



ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

**THE EFFECT OF LOGISTIC MANAGEMENT PRACTICE ON
THE PERFORMANCE OF FOOD MANUFACTURING**

INDUSTRY:

THE CASE OF FAFA FOOD SHARE COMPANY

BY

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**A THESIS SUBMITTED TO THE DEPARTMENT OF LOGISTIC AND SUPPLY
CHAIN MANAGEMENT IN PARTIAL FULFILLEMENT OF THE REQUIREMENTS
FOR THE MASTER OF ARTS IN LOGISTIC AND SUPPLY CHAIN MANAGEMENT**

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DECLARATION OF ORIGINALITY OF WORK

This report is the presentation of my original research work. Whenever contribution of others are involved, every effort is made to indicate this clearly, with due reference to the literature and acknowledgement of collaborative research and discussions. Information taken from published or unpublished work to others has been acknowledged in the text and list of reference is given.

I declared that this report has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education.

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We, the undersigned Examiners of the final open defense by Afomeya Tsemrie have read and her thesis entitled “**the effect of logistic management practices on the performance of food manufacturing industry in the case of fafa food Share Company**”, and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the degree of Masters in Logistic and Supply Chain Management.

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ABSTRACT

In this paper, the effect of logistic management practice on performance of fafa foods Share Company is investigated. Logistic management practice is one of the functions accomplished in the company among the other practice. The specific objective of this research is to investigate individual logistics practices such as product quality, logistic responsiveness, product variety, delivery time and logistic cost on performance. To check whether these variable practices affect or not, 241 samples were selected from kolfe keraniyo and Gulele sub cities from the existing 610 registered lists. To determine the sample size, total distribution route are listed in the table and the sample size is computed proportionally from each rout using systematic sampling. Only quantitative data was used in this research.

Data analysis was performed with the use of stepwise regression analysis using SPSS 20 statistical software. To check the internal consistency of the data cronbach alpha test was conducted.

Finding showed that Product quality has statistically significant effect on performance from the point of view of customer satisfaction followed by product variety, delivery time and responsiveness. The study recommends that there should be dedication and apparent motivation on the parts the company and of all agents who distribute the company's products with respect to the product quality and responsiveness of the logistic function for the better performance of the company and better profit. The company as much as possible should work for further enhancement of the management of the logistic function.

Advisor Approval

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Signature _____

Date _____

CHAPTER ONE

1. Introduction

The purpose of this introductory chapter is to present an overview of the research, which will be depicted in the following pages. This introduction starts by presenting a background on the research, followed by: the research aim and objectives, Research Problems, Purpose and Significance, and a brief summary of the structure of the thesis.

1.1 Background of The Study

Hence, good logistic management has substantial influence on cost, efficiency, effectiveness as well as quality production of final goods by the manufacturing industry, since having the right thing at the right place and on the right time helps the plant to produce appropriate quality and quantity at minimum cost; as a result the operational profit will be maximized. In fact, logistic is not only the management of physical movement of raw materials and finished goods but also it is the related flow of information through the organization.

It is the process of strategically managing the procurement, management and storage of materials, parts and finished goods inventory (and the related flow of information) through the organization and its materials channels in such a way that current and future profitability are maximized through the cost effective fulfillment of orders. Thus, logistic and supply chain is inseparably connected and both can assist the cost effective, efficient and quality in the end customer service delivery of demands.

Since the system is dealing with a web of interconnected actors such as suppliers of products to customers who have their own suppliers and sub-suppliers, and, often, also intermediaries in the field of distribution. This means that they participate in supply chains, i.e. they are not independent creators of quality, efficient and effective in the end customer service delivery of demands. This is because there are also

other supply chain actors who to take part in this service and a production company may not in a position to identify, recognize, coordinate and work with all these value chain actors . The food manufacturing industry faces such co-ordination problems, especially when a large number of value chain actors are involved.

Hence, the quality of end products is affected by the whole supply chain, i.e. the manner of logistics cooperation among all of its participants, including suppliers of logistics services. If this cooperation is to be successful for the end customers, it may not be reduced to operative activities of transferring specific goods, but must be of strategic nature. Therefore, the aim of this research is to investigate the factors that affect the efficient, effective and quality production of a food manufacturing industry; with particular emphasis to the FAFA Food Manufacturing Share Company. These supposed factors will be seen in light of logistics management process across the inbound and out bound channels, taking into consideration the needs of an institutional client and the imperative of strategic cooperation among the supply chain actors.

With regards to food manufacturing industry, Logistic has a tremendous effect. In this paper, the researcher will try to investigate the effect of logistics management on the efficient, effective and quality operation and meeting end customers' needs of Fafa Food Share Company using different logistic performance indicators as well as to recommend strategies in order the Share Company attain the set goals. The result of the analysis will help food manufacturing companies to improve their logistic operation.

Company Overview

Fafa Foods Share Company was established 50 years ago in 1962, to produce a balanced diet for malnourished children under five. Fafa Foods was a public enterprise, which was privatized to Petram Private Limited Company, seven years ago; in the year 2008. Under the new ownership, Fafa Foods Share Company has expanded its capacity, diversified and introduced new products. At present, the company has an

installed capacity to produce more than 21.6 thousand tons of nutritious foods per annum.

FAFA food Share Company is producing baby foods, fortified foods, milk products, corn flakes, snacks, Relief supplies, and Bread improvers.

Regarding the market demand, FAFA Food Share Company has a strong market share of 20% in baby foods, 18% in milk, 30% in relief and 1% in snacks (Fafa Foods Share Company Business Plan, 2014 -2016).

The Addis Ababa city market channel survey conducted by Fafa Foods Food Share Company in 2012 indicates that 90.71% of the products are distributed and reaches the consumer through retail shops, 1.64% through supermarkets, 0.2% by wholesalers and others 7.63%. The findings clearly show that all suppliers are competing on the basis of marketing and distribution of their products, mainly through retail shops. Fafa Food Share Company distributes its products through retail networks mainly through private retail shops that constitute 98% of its total sales. The remaining 2% is distributed through own retail shops, supermarkets and mini market stores. The company has competitive advantage over its competitors in terms of the size of retail outlets, availability and visibility of its most parts of the Addis city and major towns in the regional states. In addition the established partnerships with retail outlets, door to door delivers, and credit sales provision are an added value to its competitiveness in the market. (Fafa Foods SC -Business Plan (2014 -2016)

1.2 Statement of the Problems

This research seeks to bring out the effect of logistic management practice effectiveness through product variety, responsiveness, delivery time and product quality that affect customer satisfaction.

So in attempting to investigate it the following basic questions are raised.

-) What are the potential impacts of providing various products on organization performance?

-) What are the impacts of logistic responsiveness, delivery time and product quality on organization performance?
-) What kind of improvement can be made on the company logistic system?

1.3 Objective of the Study

1.3.1 General objective

In general this study is to find the effect of logistic management practice on performance with a special analysis on FAFA Food Share Company.

1.3.2 Specific objective

The specific objective is :

-) To identify the factors that affect fafa food share company's performance measured by customer satisfaction
-) To discuss the effect of variables such as delivery time, product quality, product variety and responsiveness on customer satisfaction. Since customer satisfaction is one of the performance indicator.

1.4 Significance of the Study

Preliminary analysis of logistic management helps the organization in designing strategic planning. The study having analyzed the theoretical perspectives, and after processing the feedbacks from the various categories will devise ways to improve performance and increases customer satisfaction.

In general, the significances of this study are:

-) To motivate other researchers to perform study on the areas..
-) To give insight to other researchers to explore the topic in a more detailed manner.

) In addition to the above points, the Company in which this study bases, can use the study or the recommendations to be included in this thesis as a base to improve its operation after carefully evaluating it.

1.5 Scope of The Study

Fafa Food SC distributes its product all over the country. However the study cover only Addis Ababa city, because there is time limitation and it is also expensive to cover all cities in the country. So, the population of this study are kolfe keranio and Gulele sub city customer of FAFA Food Share Company, which are supermarkets, mini markets and shops.

1.6 Limitation of the study

One of this study limitation is time. The other limitation encountered during the data collection process was, not finding specific information regarding cost of logistic, inventory, warehouse, and transportation management system from Fafa food share company.

1.7 Organization of The Study

The research thesis have five chapters. The first chapter deals with research preliminaries including background, statement of the problem, objectives, scope of study, and outline of the paper. In the second chapter, conceptual frame work of the study and review of related literature is presented in a detailed manner. In the third chapter, the research design and methodology is discussed. The fourth chapter discuss the finding of the study. Based on the forth chapter, conclusions and possible recommendations is made in the fifth chapter.

CHAPTER TWO

2. Literature Review

2.1 History and Advancement of Logistics

The word logistics was first associated with the military. During World War II military forces made effective use of logistics models and form of systems analysis to ensure that materials were at the proper place when needed. The term is still widely used in military and military type applications. The 1958 recession and profit squeeze created an environment in which business began searching for more effective cost control systems. Almost simultaneously, many firms realized that physical distribution and logistics were activities whose costs were neither carefully studied nor coordinated. A number of other trends were becoming apparent, and they made it necessary to focus attention on product distribution (Nazila KavehNavidKhosravi Samani, 2009).

Logistics was initially a military activity concerned with getting soldiers and munitions to the battle front in time for flight, but it is now seen as an integral part of the modern production process. The main background of its development is that the recession of America in the 1950s caused the industrial to place importance on goods circulations. The term, logistics, was initially developed in the context of military activities in the late 18th and early 19th centuries and it launched from the military logistics of World War II. The probable origin of the term is the Greek *logistikos*, meaning 'skilled in calculating'. (BTRE, 2001) Military definitions typically incorporate the supply, movement and quartering of troops in a set. And now, a number of researches were taken and made logistics applications from military activities to business activities (Nazila KavehNavidKhosravi Samani, 2009).

Business logistics was not an academic subject until the 1960s. A key element of logistics, the trade-off between transport and inventory costs, was formally recognized in economics at least as early as the mid-1880s. (BTRE, 2001) Based on the American experience, the development of logistics could be divided into four

periods. Before the 1950s, logistics was under the dormant condition. Production was the main part of the managers concerned, and industry logistics was once regarded as “necessary evil” in this period. During the 1950s to and 1960s, applying new ideas of administration on business was a tendency. Drucker (2001).The Economy’s Dark Continent, regarded the procedure of physical distribution after producing products as the most possible development area in American businesses but also the most neglected area. Lewis’s study (cited in Chang, 1998) in 1956 on the role of air transportation in physical distribution was the application of “total cost concept” and it pointed out the notions of trade-off between inventory and transportation. From the 1970s onwards, more and more applications and researches of logistics appeared. Due to petroleum price rise in 1973, the effects of logistics activities on enterprises grew. Slow growth of market, pressure of high stagflation, release of transportation control, and competitions of the third world on products and materials all increased the significance of logistics system on planning and business at that time. The further tendency of logistics in the early 21st century is logistics alliance, Third Party Logistics (TPL) and globalized logistics. Logistics circulation is an essential of business activities and sustaining competitiveness, however, to conduct and manage a large company is cost consuming and not economic. Therefore, alliance of international industries could save working costs and cooperation with TPL could specialize in logistics area (Nazila KavehNavidKhosravi Samani, 2009).

2.2 Definition of Logistics Management

Although early definitions such as physical distribution, materials management, industrial logistics and channel management - all terms used to describe logistics - have promoted this broad scope for logistics, there was little attempt to implement logistics beyond a company’s own enterprise boundaries, or even beyond its own internal logistics function. Now, retail firms are showing success in sharing information with suppliers, who in turn agree to maintain and manage inventories on retailers’ shelves. Channel inventories and product stock outs are lower. Manufacturing firms operating under just-in-time production scheduling build

relationships with suppliers for the benefit of both companies by reducing inventories (Ronald H Ballou).

Logistics is the process of strategically managing the procurement, movement and storage of materials, parts and finishing inventory (and the related flows of information) through the organization and its marketing channel in such a way that current & future profitability are maximized through the cost-effective fulfillment of orders (Christopher, M. 1998).

Logistics and Supply Chain Management go into ensuring that the right material reaches the right place at the right time. Logistics management is used to sourcing procurement, order fulfillment, storage of raw materials, replacement of personnel and materiel, production planning, scheduling, controlling cost effective flow, assembly, packaging, maintenance, warehousing, distribution, finished goods and customer service. Logistics management include supply and demand planning, logistics network design, inbound and outbound transportation management, inventory management, fleet management, materials handling management, and management of third-party logistics services providers (Lean and Six Sigma Tool Indonesia, 2014)

“Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point of origin to the point of consumption in order to meet customers’ requirements.” (Ronald H Ballou)

2.3 Why logistics management

From the very beginning of the history of humanity to the building of today modern society, logistics is not a new idea. Procurement of raw materials and convert them to become serviceable was discovered from the ancient areas all over the world, meaning they used some techniques to provide their necessaries. What is recognized by the profession today as logistics was concerned with how to move materials to the required place, known as a point of consumption. The power of

customer and customer requirement is increasing in every market (Nazila Kaven, Navid Khorshavi Samani 2009).

The efficiency and effectiveness of the logistics operation has a considerable influence not only on the business performance of manufacturers but also on the customer's perception of the quality of the products and services provided by the plant. If inbound material flows from the supplier are erratic, the firm's internal operation will not be able to sustain their production strategies without a high level of safety stock. Similarly, if the flows of finished goods to the customer are unreliable, the firm's customer base will be dissatisfied. Accordingly, logistics is strategically important in many industries as it is central to achieving competitive advantage (Bowersox, Closs, & Cooper, 2010).

The power of customer and customer requirement is increasing in every market. In other words, attention to these requirements becomes a means for differentiation for company in order to catch the market as the competition become more and more severe. Furthermore, some new requirements are added to the customer expectations that were not essential to consider before. In addition to the product requirements, customers request for a variety of services. Occasionally these services become more vital in the eyes of customers rather than product itself, i.e. it is harder to maintain a competitive edge through the product itself. In a situation like this it is customer service that can provide the distinctive difference between one company's offer and that of its competitors (Christopher, 2005). Lambert and Stock (2001) define customer services as "a customer oriented philosophy that integrates and manages all elements of the customer interface within a predetermined optimum cost services mix."

Generally, the final goal of any logistics system is to satisfy the customer. In fact each component of the logistics system can effect whether a customer receives the right product, at the right place, in the right condition, for the right cost, at the right time (Lambert and Stock 2001). The term availability 'right place at the right time' is recently considered very important when it comes to customer service. The companies cannot retain the customer any more if they don't have the products in

their stock. Nowadays no one can diminish the negative impact of out of stock. Several studies confirm the fact that the power of brand is decreasing compare to last years and will continue to do so. Also many of the shopping decisions are made at the point of purchase. All of these studies and observation verify the importance of having the product in stock, or availability. And as mentioned, many companies now days apply logistics management in order to satisfy the customer and finally improve the customer service. This in addition to the value advantage acquired by the company when utilizing logistic management since it provides the required service with a minimum cost. (Nazila Kaveh Navid Khosravi Samani, 2009).

2.4 Logistic management in Food Manufacturing Industry

The food industry sector is vast and diversified, categorized by different segments such as fresh food industry, organic food industry, processed food industry and livestock food industry. Each segment need different supply chain strategies such as procurement and sourcing, inventory management, warehouse management, packaging and labeling system, and distribution management, thus, the uniqueness characteristics of food supply chain (Georgiadis et al. 2005).

In today's world logistics which includes transportation, inventory, order processing, purchasing, warehousing, materials handling, packaging, and much more, must continuously be developed to meet an effective logistics system in order to meet and satisfy the customer demand. These developments require a considerable effort and significant capital (Nazila Kaven,Navid Khorshavi Samani 2009)

➤ Inventory Management

Inventory centralization, which has been a long-term trend, is now occurring on a larger geographical scale. Companies have been able to enjoy the inventory cost savings, while minimizing additional transport costs by geographically separating stockholding and break-bulk operations, with the former becoming more centralized while the latter remains decentralized. (Transport Logistics shared solution to common Challenges, Organization for economic Co-operation and development, 2002, 13)

Inventory exists at every stage of the supply chain as raw materials, semi-finished or finished goods. They can also be in process between different locations. Holding of inventories can cost a company about 25% to 40% of their value. Lost sales and customer dissatisfaction can occur as the cause of inventory; therefore efficient inventory management is very important in supply chain operation and it helps the firm to maintain competitive advantage (Stock and Lambert, 2001; Axsäter, 2006). In this area only large scale multi-national companies have set a number of strategies to ensure that costs arising from inventory are minimized. Such strategies include; setting up optimal and minimum of raw and finished products, employment of first in-first out (FIFO) policy, minimum stock reorder for each item and periodic stock evaluation (International Journal of Business and Management, 2009)

➤ **Warehousing Management**

Lots of companies are implementing warehouse management system that assists the warehouse manager in controlling various warehouse operations, and track inventory or service to the customers at the lowest possible operational costs (Coyle et al., 2003, and Mulcahy and Sydow, 2008).

According to Higginson and Bookbinder (2005), “Warehouses store all products in four cycle (receive, store, pick and ship)”. Firm can decide and select among the different kinds of specialized storing facilities, and the right choice might assist the firm reducing costs and serving customer better (Perreault & McCarthy, 2003). The use of specific type of these storing facilities is aimed to reduce/cut costs and smooth the distribution as well as operation to enhance service level to the customer (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009).

➤ **Order Processing**

Since most of the processors use produce-to-stock and push-based supply chain strategies, few orders are received from downstream partners especially for export markets or for specific market segment such as supermarkets and large wholesalers. An order comes in through emails, faxes and telephone, hard copy, and text messages from reputable customers. Customers are guaranteed to receive

their orders within two to seven days depending on order quantity placed (Juma Makweba Ruteri, 2009).

2.5 Performance Indicators

Though, Logistic is measured against the specified logistic Key Performance Indicators (KPI) in both the point of view of the internal customer perspectives and from the point of view of the external perspectives which could be measured by customer satisfaction

Paul Williams, Earl Naumann, (2011) found that there are significant, and moderate to strong associations between satisfaction levels and a firm's financial and market performance. More specifically, there are strong links between customer satisfaction, and retention, revenue, earnings per share, stock price. Customer satisfaction is frequently used term in business literature which indicates how products and services offered by a company meet the expectations of customers. It is a measure of how a company offers its products and services which meet or exceed customers' expectations. Customer satisfaction is mainly related to the whole consumption experience by the customers. According to Chen (2004), understanding of customer satisfaction level may help a company to enhance their customer services. It is accepted that satisfied customers recommend their friends and relatives to use the respective services and products. So, the marketing activities should be focused on improving customer satisfaction level. As Oliver (1997) stated that customer satisfaction is their evaluation after making purchase of product or service as it is against of their expectations. However, customer satisfaction cannot be limited into their evaluation after purchase but it is overall experience of purchasing and consuming the services and products by the respective organizations.

There are difference indicators of logistics management effectiveness indicators that could enhance the logistic activities. These indicators are now briefly discussed in relation to their role in supply chain competitive advantage:

2.5.1 Logistics Cost

Logistics is an important component that connects production and marketing and can affect a national economy as it requires extensive use of human and material resources according to Anderson et al., 2005; Rushton et al., 2006; Waters, 2007. The increasing transport work of goods has direct impact on the logistics cost (cost of transport, inventory, warehousing, lot quantity, order and processing and information). Globally, the average logistics cost in 2002 was about 13.8% of GDP, although the figure was higher in developing countries (Elger et al., 2008). According to these authors, in 2002, the logistics cost was 9.9%, 13.3%, and above 14% in North America, Europe and rest of the World respectively (Techane Bosona 2013).

Logistics performance is determined by logistics efficiency (achieving the expected output with minimum resource), logistics effectiveness (achieving the highest percentage of expected output), and logistics competency (to be competent by gaining the best comparative net value) (Fugate et al., 2010). Logistics management is under continuous evolution due to the dynamics in global market, communication and transportation technologies, and customers need (Techane Bosona 2013).

Generally Logistics costs often shift in opposite directions or in other words are in conflict. As inventory is reduced transport costs rise because smaller quantities are shipped more frequently. On the other hand, as we reduce transport costs by shipping in larger quantities by less expensive modes, inventory levels in the system rise. However these conflicts would be alleviated through efficient logistics management which by improving the logistics and physical distribution, the transportation cost (or as a whole logistics cost) will be decreased while achieving the desired service level and at the same time cost efficiency for whole of the system (Nazila Kaveh Navid Khosravi Samani, 2009)

2.5.2 Product Variety

According to Wisner et al. (2012b, p. 58), product variety measures the number of product families processed in a facility. Processing costs and flow times are likely to increase with product variety. Owing to the “law of variety” (satisfied customers changing brand because of variety attractiveness), many automotive manufacturers have extended their product range to retain clients, whereas the number of variants per car model grows as well.

This affects the complexity of service offers, as well as the complexity of service operations, for example, car maintenance and repair (Godlevskaja, Van Iwaarden & Van derwiele, 2011).

The hypothesis for this variable is:

Hypothesis1: (H1a) Product variety has a positive impact on performance

2.5.3 Logistic Responsiveness

Supply chain responsiveness refers to how quickly a supply chain delivers products to the customer (Cohen & Rousell, 2005). It involves the time that elapses from a customer’s order being received to completed delivery (Jonsson, 2008). Order fulfillment lead time is therefore an important measure for supply chain responsiveness and measures the number of days from order receipt in customer service to delivery receipt at the customer’s dock (Bolstorff & Rosenbaum, 2003, p. 51). Taylor (2004, p. 178) mentions that lead time variability should also be considered. Organizations may have short average lead times, but these lead times may vary considerably. In some cases it may be better for organizations to have longer but less variable lead times.

The hypothesis for this variable is:

) Hypothesis1: (H1b) Logistic Responsiveness has a positive impact on performance

2.5.4 Delivery time

According to Wisner et al. (2012, p. 517), order delivery lead time encompasses the fulfillment of the average percentage of orders among supply chain members that arrive on time, complete and damage-free, satisfying customer requirements. Order lead time is an important and significant source of competitive advantage for top-performing supply chains and their member companies (Handfield, Monczka & Giuinipero, 2011, p. 746). The key indicators are due dates, scheduled or promised, and delivery windows. According to Handfield et al. (2011, p. 746), this measure should identify total cycle time and its key components. Measures should focus on reduction through elimination of delays and delivering continuous improvement on target times.

The hypothesis for this variable is:

) Hypothesis1: (H1c) Delivery time has a positive impact on performance

2.5.5 Product Quality

Quality is conformance to requirement or fitness for use. According to Hugo, Badenhorst and Van Biljon (2004), managing product quality in the supply chain is the shared responsibility of all participants. Managing quality in the supply chain is the integration of the quality philosophy of the supplier quality system, the internal system of the vantage point firm and the quality the customer expects. Some of the indicators of quality include a formal quality assurance system, continuous improvement, statistical process control, six sigma limits, fail-safe lot traceability and incoming quality assured (Hugo et al., 2004,). Jacobs, Chase and Aquilano (2009, p. 210) assert that the quality of a specification of a product relates to decisions and actions made relative to the design and quality of conformance to the design. Adherence to the quality of the design and conformance ensure that the product meets customers' objectives. This is often termed "fitness for use" and it entails identifying the dimensions of the product that the customer wants and developing a quality control program to ensure that the dimensions are met.

The hypothesis for this variable is:

) Hypothesis1: (H1d) Product Quality has a positive impact on performance

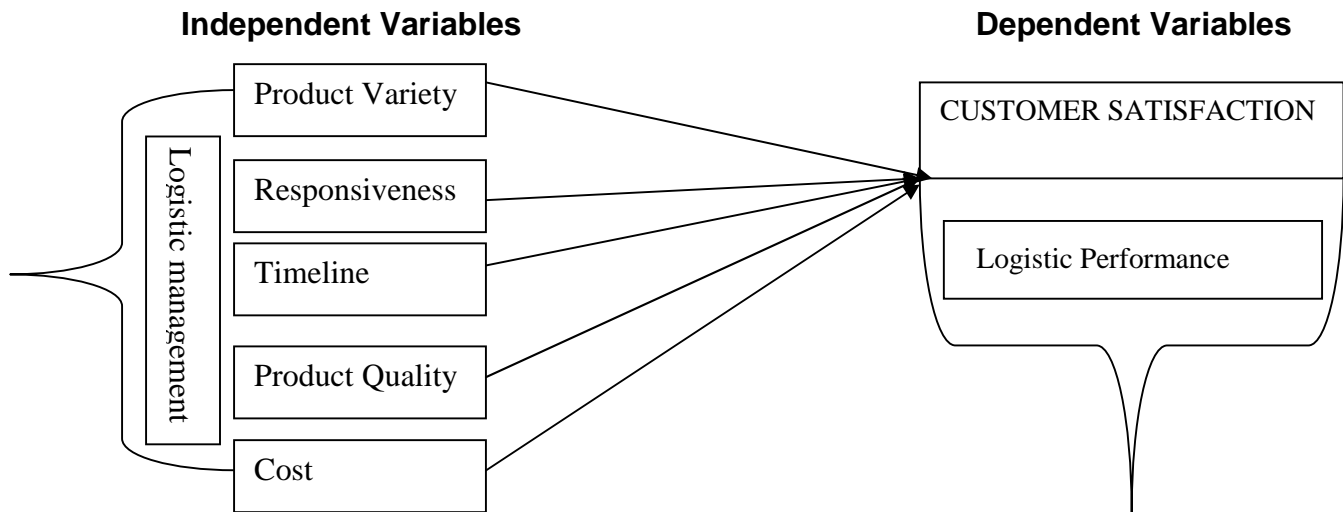
This paper analyzed the logistic performance only from the external perspective which is customer point of view. Performance is measured through customer satisfaction by using Responsiveness, quality, time and product variety. Logistic effectiveness is used as an independent variable and logistic performance as dependent variable.

2.6 Hypothesis Testing of all variables

-) Hypothesis0: (H0) logistic effectiveness has no impact on performance
-) Hypothesis1: (H1) Logistic effectiveness has a positive impact on performance
-) Hypothesis1: (H1a) Product variety has a positive impact on performance
-) Hypothesis1: (H1b) Logistic Responsiveness has a positive impact on performance
-) Hypothesis1: (H1c) Delivery time has a positive impact on performance
-) Hypothesis1: (H1d) Product Quality has a positive impact on performance

2.7 Conceptual framework

The researcher measured the Logistic management practices in terms of logistic responsiveness, quality, delivery time, product variety, and cost. On the other hand, in this research, logistic performance measured from the external point of view using indicators of customer satisfaction as logistic performance indicator, though there are other internal indicators such as Return on investment, Market share growth, Ratio of new product sales to total sales, Average manufacturing cost.



2.8 Distribution Channel of consumer Goods

Distribution channel management is very critical for the firms when they decide to enter one or more markets. Distribution channel structures are not difficult to change; however, primary wrong decisions might lead to dreadful results for the organizations. In accordance with Gattorna and Walters (1996), depict that distribution channel management follows a structured approach, using criteria which help to evaluate optional channel structures during which alignment (compatibility), trade-offs and channel relationships are considered. Increasingly, the roles of logistics service firms are included in the decision process for distribution channel, especially when they are a dominant element within the supply chain. The most

common distribution channels for consumer goods can be seen in the following figure which illustrates major channels of distribution (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009).



Source: (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009).

In accordance with Etzel et al., (2004), there are three degrees of intensity.

Intensive distribution: In intensive distribution producers sell their products or services through each available store in the market where consumers might reasonably look for the products or services by projecting the ultimately consumers demand satisfaction from convenience goods immediately, and they will not adjourn purchases to find a particular brand (Etzel et al., 2004). In the intensive distribution is commonly needed for convenience products and as well. Gattorna and Walters (1996) states that it is usual to use intensive distribution with, for instance, everyday use products (such as food, newspaper, basic stationery items, etc (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009)

Selective distribution: In this kind of distribution, producers sell their products through multiple wholesalers and retailers (but not all possible) in a market, where

consumers might reasonable look for it (Etzel et al., 2004).It usually involves a limited number of intermediaries within a limited market area (Gattorna& Walters, 1996). Therefore, with this type of distribution, the firm does not have to dissipate its efforts over too many outlets. This means that selective distribution enables producers to gain adequate market coverage with more control and less cost than intensive one (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009)

Exclusive distribution: In exclusive distribution, suppliers agree to sell their products only to a single wholesaling middleman and/or retailer in a given market (Etzel et al., 2004) and it is just an extreme case of selective distribution which is the firm is selling through only one middleman in particular geographic area (Perreault& McCarthy, 2003). Gattorna and Walters (1996) state that the partnership requires mutual support in developing sales and supporting services to the final users such as maintenance plan and emergency service requirements. They also mention that exclusive distribution is found for the customer product groups of which large inventories are required to offer consumers a wide selection. This kind of distribution is used when producers be interested in to maintain and control over their service level and service outputs offered by the retailers (Kotler, 2000). (Latika Supasansanee, Patthaveekarn Kasiphongphaisan, 2009)

CHAPTER THREE

3.1 Methodology

3.1.1 Data collection Methods.

The methods that were used in this study is quantitative. The data sources are primary and secondary. The primary data is through questionnaire for customers of Fafa food share company. Questionnaire related to the objective of the study was distributed which help the researcher to meet the objective of the study. So questionnaire were distributed to the selected customers such as Supermarkets, mini, market and shops and the data collected through questionnaire was summarized. It is tried to make the questionnaires clear, specific and written in simple language, that can provided the required information.

3.1.2 Sampling Technique

The research covers key selected variables that are of significance in terms of logistics management.

The researcher select purposely two among the sub city of Addis Ababa city based on convenience to collect data. These are Kolfekerinio and Gulele sub city. To determine the sample size, total distribution route are listed in the table with the retailers and the sample size is computed proportionally from each rout.

The researcher is used systematic random sampling to determine sample size. First randomly pick the first company customers which are shops, mini market and super markets from the existing 610 registered lists. And then select each n'th subject which is from the consecutively listed.

The research chose this method because the procedure involved in systematic random sampling is very easy and can be done manually. The results are representative of the population unless certain characteristics of the population are repeated for every n'th individual, which is highly unlikely.

Starting number: The research selects an integer that must be less than the total number of individuals in the population. This integer is corresponded to the first subject.

The research has a population total of 610 retailers need 241 subjects. Then, first pick starting number, 5.

This is because according to a simplified formula for proportions Yamane (1967:886) provides a simplified formula to calculate sample sizes. This formula was used to calculate the sample sizes. A 95% confidence level and $P = 0.05$ are assumed for Equation.

$$n = \frac{N}{1 + N(e)^2}$$

Where n is the sample size, N is the population size, and e is the level of precision. When this formula is applied to the above sample, we get:

$$n = \frac{N}{1 + N(e)^2} = \frac{610}{1 + 610(0.05)^2} = 241$$

1. Steps in systematic random sampling, Number the units on your frame from 1 to N (where N is the total population size which is 610).
2. Determine the sampling interval (K) by dividing the number of units in the population by the desired sample size. $610/241=3$
3. Then pick interval, 3. The members of this sample are individuals 5, 8, 11, 14, 17, 20, 23, 26, 29, 32, 35, 38, 41, 44, 47.....239

Table 3.1: Sales Root Plan

S.No.	Distribution Route	Total Retailer	Proportional Sample size	Target Sample Size
1	Betel	42	42/610*241	17
2	18 Matoria to Ambo Road	46	46/610*241	18
3	Tor Hailoch to Holland embassy	40	40/610*241	16
4	Keranyio	63	63/610*241	25
5	Alem Bank	41	41/610*241	16
6	Weyira to Zenebework to Ayer Tena square	36	36/610*241	14
7	Ayer Tena square to Kara	40	40/610*241	16
8	Girar Condominium	41	41/610*241	16
9	Birchiko Condominium	37	37/610*241	14
10	Asko Awoliya to Wingat	33	33/610*241	13
11	Atena Tera to Kolfe	41	41/610*241	16
12	Rufael Church to Tsion Hotl	40	40/610*241	16
13	Menen to entoto	65	65/610*241	26
14	Tsion Hotel to Kechene	45	45/610*241	18
	Total	610	610	241

Source taken from the root plan of Fafa foods Share Company

3.2 Method of Data Analysis

In this study quantitative research methodologies were used. The data is collected through questionnaires.

To ensure data quality, questionnaires were pre-tested together with enumerators to have a common understanding on how to ask questions and record responses accurately. During data collection there were on the spot cross checking and validation of responses. Validation of results was done through critical reflections and constantly looking back and forth between data and analysis for further elaborations. The major emphasis is placed on the importance of management of logistic practices on the performance of the company's productivity.

In this study a total of 241 questionnaires were distributed and out of which 203 questionnaires responded and primary data obtained from structured questionnaires were cleaned, descriptive information coded and data entered in SPSS version 20 for analysis. The SPSS outputs were exported to Microsoft excel to simplify the analysis and generate outputs for reporting.

After the completion of the crucial data collection, proper tools and techniques were used for classification and analysis of data. Since the mode of assessment is descriptive and regression the main tools that is applied for classification of data are tables,

The study primarily relied on perception of the customers of the company, review of literatures and analysis of responses to the FAFA foods share company customers. By using this method the researcher makes an interpretation of data. This includes developing a description of an individual or setting, analyzing data categories and finally making an interpretation or drawing conclusions about its meaning personally and theoretically, stating the lessons learned.

In this study, the mean, standard deviation, cronbach's alpha Regression and ANOVA were used as a cutoff point decision making of each item with a mean of 2.5 and above was considered adequate and cronbach's alpha with a cut-off point of 0.7 and above considered as reliable

For the analysis of data that is useful for hypothesis testing, the tool used was inferential statistical analysis which was stepwise regression analysis.

The stepwise regression equation used for the prediction can be expressed as:

$$\text{AverageCUSTSATFACTION} = 0 + 1\text{AveragePRODUCTVARAITY} + 2\text{AverageLOGRESPONSIVNESS} + 3\text{AverageDELIVERYTIME} + 4\text{AveragePRODUCTQUALITY} + 5\text{AverageLOGCOST} +$$

Where;

AverageCUSTSATFACTION = Organizational Performance from the point of view
Customer Satisfaction

0 = constant

1- 5= Partial regression coefficient attached to variable
AveragePRODUCTVARAITY,
AverageLOGRESPONSIVNESS,AverageDELIVERYTIME,
AveragePRODUCTQUALITY,AverageLOGCOST

= Error (unexplained Variable)

3.3 Reliability and Validity of Data

The appropriate method of data collection selected is expected to bring the desired results in the final analysis because the study group assumed to be homogeneous and data collected with great care in short period of time. The cases which were investigated are also used to acquire the necessary information. The information

obtained is likely to be more valid and reliable. Moreover, cronbach's Alpha () were also used to measure of internal consistency ("reliability").

3.4 Ethical Consideration

To understand this study, ethical permission and consent was acquired from the Addis Ababa University college of Commerce. All participants is informed about the purposes of the study and an informed verbal consent is obtained from each respondent prior to the interview. In addition to this, in relation to questionnaires, confidentiality and privacy are ensured by using codes instead of subjects' names on the questionnaire to assure that the information given by each respondent was kept confidential. In relation to the secondary data the sources are properly stated and the authors of the secondary data used as references in this study are properly acknowledged. Moreover, the bibliographies of the authors and reference materials are also put in its appropriate place in this study.

CHAPTER FOUR

4 Data Analysis, Result and Discussion

4.1 Introduction

The results of the study were presented according to the data analysis procedure outline in the methodology section. The collected data was analyzed in line with the objectives. The analysis results were presented in tables. Factors affecting organizational performance were analyzed using Liner Regression model and as per the given objectives, namely the effect of logistic management practice on Performance.

4.2 Profile of Respondents

In this study quantitative method is used by using prepared questionnaires. A total of 241 questionnaires were distributed and out of which 203 is returned.

Table 4.1 Response of profile of respondents through questionnaires

Types of query	Response	Respondents	
		Respondents	Percentage
Gender	Male	127	62.6
	Female	76	37.4
Age	20-25	79	38.9
	26-35	18	8.9
	36-45	78	38.4
	40-60	28	13.8
Marital Status	Married	128	63.1
	Single	75	36.9
Educational Level	Diploma and below	159	78.3
	First Degree	44	21.7
Business Experience with Fafa	Less than 2 years	19	9.4
	2 to 5 years	103	50.7
	6 to 10 years	81	39.9
	More than 10 years	0	0
Partnership status	Agent	0	0
	Wholesales	15	7.4
	Retailers	188	92.6
Outlet Types	Supermarkets	15	7.4
	Mini markets	66	32.5
	Shop	122	60.1

Source: Computed from primary data using SPSS, 2016

As could be expected, the largest questioned group is retailers and small shops, which constitute 92% and 60.1% respectively. The gender composition of the male respondents is much higher (127) compared with female counterparts 76. While the

age ranges of the overwhelming majority age range is 20 to 25 and 36 to 45 make up about 77% of the total respondents together. A few 24% are falling between 26 to 35 and 46 to 60. With regard to educational qualification the majority of our respondents about 78% are below diploma, and the remaining 21.7% percent are 1st degree none of the respondents is above 1st degree.

As far as the experience of doing business with the company is concerned, half of the respondents (50.7%) have an experience of doing business with company. From the total number of respondents 63% are married, and 36.9% are single.

4.3 Reliability and Internal Consistency

Internal consistency and reliability is used to judge the consistency of results across items on the same test. Internal consistency and reliability is used to judge the consistency of results across items on the same test. SPSS software was used to conduct this analysis of the data. Calculating cronbach's alpha as a measure of internal consistency that is how closely related a set of items are as a group. The first important table is the Reliability Statistics table that provides the actual value for Cronbach's alpha, as shown below:

Table 4.2: Cronbach's Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items (number of variables)
0.759	0.761	6

Source: SPSS generated Result, 2016

As we can see the figure from table 4.2 cronbach's alpha is 0.761 which is in line with generally acceptable range. The figure indicates as there is a reasonable level of internal consistency and reliability among the data.

4.4 Analysis

The aim of this research is to investigate the impact of logistic management practices on performance. In spite of the fact that there are other internal indicators of performance for logistic purpose the researcher applies satisfaction of the customers of the company as performance indicator. As it was indicated in chapter three multiple regression model was used for the investigation (analysis) of relationship between variables. Table 4.3 indicates the result of the analysis.

Table 4.3 Model summary of Regression analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.821a	.673	.672	.410
2	.904b	.818	.816	.307
3	.915c	.837	.834	.292
4	.919d	.844	.840	.286
a. Predictors: (Constant), Product Quality				
b. Predictors: (Constant), Product Quality, Average Product Variety				
c. Predictors: (Constant), Product Quality, Average Product Variety, Delivery Time				
d. Predictors: (Constant), Product Quality, Average Product Variety, Delivery Time, Logistic Responsiveness				
e. dependent variable: customer satisfaction				

Source: SPSS generated Result, 2016

As indicated in table above, In order to test the significance of hypothesis one, the findings revealed that Product Quality, Average Product Variety, Delivery Time, Logistic Responsiveness were the variables selected on the basis of highest partial correlation to meet the entry probability requirement of less or equal to 0.05 (0.05). The result depicts the relationship between the dependent variable (Customer

Satisfaction) and each independent variables (Product Quality, Average Product Variety, Delivery Time , Logistic Responsiveness) that meet the entry probability requirement of less or equal to 0.05 ($P \leq 0.05$). The result further showed that the four variables, Product Quality, Average Product Variety, Delivery Time, and Logistic Responsiveness had a strong positive correlation of 0.919 with the dependent variable, Customer satisfaction. This means that the four variables together had a strong relationship with the Customer Satisfaction in Fafa Foods Share Company. The relationship between customer satisfaction and the independent variables Product Quality, Average Product Variety, and Delivery Time with the effect of Logistic Responsiveness partial out was also stated as 0.915, this indicating a gradual decline in the relationship by 0.004 ($0.919 - 0.915$), which means despite the decline in the relationship as a result of partialling out the effect of logistic responsiveness there exist still a strong relationship between customer satisfaction in Fafa food share company and the independent variables product quality, average product variety, delivery time. In addition, the result showed that product quality, average product variety had a 0.904 positive relationship with the total customer satisfaction while partialling out the effects of delivery time and logistic responsiveness. A reduction in the relationship by 0.011 ($0.915 - 0.904$) can again be deduced while maintaining the positive relation. However, the net result still indicated that Product Quality had a 0.821 positive relationship with the customer satisfaction while partial ling out the effects of average product variety, delivery time , logistic responsiveness leading to a reduction in the relationship by 0.083 ($0.904 - 0.821$). The finding shows that product quality had greater relationship with customer satisfaction followed by product variety, delivery time and logistic responsiveness.

The result presented in table 4.3 showed that Product Quality, Average Product Variety, Delivery Time and Logistic Responsiveness had on R^2 of 0.844 on the customer satisfaction in Fafa which implies that Product Quality, Average Product Variety, Delivery Time; Logistic Responsiveness can jointly predict 84.4% of the variation in customer satisfaction.

Table 4.4 ANOVA table

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.451	1	64.451	383.600	.000b
	Residual	31.251	186	.168		
	Total	95.702	187			
2	Regression	78.289	2	39.144	415.865	.000c
	Residual	17.414	185	.094		
	Total	95.702	187			
3	Regression	80.060	3	26.687	313.927	.000d
	Residual	15.642	184	.085		
	Total	95.702	187			
4	Regression	80.760	4	20.190	247.270	.000e
	Residual	14.942	183	.082		
	Total	95.702	187			
a. Dependent Variable: Customer Satisfaction						
b. Predictors: (Constant), Logistic Quality						
c. Predictors: (Constant), Logistic Quality, Average Product Variety						
d. Predictors: (Constant), Logistic Quality, Average Product Variety, Delivery Time						
e. Predictors: (Constant), Logistic Quality, Average Product Variety, Delivery Time , Logistic Responsiveness						

Source: SPSS generated Result, 2016

To further affirm the significance of this test, the result also showed that the regression sum of square is greater than the residual sum of square which means that the independence variable accounted for the better part of the variation in Fafa customer satisfaction. Again the significant of the R² was tested with the ANOVA where by F. value of 247.27 which was statistically significant at 0.000 confirms the strength of the contributions of product quality, Average Product Variety, Delivery Time, Logistic Responsiveness account for a high explanation of the Fafa's customer satisfaction, thus affirm the model as a viable tool for measuring the customer satisfaction for food industry in general and Fafa's food share company in particular.

In addition to that, the result shows the contribution of Product Quality, Average Product Variety, and Delivery Time with the effects of company logistic responsiveness partial out. Finding indicates that product quality and Average Product Variety had a R² value of 0.834 on Fafa's customer satisfaction, which means that 83.4% of the customer satisfaction can be explained by product quality, Average Product Variety, and Delivery Time. The R² was tested at 313.927 F-value which was statistically significant at a low P of 0.000 an indication of the good job product quality, Average Product Variety, and Delivery Time have done in explained the variation. The result further revealed that the regression sum of squares is slightly higher that the residual sum of squares, this again affirmed the model as a viable tool in measuring the food industry performance in general. The result also shows the contribution of product quality and Average product variety, when the effects of delivery time and logistic responsiveness partially removed. The finding indicates that product quality and average product variety had a R² value of 0.818 on customer satisfaction in fafa foods Share Company and this means that 81.8% of customer satisfaction in Fafa can be explained merely by product quality and average product variety. The R² was tested at 415.865 F-value which was statistically significant at a low P of 0.000, an indication of the significant effect of product quality and average product variety in explaining the customer satisfaction in Fafa. The result also shows the contribution of product quality when the effects of Average Product Variety, Delivery Time, Product Responsiveness partially removed.

The finding indicates that product quality and had a R2 value of 0.672 on customer satisfaction in fafa foods Share Company and this means that 0.67% of customer satisfaction in Fafa can be explained solely by product quality. The R2 was tested at 383.6 F-value which was statistically significant at a low P of 0.000, an indication of the significant effect of product quality in explaining the customer satisfaction in Fafa.

In order to identify the variable that contributed most to the variation in Fafa's, the individual effect of the four independent variables above were considered using R2 change (Rc2) which is the difference between the R2 with ist independent variable and R2 without inth variable where the ith is the variable that enter the equation next. In this study, table 4.3 revealed that the R2 for product quality is 0.0.673 while that of average product variety is 0.818, 0.145 (0.818-0.673) while average product variety is 0.019 (0.0.837-0.818) and that of delivery time is 0.07 (0.844-0.837). From this, product quality attracted the greatest importance for performance. The implication of this result is that product quality has contributed most to fafa's food share company performance thus justifying the fact that product quality has a significant effect on performance from the customer point of view in Fafa and an improved strategy such as monitoring aimed at improving the product quality which will boost the performance of the company.

CHAPTER FIVE

This last part of the paper put summary and conclude the findings of the study, that is, the effect of logistic management practices on performance in food industry in case study of Fafa food Share Company and finally suggest possible recommendations.

5.1 Summary, Conclusion and Recommendation

5.1.1 Summary

The first purpose of this study is to investigate and describe the effect of logistic management practice on performance of Fafa food share company and pass recommendations (if found to be appropriate) which may help to improve the performance. By having this purpose in mind, investigation was made with regard to quality of product, delivery time, product variability and responsiveness that can affect customer satisfaction which intern affect performance of the company. In the process of finding the required data, questionioners are prepared and distributed for 241 customers (retailers) of Fafa food company and of which 203 returned. The collected data is analyzed using SPSS 20 software and the analysis result shows that those variables (product, delivery time, product variability and responsiveness) has positive effect on customer satisfaction which directly affect the performance of Fafa food share company.

5.1.2 Conclusion

Based on the findings presented in the previous section, the following conclusions are drawn.

-) The four variables, Product Quality, Average Product Variety, Delivery Time, and Logistic Responsiveness had a strong positive correlation of 0.919 with the dependent variable, Customer satisfaction.
-) The relationship between customer satisfaction and the independent variables Product Quality, Average Product Variety, and Delivery Time without the effect of Logistic Responsiveness is 0.915.

-) Product quality and average product variety had a 0.904 positive relationship with the total customer satisfaction while without the effects of delivery time and logistic responsiveness.
-) The net result indicated that Product Quality had a 0.821 positive relationship with the customer satisfaction while partialling out the effects of other three variables.

From the behavior of the variables in this research, product quality is statistically significant to customer satisfaction as well as other variables such as Product variety, delivery time and responsiveness are also vital for customer satisfaction.

5.1.3 Recommendation

Based on the findings and the conclusions drawn, the following recommendations are forwarded.

-) To maximize its customer satisfaction Fafa food Share Company need to give consideration to product quality, diversification of products, delivery time and responsiveness.
-) If the effectiveness of logistic management practice is improved, through supplying highly quality product, delivering of various product type, fast time and becoming responsive for every request of customers the revenue, the profit and market share of the company will increase.
-) Above all as our finding showed the quality of the product have great influence on customer satisfaction and so we still recommend that product quality is highly important to Fafa food Share Company and the company need to give high weight for it.