays, lacking or inaccurate delivery information can be extremely costly as the consequence could be production down-time (Holter*et al.* 1993). Risk is connected with a basic assumption in the resource-based perspective that a company is highly dependent on resources controlled by others (Halldorsson, Skjott-Larsen 2004). Transit times affect the cash-to-cash cycle for most companies. Long transit times means later payment and negatively affects the cash flow. Cash is tied up in inventory in-

transit that could otherwise have been employed elsewhere, contributing to further revenue generation (Holter*et al.* 1993).

Transport is needed throughout the whole supply chain being the link between supply chain members. Because demand and supplies have become international processes short lead time is especially important for companies that operate in international or global environment. Consequently quality of transport service affects the competitiveness of the entire supply chain. The challenge is to achieve competitive advantage in the context of rapid and unpredictable changes of markets. Over the past years it had place a growing focus on service quality improvement and reduction of inventory. The highly competitive environment along with customers' demands for tailored products and services has forced companies to continuously evaluate, improve and reengineer their logistics operations. These operations have a noticeable contribution in companies' efforts to meet customers' expectations (Gotzamani*et al.* 2010).

Managing companies in this increasingly demanding environment has made many firms to look for logistics service provider. They are used for many logistics functions, such as transport or warehousing. Logistics activity (purchasing, warehousing, transport and distribution, inventory management) can be realized more efficient than by manufacturing companies. The source of competitive advantage is the capability to adapt, integrate, and reconfigure internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment (Teece*et al.* 1997). Manufacturing is the industry with the highest demands regarding logistics services and consequently it is judged as the most appropriate industry for comparisons within the logistics context (Gotzamani*et al.* 2010). Cooperation between manufacturers and logistic service provider has a leading role in supply chains.

2.2.14Factors Affecting Distribution Performance

Here are some of the factors that have influence on distribution performance.

A. Financial Capacity and Distribution Performance

According to Johnson (2006), performance of a distribution function in the public sector is strongly based on capacity and management of the finance function. Suitable and strong financial controls have to be maintained to ensure good financial management. Additionally, there must be capacity to prepare regular and reliable financial statements which have a system in place to

safeguard program me assets. Computerized financial systems such as quick books and Business Vision Software can be useful in this regard. Another important aspect of financial capacity that is relevant to distribution systems is the flow of funds. This relates to timeliness of receipt of funds for meeting various requirements in distribution processes.

Distribution is an expensive undertaking, and requires careful channeling and management of funds. Fleet maintenance, dispatch personnel emoluments and other costs should be well handled to ensure continued performance (Stern and Heskett 1969). Cooper (2006) argues that there can never be an effective distribution if an organization is challenged financially. Finances are used to modernize fleet, to compensate drivers, to buy enough stock for distribution and more importantly, to implement and maintain a robust information system.

B. Transport Outsourcing and Distribution Performance

Outsourcing, traditionally known as "make-or-buy" decision, is the act of contracting internal business activities to outside (either domestic or offshore) suppliers. In recent years, with the intensification of global competition, outsourcing has become increasingly popular option which has left few business functions without being wholly or partially outsourced. Outsourcing has been utilized as a means of reducing costs and maximizing output (Quelin and Duhamel, 2003; Johnson, 2006).

According to Wick (2000), success or failure in distribution depends on care and caution in continuous management of this function to ensure the job being done by distribution partners as expected. Wick cautions that outsourcing is not a panacea; if the third-party distributor's procedures and performance are not carefully monitored, there is the risk of permanently alienating the existing customers, who have been attracted through much hard effort. Johnson (2006) observes that the key to a successful outsourcing relationship includes understanding the process, specifying objectives, establishing internal procedures for evaluating performance against objectives, and deploying systems that help to manage the function effectively.

C. Information Systems and Distribution Performance

Use of Information system to manage distribution increases efficiency, predictability and reduce waste in value chains, which has positive impact on all market players (Ceva, 2010).Such tools of information system as cell phone and internet services, radio, and a wide range of digital

devices and related tools, including cameras, GIS, a wide range of hand-held computing devices if appropriately used, has a potential of raising efficiency in the following distribution activities: record keeping, monitoring field agent activities, procurement operations, credit and payment tasks, input distribution, measuring productivity, and forecasting (Cooper, 2006). Buyers use a range of management information systems (MIS) from basic spreadsheets of complex software which is used to track resources and facilitates the flow of information. Increasingly, they are using mobile phone based systems for the "channel" to reach the suppliers or their own field agents (Cooper, 2006). Vehicle routing can also benefit greatly from IT. This is one of the most critical elements in managing the supply chain. Vehicle routing can be applied in various settings and it usually consists of freight routing (shipments), service routing (dispatching of repair technicians) and passenger routing (people). The purpose of vehicle routing is to organize transport resources as efficiently and effectively as possible. With many customers, different route options and a set number of available vehicles, the task of coming up with an optimized routing plan can be daunting. In most organizations, vehicle routing is carried out by a person or persons working in the dispatch unit, with dispatchers having many years of local knowledge. But as routing becomes more complex, software applications can be used to help the transport manager or the supply chain manger come up with a good routing plan to move the flow of resources as they are transported on vehicles (USAID, 2008).

2.3 Empirical Review

The existing body of knowledge on distribution strategies is vast and suggests several techniques and management skills. Only some aspects relating to performance, something of fundamental importance, will be highlighted here. A good starting point is the research done by Doney and Cannon (1997), which stressed several contributions in the field. Kozak and Cohen (1997) created a list of statements for companies to use to achieve the level of trust and commitment with suppliers, which can be adapted in this case to distributors. Distribution builds stable competitive advantages, since marketing channels are of long-range planning and implementation, and to build them needs a consistent structure and due also to the fact that they are focused on people and relationships. This sequence was elaborated based on the revision of four existing models. (Stern et al., 1996; Rosembloon, 1999; Berman, 1996 and Kotler, 1997); (Walters & Gattorna, 1996; Ziggers, Trienekens & Zuurbier, 1998; Trienekens & Zuurbier, 1996; among others). Anderson (1985) and John and Weitz (1988) stated that there is a

relationship between sales volume and distribution channel integration. The most important of these are physical-specific assets, time-specific assets, information and knowledge technology, human-specific assets, location (site) specificity and marketing/transaction specificity.

A variety of approaches has been taken to distribution channels, but distribution structure and intensity has received little attention in academic research (Rangan, *et al.* 1992; Frazier and Lassar, 1996; Rodriguez *et al.*, 2005; Gattorna 1978). Marketing researchers are more concerned with management issues like power, conflict, satisfaction and performance (Gaski 1996). Few empirical studies were conducted to study distribution intensity and structure. Most of ideas concerning channel design issues are underlying and theoretical that predicts the choice of channel based on some factors. Although these constructs have been well accepted by marketing scholars, empirical research has to be done to confirm these assumptions and to find new factors determining the channel choice.

The primary theoretical statement links distribution structure with class of products (Frazier and Lassar, 1996; Rangan*et al*., 1992). The class of products are related with the classification of consumer goods (convenience, shopping and specialty) first proposed by Copeland (1923). His intent was to create a guide for the development of marketing strategies by manufacturers. His purpose was to show how consumer buying habits affected the type of channel of distribution and promotional strategy (Bucklin, 1962). According to these characteristics convenience goods are associated with intensive distribution, shopping goods require selective distribution and specialty goods are related with exclusive distribution. Convenience goods are consumer goods and services that the consumer buys frequently.

Copeland clearly defined the three categories. Convenience goods are _those customarily purchased at easily accessible stores‘. Shopping goods include ―those for which a consumer wishes to compare prices, quality, and style at the time of purchase‖. With specialty goods, however, consumers neither travelled to a convenient store location nor made comparisons while shopping. He thought this category so different hence he called it specialty goods, ―those which have some (special) attraction for the consumer, other than price, which induces him to put forth special effort to visit the store . . . and make the purchase without shopping‘(1924:14). Although there were a number of rationales for their sand raised the most questions among subsequent authors. Holton (1958) conceptualized the distinction between the categories based on the benefits resulting from price and quality comparisons relative to searching costs. With convenience goods the benefits are small and with shopping goods the benefits are large

compared to the cost of search. Specialty goods overlapped the other categories, and the distinction Holton made is that such goods had a small demand thereby requiring a buyer‘s special effort to find the relatively few outlets carrying them.

Luck (1959: 64) rejoined Holton‘s disparagement of specialty goods by arguing that ―the willingness of consumers to make special purchasing efforts is explanatory, consumer oriented, and useful. Although he used shopping and convenience goods categories, Aspinwall (1958b) took a very different approach to Copeland‘s classification than prior or subsequent authors. Using a continuous color scheme, where red stands for convenience goods, yellow for shopping goods and shades of orange for goods in between, he related five characteristics of goods to length of channel and type of promotion required based on summing the values on each characteristic. Convenience goods have a high (1) replacement rate, and are low on (2) gross margin, (3) amount of product adjustment or service, (4) time of consumption, and (5) search time. Based on these characteristics, such goods require long channels and broadcast advertising. Shopping goods have a low replacement rate, and are high on the other four characteristics. These goods require short channels and personal selling. The colors are meant to blend, and shades of orange goods could occur anywhere in between the red and yellow. Orange was more moderate in all characteristics, requiring mid-length channels and some broadcast promotion. The specialty category was not included in Aspinwall‘s classification.

The application of this to the present study is that most multinational firms in Nigeria are producers of convenience goods.

Bucklin (1966) contributed to the issue, stating that at distribution, four service output levels are important: market decentralization (fragmentation), lot size, assortment, and waiting time. According to the author, firms chose channels that minimized the distribution costs associated with delivery time of these outputs. Delivery time is the main factor that predicts the structure of a channel. Bucklin argued that with a very short delivery time, the intermediate inventory is necessary because only in this way can goods be rushed quickly to the consumer. The more the consumer wants the good quickly, the more the inventory and safety stock is needed. These factors create high costs and an indirect channel is required. But, there is the point that the delivery time allowed to the consumer receives the good is larger, that it becomes possible and cheaper for the manufacturer to ship goods directly. As the greater the delivery time the greater are the economies of direct shipment because it eliminates the costs of handling, and maintaining

the inventory. Lilien (1979) ran a discriminate analysis with data from a sample of 125 industrial products to study the impact of product and market factors on the selection of direct or indirect distribution. The study showed that the channel varied from direct to indirect based on the following:

(i). Size of the firm: The bigger the company is, the better it is able to support a company-owned distribution channel. (ii) Size of average order: With the increase of the average order, direct distribution becomes more economical. (iii) Technical-purchase complexity: The greater the importance of technical service to the product‘s success, the more likely is direct distribution.

Atafar et al, (2011) in their study “Assessing the Effectiveness of Distribution Channel in Isfahan Zamzam Company in their research, they gathered data by interviewing the top marketing managers who have high experiences in marketing, finally the variables in the research assumptions been used to incorporate flow table model for measuring the Effectiveness of Distribution Channel in Isfahan Zamzam Co. The study revealed that Zamzam distribution channel was successful in product transportation, gathering market Information was effective in payment procedures but distribution channel of this company is not been effective in trade promotion programs and communication with retailers and wholesalers.

McFarland (2001) in his study “the marketing position of industrial distribution”; the article discussed the position of industrial distributors in channels of distribution. The study was conducted in Johannesburg, South Africa, interviews and questionnaires were employed as methods of data collection. The result indicated that, doing business with industrial distributors is more cost effective than doing business with sales branches, sales offices and agents. The author notes that when compared to alternative agencies, the gross margin required by industrial distributors is similar. Also it was noted that industrial distributors are better qualified than alternative agencies to offer services such as emergency deliveries, credit clearance and knowledge of sources of supply for buyers.

Torii et al (2004) On the Length of Wholesale Marketing distribution Channels in Japan. The study adopted case study design; data collection was conducted through the use of questionnaires and interviews. It was revealed that wholesalers enter distribution channels to capitalize on their private information about demand and supply. The channels become long only when such private information is valuable. Also, the result indicated that there was a close link between

wholesalers' private information and length of the marketing distribution channel, based on analysis of panel data for five wholesale industries drawn from the last three decades of Japan's Census of Commerce. Specifically, it was shown that marketing distribution channels tend to be longer--that is, they have more wholesale steps--where wholesalers tend to be in close geographic proximity to the final demanders, where wholesalers tend not to be organized into distribution keiretsu by manufacturers, where regional variation in demand tends to be idiosyncratic, where producers advertise less intensely and distributors advertise more intensely, and where the density and heterogeneity of retail outlets is greater. All of these are factors likely to be associated with the value of wholesalers' private information.

David (2005) in his study "Distribution Keiretsu, Foreign Direct Investment, and Import Penetration in Japan" based in directed marketing channel known in Japan as distribution keiretsu are more likely than others to be headed by a primary wholesaler that is vertically integrated with the manufacturer, which for foreign manufacturers entails their directly investing in Japan-based wholesale subsidiaries. Briefly stated, vertical integration better aligns the non-contractible wholesaler effort levels with the manufacturer's profit, but necessarily forgoes the inherent advantage of an independent wholesaler at market-widening efforts. This establishes a trade-off bearing on the decision to vertically integrate. Where market-widening efforts complicate the resolution of retail externalities, it can be better to forgo market-widening efforts altogether and instead focus exclusively on resolving the externalities, vertically integrating with the wholesaler in order to better administer a distribution keiretsu.

Several empirical studies conducted support that business to business relationships have a positive effect on efficiency of logistics performance and it enhances firm's financial performance. Liu & Yen, (2010); Luo, (2011); and Yeung & Tung (2012) studied a Hong Kong logistics service provider and found that a successful implementation of a quality management system is the key to survival and long-term prosperity for a logistics company. Several empirical studies have been done in Kenya, for example, Gichuru (2012) did a study on critical success factors in business process outsourcing of logistics companies in Kenya. She identified these factors to include investment of international companies in the local economy; internet connectivity; top management support; creation/expansion of a potential niche and necessary expertise.

Mulama (2012) also did a study on logistics outsourcing but was comparing logistics outsourcing practices and performance of large manufacturing firms in Nairobi. He concluded that logistics outsourcing practices being adopted by the large manufacturing firms resulted in increased productivity, organizational effectiveness, increased profits, continuous improvement and improved quality. Moreover, Kariko (2012) did a study on logistics outsourcing and supply chain performance of universities in Nairobi County where he found that logistics outsourcing improved supply chain performance.

From empirical literature review of previous studies have shown that in the current complex business environment, the competition faced by business organizations is no longer mere inter-firm competition, but also inter-channel competition caused by adapting to industry globalization.

In line with this a firm's choice of a distribution channel are mainly targeted to minimize the distribution cost and reduce the delivery time. When compared to alternative agencies, the gross margins required by industrial distributor are better qualified than alternative agencies to offer services such as emergency delivery, credit clearance and knowledge of source of supply for buyers. The system theory is a theoretical back up for the subsequent research undertaking where by a decision in one area as a system has an implication in other variable which needs an effective designing of a distribution strategy which has an implication for the firms ultimate performance.

Subcontracting any business activity, which was previously being performed in house, is considered as outsourcing. The rise in the market competition compelled companies to reduce their cost, outsourcing became as a viable option (Peter, Embleton, Phillip, & Wright, 1998). Since, then for competing effectively in market, companies use outsourcing as one of their main business strategies. The vital business activity, which is being outsourced for the sake of firm's performance improvement, is transportation outsourcing (De Kluyver & Pearce, 2006). Various terminologies are used to depict logistic outsourcing e.g. distribution contract, logistics alliance, operational alliance, contract logistics and third party logistics (3PL) (Lieb & Randall, 1996; Laarhoven & Graham, 1994). Empirically, companies in manufacturing sector are outsourcing their transportation at a very fast pace. The underlying objective behind this is cost advantage with improved service quality. This has also led companies to have a sustainable long term

relationship with their outsourced partners (Cooper, 1993; Dapiran, Lieb, Millen, & Sohal, 1996; Cooper, Lambert, & Pagh, 1997).

Companies who have outsourced their transportation has not only successfully reduced their overall cost but also has made their supply chain more agile due to two principle reasons; First, outsourcing results in decrease of capital investment that further decreases the depreciation and operational cost. Secondly, since the outsourced partner has specialized in the activity being outsourced to him, it increases the effectiveness of the service (Lambert, Cooper, & Pagh, 1998). The argument of Lambert, Cooper, and Pagh (1998) has been empirically analyzed by (Sohal, Millen, & Moss, 2002). They conducted a study on Australian manufacturing firms to find out the influence of outsourcing on cost and agility of their supply chain. Study has found that transportation outsourcing has significant positive relationship with overall cost of the company and supply chain agility. Similar results have also been illustrated by (Gammelgaard & Larson, 2001; Vokurka & Lummus, 2000). Understanding importance of logistics in supply chain, Stank, Davis, and Fugate (2005) mentioned that success of a company depends upon its supply chain whereas, success of supply chain depends upon the performance of logistics especially transportation. Stank, Davis, and Fugate (2005) argued that the workable option to improve the transportation performance of a company is to outsource it to a service provider who is specialist in that specific field. It will not only result in augmenting the agility of the transportation but will also lower the transportation cost of a business. Summing up, the study concluded that transportation outsourcing is one of the key elements of any business in manufacturing sector.

Similarly, Rodrigues, Bowersox, and Calantone (2005) assert that for sustainable competitive advantage, companies have to rely on their supply chain, which further banks upon the degree of activities outsourced. Strategically, outsourcing the subsidiary business performance directly influences the performance of supply chain of any company. In this context, the activity, which companies can outsource at very outset, is transportation. If the company is unable to maintain its relationship with external stakeholders then outsourcing can result in decreasing performance of the company (Lai & Cheng, 2003).

Srivastava (2006) studied the Indian manufacturing companies for analyzing the effects of outsourcing. In the first analysis, the study showed mix results where outsourcing was only affecting the cost of business negatively and this relationship was also not very strong. In the second analysis, the study bi-furcated the companies into groups i.e. Group A: companies who

have ability to maintain their relationship with outsourced partners and Group B: companies which have weak relationship management with their outsourced partners. It for revealed that in former case outsourcing had significant negative impact on cost and significant positive impact on quality of service of the companies. In latter case, the outsourcing only affected the cost. The results portrayed a very important element for outsourcing that is appropriate relationship with outsourced partners. Likewise, a similar type of study has been conducted in China and it was concluded that outsourcing not only reduces cost of business but also increases customer satisfaction.

A constant rise in third party logistic providers (3PL) is also considered an evidence of increasing trend of outsourcing. Which is further connected to the positive impacts of outsourcing on performance of a company. Wilding and Juriado (2004) explained the reason of rise in outsourcing in UK's FMCG industry; Study mentioned that logistics outsourcing has drastically decreased the logistics cost of companies. The studies of Murphy, Cifuentes, Yakimovicz, Segur, Mahoney, & Kodali (1996), have also come across such findings in the past. The study asserted that most of multinational companies are outsourcing their transportation. Explaining this argument it has mentioned that the reason of that steep trend of transportation outsourcing was due to its substantial impacts on performance of a company.

Bundle of studies have showed a significant impact of outsourcing on supply chain performance (Bhatnagar, Sohal, & Millen, 1999; Knemeyer, Corsi, & Murphy, 2003; Langley, Allen, & Colombo, 2003; Sohail, Austin, & Rushdi, 2004). Supply chain performance has been evaluated from two facets i.e. cost and quality. Cost has been operational by using the transportation cost of the companies. Some of the scholars i.e. Dapiran, Lieb, Millen, and Sohal (1996); Cooper, Lambert, and Pagh (1997) considered reducing lead-times and back-orders as sign of quality whereas, increasing customer satisfaction as the sign of improving quality.

The case of Latin American countries by Lieb and Randall (1996) depict that majority of manufacturing firms in Latin America are outsourcing their transportation however, all of the companies are not successful in improving their performance. The reasons were found with the help of working on case studies of some of the selected firms, Lieb and Randall (1996) found that the companies having ability to maintain relationship with external stakeholders, and having high level of commitment were more likely to get the benefit of outsourcing. Sahay and Mohan (2003) have portrayed similar findings in a study of Indian firms. It was found that companies

with high level of commitment, better relationship management ability and high experience of outsourcing have significant impact of outsourcing on their SCM performance.

Considering this trend, this study discusses and focuses on the assessment factor affecting distribution performance by considering Muger cement factory as a case study and the following conceptual framework has been developed after making the above review of both theoretical and empirical literature.

2.4 Conceptual framework

Determinants of distribution performance are congregated into three constructs of financial capacity, transport outsourcing and information systems, Angelmar, Reinhard and Louis, (1998)

The relationship between these constructs with distribution performance is conceptualized as follows:

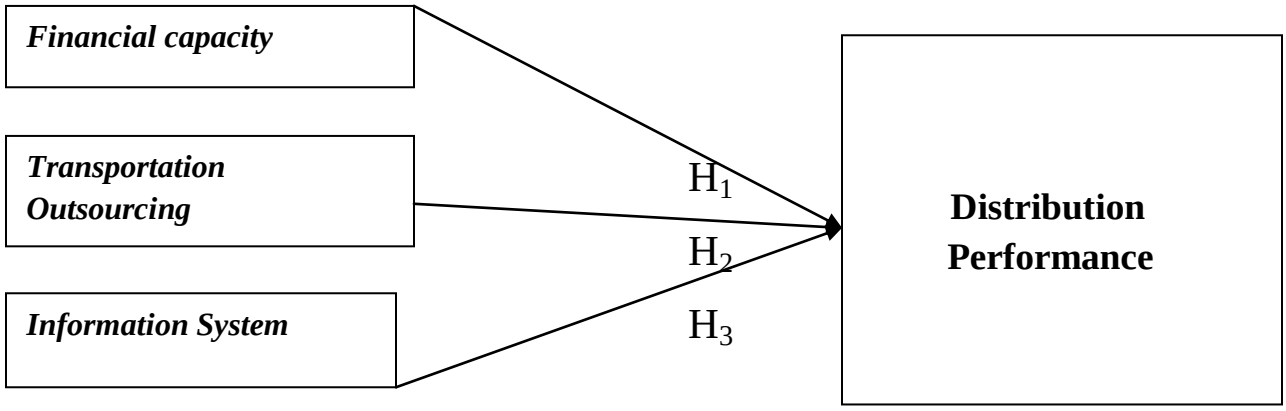

Figure 2. 1 Factors affecting distribution performance (Angelmar, Reinhard and Louis, 1998)

2.5 Research Hypothesis

As defined by Leedy and Ormrod (2010), "a hypothesis is a logical supposition, reasonable guess, an educated conjecture." The research hypotheses are tentative propositions identified to guide the investigation of the problem/sub problems.

Distribution is an expensive undertaking, and requires careful channeling and management of funds. Fleet maintenance, dispatch personnel emoluments and other costs should be well handled to ensure continued performance (Stern and Heskett 1969).

Cooper (2006) argues that there can never be an effective distribution if an organization is challenged financially. Finances are used to modernize fleet, to compensate drivers, to buy enough stock for distribution and more importantly, to implement and maintain a robust information system. From this statement the following hypothesis has been developed.

H_1:- There is a positive relationship between financial capacity and distribution performance.

Conventional transport purchasing versus third-party logistics discussion leads to an assumption that certain types of transportation outsourcing are referred to as third-party logistics. It consists of the use of an outside company to perform part or all of another company's material's management or product distribution. It can include all or part of a company's logistics function (Logan 2000).

According to Wick (2000), success or failure in distribution depends on care and caution in continuous management of this function to ensure the job being done by distribution partners as expected. Wick cautions that outsourcing is not a panacea; if the third-party distributor's procedures and performance are not carefully monitored, there is the risk of permanently alienating the existing customers, who have been attracted through much hard effort. Johnson (2006) observes that the key to a successful outsourcing relationship includes understanding the process, specifying objectives, establishing internal procedures for evaluating performance against objectives, and deploying systems that help to manage the function effectively.

From the above statement the following hypothesis has been developed.

H_2:- ***Transport outsourcing and distribution performance are positively related.***

Effective information sharing has been found vital in achieving distribution channel performance (Zou*et al.,* 2007). Coordination among independent channel members, such as raw-material suppliers, manufacturers, distributors, and agents-logistic providers, is the key to attain the necessary flexibility that would enable them to progressively advance logistics processes in response to changing market conditions. Unfortunate synchronization among channel members then could cause dysfunctional operational performance. The negative impacts of poor coordination cause higher inventory costs, longer delivery times, higher transportation costs,

higher levels of loss and damage, and lowered customer service (Lee *et al.*, 1997). According to Fernandez (2006), the application of IT, like the internet, was also found to be able to enhance effectiveness as it enables the firm to progress in market knowledge and in the relationship with clients and suppliers or other firms within the same value chain.

Besides, the uses of IT among value chain organizations also have been shown to encourage managerial coordination and have a positive impact on performance. Using data from 241 suppliers in the computer industry, Nada (2008) directly promoted a precise category of coordination activity, in which, would be able to accomplish both strategic and operational profit. Hence, in order to attain a complete set of profit, suppliers must use IT for both exploration and exploitation within the channel. From the above statement the following hypothesis has been developed.

$H_{3:-}$ ***Information systems and distribution performance are positively related.***

CHAPTER THREE

3.0 Research Methodology

3.1 Introduction

This chapter presents the research methodology that was adopted and followed by the researcher in the process of conducting the study and therefore, it focused on the following: Research approach, research design, population and sampling design (population, sampling technique, and sample size), source of data, data collection methods, research instrument, validity and reliability and analysis methods.

3.2 Research Approach

The research has been approached using a quantitative research method. Quantitative data is any data that is in numerical form such as statistics, percentages, etc. It is used to answer questions on relationships within measurable variables with an intention to explain, predict and control a phenomenon (Leedy, 993). The researcher seeks to use a quantitative approach just to confirm a hypothesis about a phenomenon. Again a highly structured method of data gathering in the form of questionnaire justifies the use of a quantitative approach. The researcher also used a quantitative approach just because it intended to test a specific hypothesis with a specific variable being investigated.

Under quantitative research approach, it is possible to test hypothesis and generalize the findings (Hirschheim, 1985; Alavi and Carlson, 1992). However, to test the hypothesis, there is a need to translate the underlying concepts into measurable forms Saunders *et al.,* 2007). For instance, in this study financial capacity, transport outsourcing and information system are a construct that needs to be properly measured in order to test its effect on performance of manufacturing firms in this case the distribution performance of Muger cement factory.

3.3 Research Design

The study adopted both descriptive and explanatory research designs. On one hand, descriptive research design combined with graphical illustrations was used to describe various variables of interest. On the other hand, explanatory research design has been used to establish the magnitude, direction and significance of various factors affecting the distribution performance of

a firm in this case Muger cement factory. In order to achieve meaningful result in this research work an explanatory research design has been used.

An explanatory research design also known as casual research design seeks to establish relationships between variables. This design is used to establish relationships between two or multiple variables of interest. Creswell (2005) asserts that explanatory research design can be used to predict an outcome such as distribution performance of manufacturing firms. Consequently, explanatory research design has been used to examine the influence of financial capacity, transport outsourcing and information system on the distribution performance of the factory being investigated.

Given the objectives and as illustrated in chapter two under conceptual framework, this study therefore used both descriptive and explanatory research design. According to Kothari, (2004), those two research designs may facilitate research to be as efficient as possible yielding maximum information. Descriptive research design and explanatory research design provides the collection of relevant evidence with minimal expenditure of effort, time and money; the purpose of the study happens to be an accurate descriptive of situation and analysis of the relationship between variables (Kothari, 2004). Further, Greene, (2012) recommends use of regression techniques to uncover the relationships between variables. This study sought to investigate the relationship between factors affecting distribution and firm's performance in distribution thus explanatory research design is very relevant.

3.4 Population and Sampling

3.4.1 Population of the Study

Target population is defined as the entire aggregation of respondents that meet the designated set of criteria (Kothari, 2004).The populations of this study were the management staffs of Muger cement factory that are located in the three main plants of Muger cement factory namely: Mugger, Tatek and Addis Ababa cement. The management staffs comprising of top management, process owners and team leaders. The selection of the management staffs as a target population was because of the fact that the very nature of the subject matter under investigation is looking a lot of exposure and familiarity and being more of a management issues to better know the extent of influence each variable has on distribution performance. The total

number of management staffs as per the data got from the factory human resource department was 121. The table below depicts the detail of the population constituent

Table 3. 1 Constituent of the target population.

Segment	Number of staff	Percentage
Top management	2	1.7
Process owners	11	9.1
Team Leaders	108	89.2
Total	121	100

Source:Muger cement Human resource department (2018)

3.4.2 Sample size

Saunders *et al*., (2007) refers to sample as a subset of the target population. A sample can be used to derive inferences about the population if appropriate sample size and sampling techniques are used. A sample size is the number of units of observation that the researcher intends to collect information from. In this case, it is the management staffs of Muger cement factory that are located in the three main plants: namely, Muger, Tatek and Addis Ababa cement that the researcher intends to collect data on factor affecting the distribution performance. There are various formulas that have been proposed for sample size determinations. However, this study follows the formula proposed by Yamane, (1967) since it is simple to use, it is scientific and can be used in cases of finite populations. Thus, to calculate the sample size from 121 management staffs of Muger cement factory, the study specifies a 5 percent error as shown in equation 3.1.

Equation 3. 1 Formula for Sample Size Determination.

$$\boldsymbol{n = \frac{N}{1 + N(e2)}}$$

Where

N----------Population

n----------Sample size

e----------denote the error

Applying values for a population of 121 at 0.05 error level will give us a sample size of:-

$$n = \frac{121}{1+121(0.05)2}$$

$$n = 93$$

Equation 3.1 gives a sample size of 93 management staffs. Therefore, the study was sought to gather information from 93 management staffs located in the three main plants of Muger cement factory. This sample was deemed good representation of the populations since the sample size is greater than 10 percent of the target population. Mugenda and Mugenda(2003) argue that for a sample to be a good representative of the population it should be at least 10 percent of the target population.

3.4.3 Sampling technique

After getting the sample size of 93 management staffs located in the three main plants of Muger cement factory, it is necessary to explain on how to select the number for data gathering from the target population of 121 management staffs. The selection employed an appropriate sampling technique that takes into account the distribution of management staffs across the factory. According to Kothari, (2004) there are various sampling technique, such as simple random sampling, stratified random sampling, purposive sampling and snow ball sampling just to mention a few.

This study used probability sampling since the population and location of management staffs was known. Specifically, the study used stratified random sampling in order to account for the uneven distribution of management staffs in the three main plants of the factory. Based on distribution of management staffs in the three main plants across the segment, the researcher used proportions calculated in the population distribution to come up with a representative sample distribution as shown in table 3.2. The proportions calculated give the number of management staffs to be included in the sample for each segment. Thereafter simple random sampling was used to select the management staffs in which data was to be collected.

Table 3. 2 Sample Distribution of Management staffs

Segment	Population	Sample size	Percentage
Top Management	2	2	1.7
Process Owners	11	9	9.1
Team leaders	108	82	89.2
Total	121	93	100

3.5 Source of Data

Primary sources of data collection method have been extensively used in conducting this research work. The researcher adopted a survey technique through the use of a structured questionnaire that has been employed on the management staffs of Muger cement factory that are located at Muger, Tatek and Addis Ababa cement respectively.

3.6 Data Collection method

This research work was carried out through a structured questionnaire. However, the questionnaires constituted the chosen data collection instrument. In the course of this research work, the researcher self administered a structured questionnaire for management staffs of the factory that are located in the three main plants namely: Muger, Tatek and Addis Ababa cement respectively.

3.7 Research Instrument

The study used a structured questionnaire to collect data from 93 sample-respondents of Muger cement management staffs. As stated by Creswell and Miller, (2003), in a questionnaire there may be open and closed questions. This study used closed questions which is one where responses are restricted to small set of responses that generate precise answers to develop the empirical study. In designing the questionnaire, a five point likert-type scale was used in order to provide the extent of the respondents feelings or opinions on the impact financial capacity, transport outsourcing and information system variables under consideration on distribution performance of the factory, where by a scale of one implies strong disagreement with an issue or statement while a scale of five implies a strong agreement in that order (Patton, 2002).

The questionnaire was developed and administered by the researcher himself based on a research hypothesis drawn in the preceding chapter. A pilot test has been made to check its validity and in doing so 12 sample respondents (10% of the management staffs) have been randomly considered for the test. After the test a revision and amendment of some of the questionnaire content has been made together with an advice made by the experts in the area and a final questionnaire has been crafted and distributed for the sample respondents. Out of the distributed 93-questionaires, 78 of them are responded. The responded questionnaire comprises of more than 80% which is sufficient enough to make analysis and being representative. Of the responded 78-questionnaires, 100% of it was responded by top management and process owners, where us 81% was responded by team leaders which is out of the distributed 82-questionaires for team leaders, 67 of them are responded appropriately.

3.8 Validity and Reliability

Once the data was coded the researcher conducted preliminary analysis to test for reliability using Cronbach‘s alpha. Cronbach‘s alpha is known as a good measure of reliability (Monette, *at el.,* 2002). Its values ranges from 0 to 1 with Cronbach‘s alpha values between 0.8 and 1.00 indicating a considerable reliability, values between 0.70 and 0.80 indicate an acceptable reliability while values below 0.70 are considered less reliable and unacceptable. The consistency reliability has been checked using Cronbach`s alpha and the cronbach alpha coefficients are becoming above 0.7. The results from reliability analysis aided to suggest whether questionnaire should be reformulated or not. To ensure the validity of the research instrument, the researcher also consulted experts in the area of distribution management and adjust the questionnaire where necessary.

3.9 Data analysis

The data collected was quantitative in nature. The data collected from the field has been checked for completeness and then be coded accurately. Analytical computer software (Statistical Package for Social Sciences- SPSS version-20) has been used to analyze the results of the questionnaires. The questionnaire used to address the objectives of the study, research questions of the study. A correlation and regression analysis tool has been employed to show the impact of those independent variables on the dependent one. Correlation analysis is deemed appropriate because the correlation coefficient indicates strength and direction of relationship between

distribution performance and the independent variables (Mugenda & Mugenda, 2003). As a result an explanatory approach had been followed to explain the extent of impact each independent variables had on distribution performance. The very reason of using a correlation and regression analysis is just because it better tell the extent and direction of relationship between dependent and independent variables in a simple way. That justifies the very reason of choosing this analysis tool in this research undertaking.

CHAPTER FOUR

4.0 Data Presentation and analysis

4.1 Introduction

This chapter is about data presentation and analysis. It has focused on respondents profile, validity and reliability test using various assumptions prior to conducting a correlation and regression analysis. It was also used a statistical package for social sciences (SPSS) with version 20 together with a descriptive statistics like mean and standard deviation for data analysis purpose. Table and charts are also used for data presentations.

4.2 Demographic profile

Although a total of 93 questionnaires were distributed to management members of Muger Cement Factory, 78 questionnaires were returned at the end of the data collection process, which gave the response rate of more than 80 percent. The demographic profile of the respondents is shown in Table 4.1.

Table 4. 1 Profile of Respondents

Item	**Description**	Frequency	%
Gender	Male	59	75.6
	Female	19	24.4
	Total	78	100
Age	20-29	10	12.8
	30-39	25	32.1
	40-49	26	33.3
	50-59	17	21.8
	Total	78	100
Position	Top Management	2	2.6
	Process Owner	10	12.8
	Team Leader	36	46.2
	Marketing department staff	30	38.5
	Total	78	100
Year of service	Less than 5 years	13	16.7
	5-10 years	18	23.1
	11-15 years	10	12.8
	16-20 years	14	17.9
	21-25 years	8	10.3
	>25 years	15	19.2
	Total	78	100
Education	10/12 Grade Complete	5	6.4
	Diploma	15	19.2
	Bachelor's Degree	46	59
	Masters and above	12	15.4
	Total	78	100

Source: Survey Result 2018

4.3 Reliability Analysis

Reliability analyses were conducted prior to the regression analysis in order to identify the appropriate items for the analysis. The consistency reliability and the value of Cronbach's alpha will determine the variables' reliability and measure the consistency of a multiple item scale (Sekaran, 2003). Table 4.3 shows the summary of the reliability analysis and factor loadings for all the measurement items used in multiple regression analysis. Therefore, Cronbach alpha coefficients are above 0.7 which is 0.888 demonstrating excellent internal consistence.

Table 4. 2 Case Processing Summary

		N	%
Cases	Valid	78	100.0
	Excluded[a]	0	.0
	Total	78	100.0
a. Listwise deletion based on all variables in the procedure.			

Source: Survey result 2018

Table 4. 3 3Reliability Statistics

Variables	N of Items	Cronbach's Alpha
Financial Capacity	9	0.826
Outsourcing Transport	9	0.813
Information System	9	0.806
Distribution Performance	4	0.703

Source: Survey result 2018

Table 4. 4 Reliability Statistics for All Variables

Cronbach's Alpha	N of Items
0.888	31

Source: Survey result 2018

Equation 4. 1 Model equation

$$Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$ **----------Model equation**

Where;

a is ----------constant

Y_1 is---------- Distribution performance

X_1 is---------- Financial capacity

X_2 is---------- Transportation Outsourcing

X_3 is ----------Information System

e is----------confidence interval (95%)

4.4 Descriptive Statistics

Descriptive statistics concern the development of certain indices from the raw data. These provide the mean scores, standard deviations and N for each subgroup. Inspecting the pattern of these values will also give us an indication of the impact of our independent variables (Pallant, 2005). The following table shows the mean and standard deviation scores of variables obtained from 78 respondents.

Table 4. 5 Mean and standard deviation for factors affecting distribution performance

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Financial Capacity	78	2	5	3.33	.703
Outsourcing	78	1	5	3.15	.758
Information System	78	1	5	2.68	.779
Distribution Performance	78	2	5	3.13	.893
Valid N (listwise)	78				

Source: Survey Result 2018

In the output presented above the information we requested for each of the variables is summarized. Concerning the variable financial capacity, the mean is 3.33. These shows on average respondents are a little bit beyond neutral on the statements that indicate financial capacity of their company with a standard deviation of 0.703. Outsourcing of transport has a mean value of 3.15 with a standard deviation of 0.758. For this variables on average respondents are neutral for the statement indicating Outsourcing of transport. The mean of information system is the minimum among the listed variables which is 2.68 approximate to 3 with a standard deviation of 0.779. For this variable on average respondents are neutral. When we see the dependent variable mean it has a mean of 3.13 with standard deviation of 0.893 which indicates that on average respondents are a little bit beyond neutral on the statements that indicate distribution performance of their company.

4.5 Assumptions of Regression Analysis

There are some assumptions that are required to provide valid results in regression analysis.

4.5.1. Normality Test

Normality of distribution can be tested by using histogram with a normal curve. In general the figure below shows that the variables are normally distributed for distribution performance.

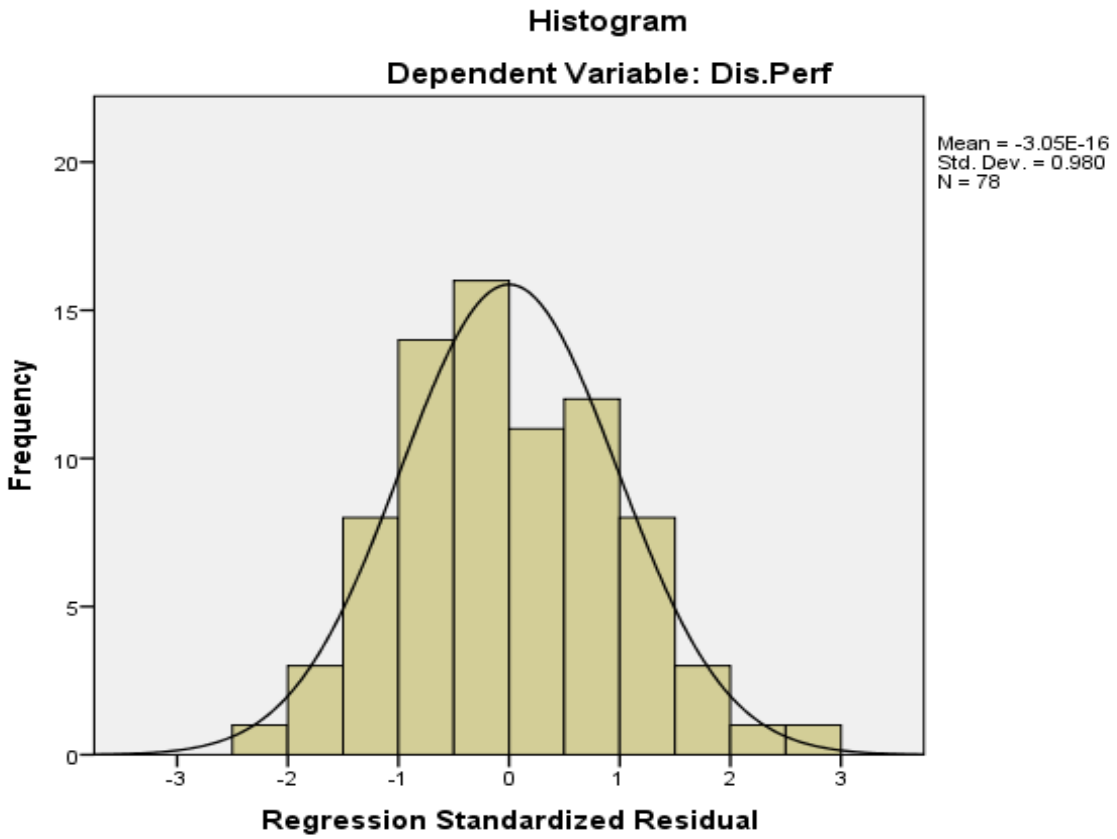

Figure 4. 1 Normal Distribution Curve

If skewness is equal to 0, the data are perfectly symmetrical. But a skewness of exactly zero is quite unlikely for real-world data (Brown, 2011). As George and Mallery (2010) put a generally acceptable range for skewness and kurtosis for further analyses is between the ranges of ± 2.0. Others extend the range of kurtosis up to ± 3.0.

Kurtosis statistics is used to measure the peakedness of the distribution. The reference standard is a normal distribution, which has a kurtosis of 3 and the lower bound is -3 (Brown, 2011). The following table shows the skewness and kurtosis statistics of the distribution.

Table 4. 6 Descriptive statistics for all variables

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Financial Capacity	78	2	5	3.34	.671	.188	.272	-.215	.538
Transportation Outsourcing	78	2	5	3.15	.705	.005	.272	.142	.538
Information System	78	2	5	2.86	.813	.598	.272	-.400	.538
Dis.Perf	78	2	5	3.29	.742	-.342	.272	-.890	.538
Valid N (listwise)	78								

Source: survey result 2018

The above table indicates that all variables are under the acceptable range of skewness which is between the ranges of ± 2.The overall distribution is reflected as normal which is presented on the histogram.

4.5.2 Testing Multicollinearity

In multiple regression analysis, the regression coefficients (viz., b1 b2) become less reliable as the degree of correlation between the independent variables (viz., X1, X2) increases. If there is a high degree of correlation between independent variables, we have a problem of what is commonly described as the problem of multicollinearity (Kotari, 2004). Fortunately, collinearity is relatively easy to detect by calculating the tolerance or VIF (Variance Inflation Factor). A tolerance of below 0.10 indicates that (multi) collinearity is a problem. The VIF is just the reciprocal value of the tolerance. Thus, VIF values above ten indicate collinearity issues (Mooi and Sarstedt, 2011). According to this measurement none of the variables tolerance level is below 0.10 and their VIF above ten. So, there is no a multicollinearity problem with the variables (see table 4.6below).

Table 4. 7 Collinearity Statistics

Coefficients[a]					
Model		Standardized Coefficients	Sig.	Collinearity Statistics	
		Beta		Tolerance	VIF
1	(Constant)		.049		
	Financial Capacity	.298	.006	.684	1.462
	Transportation Outsourcing	.216	.049	.656	1.524
	Information System	.285	.015	.580	1.723
a. Dependent Variable: Dis.Perf					

Source: Survey Result 2018

4.5.3 Checking for Linearity

The regression model can be expressed in a linear way. Checking the linearity between y and x variables can be done by plotting the independent variables against the dependent variable (Mooi & Sarstedt, 2011). As figure 4.3shows the relationship of independent variables with the dependent variable is linear.

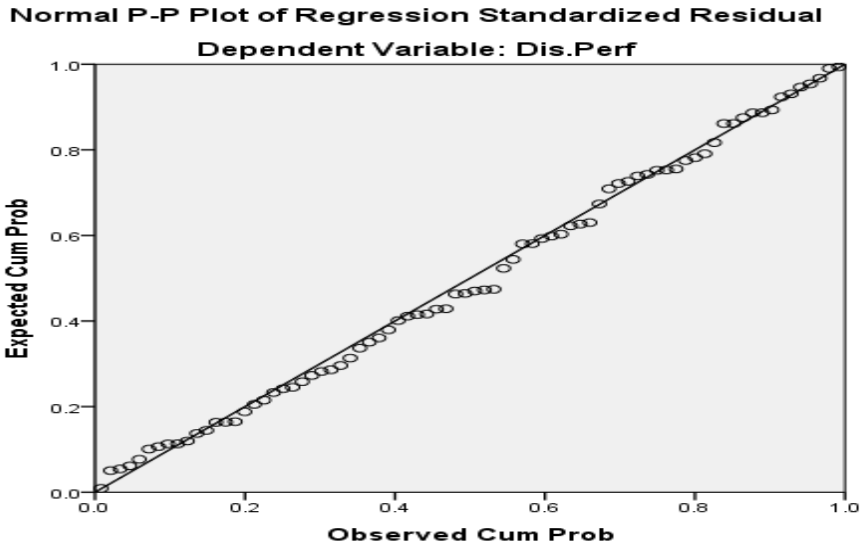

Figure 4. 2 Linearity between dependent and independent variables

4.5.4 Assumption of Homoscedasticity

It refers the variance of the errors which should be constant. To test for this, we plot the errors against the dependent variable (Mooi & Sarstedt, 2011).

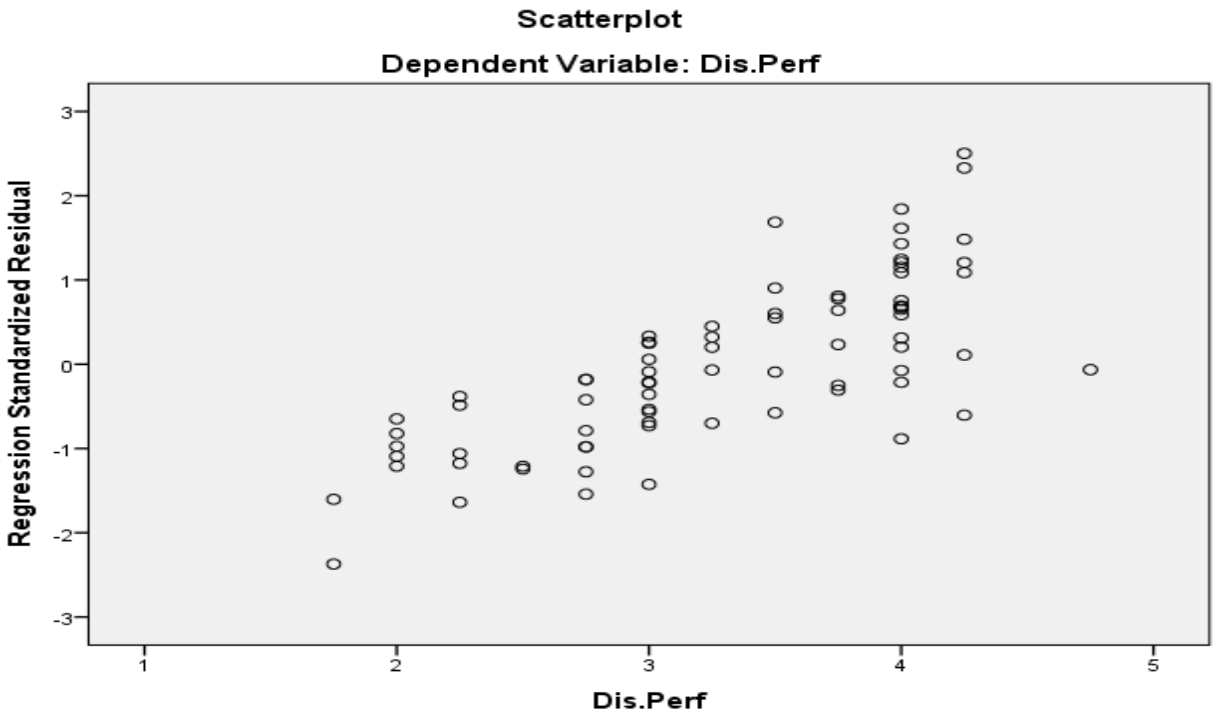

Figure 4. 3 Homoscedasticity Test

For the dependent variable the plot indicates the response seems concentrated in a specific area with some outliers. These shows the errors are constant throughout the observations. In order to manage some of the outliers the first thing done was to make a look at of the nature of these outliers before deciding either to drop or not to drop them. Some of the outliers have been dropped which are made irregular while recording data. And those outliers which are not going to be dropped have been transformed through square rooting and long transformation which ultimately pull in high numbers.

4.7 Correlation Analysis

A correlation is a measure of how strongly two variables relate to each other. Correlation coefficients are frequently used to describe data because they are relatively easy to use and provide a great deal of information in just a single value (Mooi & Sarstedt, 2011).

Karl Pearson's coefficient of correlation or simple correlation is the most widely used Method of measuring the degree of relationship between two variables (Kotari, 2004).The calculated value of the correlation coefficient ranges from -1 to 1, where -1 indicates a perfect negative relation (the relationship is perfectly linear) and 1 indicates a perfectly positive relationship. A correlation coefficient of 0 indicates that there is no correlation (Mooi & Sarstedt, 2011).

The below table shows the Pearson correlation result with its significant level. When we see the correlation of Financial Capacity with Distribution Performance it has a significant positive Pearson correlation of 0.232 at 0.05 level of confidence interval. With regard to Outsourcing it has a significant positive Pearson correlation of 0.283 at 0.05 level of confidence interval. The third variable which is Information System has a significant Pearson correlation of 0.376 at 0.01 level of confidence interval. This implies that financial capacity , transport outsourcing and information system are the factors that are directly and positively impacting the distribution performance and the extent of impact is also great as the indicates a significant person correlation coefficients of 0.232, 0.283 and 0.376 for financial capacity, transport outsourcing and information system respectively implying that the factors under consideration are significant in affecting the firms performance in distribution endeavors.

Table 4. 5 Correlations of independent and dependent variables

Correlations					
		Financial Capacity	Outsourcing	Information System	Distribution Performance
Financial Capacity	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	78			
Out Sourcing	Pearson Correlation	.266*	1		
	Sig. (2-tailed)	.018			
	N	78	78		
Information System	Pearson Correlation	.516**	.469**	1	
	Sig. (2-tailed)	.000	.000		
	N	78	78	78	
Distribution Performance	Pearson Correlation	.232*	.283*	.376**	1
	Sig. (2-tailed)	.041	.012	.001	
	N	78	78	78	78
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Survey Result 2018

4.8 Regression Analysis

In its simplest form, regression analysis allows market researchers to analyze relationships between one independent and one dependent variable. In marketing applications, the dependent variable is usually the outcome we care about, while the independent variables are the instruments we have to achieve those outcomes with. It can also help make predictions (Mooi and Sarstedt, 2011).

Factors Affecting Distribution Performance

The following tables are extracted from SPSS in order to perform a regression analysis between independent variables and dependent variable.

Table 4. 6 Variables Entered/Removed

Variables Entered/Removed			
Model	Variables Entered	Variables Removed	Method
1	Information System, Financial Capacity, Transportation Outsourcing	.	Enter
a. Dependent Variable: Dis.Perf			
b. All requested variables entered.			

Source: Survey Result 2018

Table 4. 7 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.659[a]	.434	.411	.569
a. Predictors: (Constant), Information System, Financial Capacity, Transportation Outsourcing				

Source: Survey Result 2018

The model for this regression was: $\mathbf{Y_1 = a + b_1X_1 + b_2X_2 + b_3X_3 + e.}$ From the model summary result we can see that independent variables explain the dependent variable with a percentage of 43.4. In cross-sectional designs, values of around 0.30 are common while for exploratory research, using cross-sectional data; values of 0.10 are typical (Mooi & Sarstedt, 2011)

Table 4. 8 ANOVA

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.382	3	6.127	18.924	.000[b]
	Residual	23.961	74	.324		
	Total	42.343	77			
a. Dependent Variable: Dis.Perf						
b. Predictors: (Constant), Information System, Financial Capacity, Transportation Outsourcing						

Source: Survey Result 2018

The table below shows the constant, beta, and significance level of each variable. It indicates that the three variable which are Financial Capacity, Transportation Outsourcing, and Information System influence Distribution Performance significantly at 95% confidence interval with a sig. level of 0.006, 0.049, and 0.015 respectively. As the constant and B values are known the model will be: $\mathbf{Y_1 = 0.736 + 0.330X_1 + 0.227X_2 + 0.260X_3 + 0.05.}$ Which indicates that a single unit

change in; financial capacity, Transportation Outsourcing, and Information System will increase the distribution performance by 0.330, 0.227, and 0.260 respectively.

Table 4. 9 Regression Model

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.736	.368		2.000	.049
	Financial Capacity	.330	.117	.298	2.821	.006
	Transportation Outsourcing	.227	.114	.216	1.998	.049
	Information System	.260	.105	.285	2.486	.015
a. Dependent Variable: Dis.Perf						

Source: Survey Result 2018

Hypothesis Accepted

H1:- There is a positive relationship between financial capacity and distribution

- Financial capacity and distribution performance are positively related and financial capacity influence distribution performance significantly.

H2:- Transport outsourcing and distribution performance are positively related.

- Transport outsourcing and distribution performance are positively related and transport outsourcing influence distribution performance significantly.

$H_{3:-}$ Information systems and distribution performance are positively related.

- Information system and distribution performance are positively related and information system influence distribution performance significantly.

CHAPTER FIVE

5.0 Summary of Findings, Conclusion and Recommendation

5.1 Introduction

This chapter is based on the analysis and interpretation given in chapter four. Sequel to presentation of data, a lot of observations and findings emerged from the study but need to be summarized for easy assessment at a glance for the purpose of conclusion and recommendation thereafter.

5.2 Summary of Finding

Based on the analysis and interpretation of data in chapter four of this research work, the following summary of findings was made:

1. It was ascertained that Muger cement factory is a cement and related product manufacturing factory having a clinker producing plant at Muger Town, cement grinding mill at Muger, Tatek and Addis Ababa cement. The factory is distributing cement through its limited sales offices and more of through distributors working with it.

2. In the regression analysis assumption made, a multicollinerity test has been conducted in the chapter and found to be that, none of the variables tolerance level is below 0.10 and there variance inflation factor was above ten. This indicates that there were no multicollinerity problems with the independent variables. This is a clear indication of the fact that, the independent variables are independent in their very nature in affecting the dependent variable (distribution performance). Again the relationship between the independent variables (financial capacity, transport outsourcing and information system) and the dependent one (distribution performance) is linear with some exceptional outliers in the homoscedasticity test made in the chapter.

3. In the descriptive statistics section, financial capacity was having a mean of 3.33 and standard deviation of 0.703 which was indicating that the respondents were a bit beyond neutral in their response. Transport outsourcing was having a mean of 3.15 and standard deviation of 0.758, where respondents were on average closer to neutral response. Mean of information system was minimum among the independent variables, which was 2.68 and standard deviation of

0.779 where, respondents were on average neutral to the variable in their response. The dependent variable was having a mean of 3.13 and standard deviation of 0.893 that indicates that on average respondents were lit bits beyond neutral in their response.

4.According to Mooi & Sarstedt (2011), the calculated value of the correlation coefficient ranges from -1 to 1, where -1 indicates a perfect negative relation (the relationship is perfectly linear) and 1 indicates a perfectly positive relationship. A correlation coefficient of 0 indicates that there is no correlation. The below table summarize, the previously drawn hypothesis, person correlation coefficient result at the respective level of confidence interval and the coefficient and hypothesis status after analysis made in chapter four.

Table 5. 1 Summary of Findings

Hypothesis drawn at the beginning	***Person correlation coefficient with level of confidence interval for each independent variable.***	***Person correlation coefficient status after analysis***	***Hypothesis after analysis***
There is a positive relationship between financial capacity and distribution performance	0.232 person correlation coefficient at 0.05 level of confidence interval.	Significant positive	Accepted
Transport outsourcing and distribution performance are positively related.	0.283 person correlation coefficient at 0.05 level of confidence interval.	Significant positive	Accepted
Information systems and distribution performance are positively related.	0.376 person correlation coefficient at 0.01 level of confidence interval	Significant positive	Accepted

The person correlation coefficient for each independent variable is above 0.1 at their respective level of confidence interval, which is a clear indication of the fact that the respective independent variables (Financial capacity, Transport outsourcing and Information system) have a positive and significant impact in the factories distribution performance. As a result the

hypothesis drawn at the very beginning stating that financial capacity, transport outsourcing and information system had a positive influence on distribution performance has been accepted.

5. Finally from the regression model drawn we have seen that the independent variables explain the dependent variable with a percentage of 43.4. In cross-sectional designs, values of around 0.30 are common while for exploratory research, using cross-sectional data; values of 0.10 are typical (Mooi & Sarstedt, 2011). This is a clear indication of the fact that the independent variables stated in an illustrative way are good in best explaining the dependent variable and have a big weight in affecting the distribution performance of the factory as the percentage say so.

5.3 Conclusion

According to Johnson (2006), the performance of any public sector distribution is strongly dependent on efficient management of finances of the enterprise in question. Muger Cement factory is no exception to this rule. This study confirms this proposition in so far as results of the study show that financial capacity is positively related with distribution performance as it has been demonstrated through the acceptance of a previously sated hypothesis indicating that financial capacity having a positive relationship on distribution performance or financial capacity of the factory significantly affect its distribution performance. Outsourcing of transportation is also revealed to have a significant and positive relation with distribution performance. This also follows similar findings by Quelin and Duhamel, (2003). The finding of positive relationship between utilization of information system and distribution performance of Muger cement factory also corroborates the similar finding by Panayides et al (2005). Effective and proper utilization of technology will ensure inventory accuracy, comprehensive and timely reporting and enhanced feedback in real time.

In general the analysis made through an SPSS toll revel that the factories financial capacity, outsourcing of the transport department and application of information system in distribution has a significant positive contribution in the distribution performance, which are manifested as delivery schedule improvement, amount of quantity required, quality of product attainment and a huge reduction in distribution cost as it has been stipulated in the conceptual framework.

5.4 Recommendation

Though all the determinants of performance of distribution on cement products by Muger cement are found to be directly related with performance, yet the factory has to go long distance to enhance its financial capacity, proper management of the outsourcing and make an investment on information system.

In order to be competitive and efficient in distribution, there is a need to enhance the financial capacity of the factory like other contemporary business found in the sector. Even the budget allotment for the distribution effort must be enhanced by the factory since financial capacity have a bearing to the other variables as well. Therefore, there is a need to improve the payment system to maintain the factories liquidity status and best perform in distribution effort.

While we look at the outsourcing, the factory has to establish a strong system and train the respective employees to enhance the outsourcing planning and management efforts; if they did that the factory will have better performance in distribution. Again to be specific it is better to consider a best experiencing and best performing outsourcing firms to take a lesson and act as per the experience. Particularly the outsourcing must consider the factories capacity and it has to accommodate the factories requirement.

Again the investment made on information system must be enhanced to better perform in distribution to withstand the present day competition come from the industry. Especially the implementation of ERP-project, GIS in vehicle routing, fleet maintenance: will potentially enhance the overall company performance in general and the distribution effort in particular.

5.5 Area for Further Study

It would also be interesting to expand this study to other manufacturing industries other than cement producing factory. In addition, there is a need to study additional factors other than considered in this study in an organization`s context that influence distribution performance. For example, it would be interesting to study the social or political variables in their impact on the distribution performance weather in a cement producing factory or else in other manufacturing firm.

Again it would be very interesting to expand this study by considering sample respondents other than indicated in this study and applying the respective analysis technique for that matter weather for the same business indicated in this study or some other business.

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ANNEX

QUESTIONNAIRE
ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
MA IN MARKETING MANAGEMENT

To be filled by the respondents.

Dear respondents

This questionnaire is designed to collect information about ***Assessing on factors affecting distribution performance by considering Muger cement factors as a case study***. The information shall be used as a primary data in my study which I am conducting as a partial requirement of my study at Addis Ababa University-School of Commerce for completing my Master's degree in Marketing Management. The information you provide will be valuable for the successes of the research project. Please be honest and objective while filling the questionnaire. The information you give is used only for academic purpose and will be kept confidential.

I will submit a copy of my final report to you when it is ready, as this project is a case study.

General Instructions

- ✓ There is no need of writing your name
- ✓ In any cases where answer options are available please tick (✓) and circle in the appropriate box.
    - Thank you for your cooperation and timely response in advance

Thank You.

Section One– Demographic Information

1. **Sex** Male ☐ Female ☐

2. **Age** 20-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ Above 60 ☐

3. Current Position in the organization

Top Management ☐ Process Owner ☐ Team Leader ☐ Marketing department staff ☐

4**. Years of service in Muger Cement factory**

Less than 5 years ☐ 5-10 years ☐ 11-15 years ☐ 16-20 years ☐ 21-25 years ☐ >25 years ☐

5. **Educational status**

10/12 Grade Complet ☐ Diploma ☐

Bachelor's Degree ☐ Masters and above ☐

Section Two: Statement of Survey

❖ Influence of **Financial Capacity** on Distribution Performance

Please circle the number that best expresses your opinion in each statement from the following, using the scale below:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

No.	Statement	Scale				
1	Muger cement has adequate finance to discharge its functions	1	2	3	4	5
2	Financial capacity greatly affect distribution performance of the factory	1	2	3	4	5
3	The factory has a financial capacity to ensure fast flow of funds	1	2	3	4	5
4	The factory has a financial capacity to ensure efficient fleet maintenance	1	2	3	4	5
5	The factory has a financial capacity to assign dispatch personnel's and they perform well	1	2	3	4	5
6	The factory has a financial capacity to refund costs timely and pay emolument	1	2	3	4	5
7	The factory is able to modernize fleet and properly compensate drivers due to its financial capacity	1	2	3	4	5
8	The factory has a financial capacity to buy and held stock	1	2	3	4	5
9	The factory has a financial capacity to implement a robust information system	1	2	3	4	5

Section Three: *Statement of Survey*

❖ Influence of **Transport Outsourcing** on Distribution Performance

Please circle the number that best expresses your opinion in each statement from the following, using the scale below:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

N	Statement	Scale				
1	Transport out sourcing highly affect distribution performance	1	2	3	4	5
2	The factory`s current arrangement of transport ensure its distribution performance	1	2	3	4	5
3	The current condition of the factory's truck are in good conditions and can ensure its distribution performance	1	2	3	4	5
4	The factory has sufficient truck to distribute cement to the client efficiently	1	2	3	4	5
5	Out sourced transport perform better in the factory's distribution and enhance the performance	1	2	3	4	5
6	Outsourced transport perform better than the factory`s own transport in distribution	1	2	3	4	5
7	Outsourced transport reduced costs through lower freight charges, less inventory in transit and brought better transport visibility.	1	2	3	4	5
8	Outsourced transportation provide on-time delivery performance to the factory	1	2	3	4	5
9	Outsourced transport enhance delivery schedule to the factory	1	2	3	4	5

Section Four: Statement of Survey

❖ Influence of **Information System** on Distribution Performance

Please circle the number that best expresses your opinion in each statement from the following, using the scale below:

1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

N	Statement	Scale				
1	The factory highly use information system in distribution activity	1	2	3	4	5
2	Freight routing (shipment) used by the factory is highly information technology based	1	2	3	4	5
3	Service routing(dispatching of repair technician) used by the factory is information technology based	1	2	3	4	5
4	Passenger routing(people) used by the factory is information technology based	1	2	3	4	5
5	Digital device highly enhance distribution performance	1	2	3	4	5
6	The factory fully use information communication technology in distribution functioning	1	2	3	4	5
7	Transport vehicles fit with trucking device for monitoring	1	2	3	4	5
8	Distribution function in the factory is appropriately synchronized with ordering, procurement and warehousing system	1	2	3	4	5
9	Information technology has an effect on distribution performance	1	2	3	4	5

Section Five: Statement of Survey

Indicators of Distribution Performance

Please circle the number that best expresses your opinion in each statement from the following, using the scale below:

1 = Strongly Disagree 2 = Disagree 3 = Nature 4 = Agree 5 = Strongly Agree

N	***Statement***	***Scale***				
1	Muger cement factory deliver products as per the schedule	1	2	3	4	5
2	Muger cement factory deliver the required amount of products timely to clients	1	2	3	4	5
3	Muger cement factory deliver products as per the required quality requirement	1	2	3	4	5
4	Muger cement factory deliver products with a reduced distribution cost	1	2	3	4	5

Thank you for completing this questionnaire