

Effect of Logistics Management Practices on Organizational Effectiveness: A Case of Horizon Coffee Plantation Enterprises

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Logistics and Transportation Management (LTM)

BY:

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**JIMMA UNIVERSITY
COLLEGE OF BUSINESS & ECONOMICS
LTM PROGRAM**

**JULY 31, 2020
JIMMA, ETHIOPIA**

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Declaration

I hereby declare that this Research paper entitled “The effect of logistics management practices on organizational effectiveness a case of HORIZON Coffee Plantation Enterprise” is my original work in partial fulfillments of the requirements for the degree of Master of Arts in Logistics and Transportation Management at Jimma University Business and Economics College and all the sources used in the study are properly acknowledged.

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Approval Sheet

This is to certify that the Research paper entitles “*The effect of logistics management practices on organizational effectiveness a case of HORIZON Coffee Plantation Enterprises.*” submitted to School of Graduate Studies of Jimma University for the award of the Degree of Masters of art in Logistics and Transportation Management (MSc) and is a record of confide researcher’s Research paper work carried out by Mr. Teyib Abagero, under our guidance and supervision. Therefore, we hereby declare that no part of this Research paper has been submitted to any other university or institutions for the award of any degree.

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Abbreviation and Acronyms

DC - Distribution center

ERP - Enterprise Resource Planning

HCPE - HORIZON Coffee Plantation Enterprise

HP – HORIZON Plantation

MDG – Millennium Development Goal

PLC – Private Limited Company

RBV - Resource based view

ROI - Return on Investment

SFD - Sourcing and facilities division

SPSS - Statistical Package for Social Sciences

Abstract

Logistics as a business function plays important role in company's effectiveness through the planning, implementation and control of processes link to material, information and financial flows. The main objective of this study was to examine the effect of logistics management practices on organization effectiveness in the case of Limmu Coffee Farm under HORIZON Coffee Plantation PLC with respect to logistics management practices of Customer service, warehouse management, inventory management, transportation management, information flow management and supply management. Descriptive and explanatory research designs as well as quantitative research approach had been employed in conducting the study. The population of the study were the employees of six Limmu Coffee Farm Enterprise under HORIZON Coffee Plantation working in departments of Logistics and Supply, Technique division, Farm operation, Plan and Information service, Resource and personnel administration, Finance, Civil and construction from which the sample was drawn. Stratified random sampling was used to select the appropriate sample of the study. Data was collected using questionnaires and analyzed using SPSS. Descriptive analysis namely percentage, mean and standard deviation; and inferential analysis namely Pearson correlation and multiple linear regression were employed. The study revealed that logistics management practice contributes to the Coffee Farm Enterprise organizational effectiveness to a moderate extent. The study also showed that there was significant relationship between logistics management practices and organizational effectiveness of Limmu Coffee Farm under HORIZON Coffee Plantation Enterprise. Also further reveals that information flow management practices and supply management practices were predicted power on organizational effectiveness of this Coffee farm Enterprise. The study also reveals that Limmu Coffee under HORIZON Coffee Plantation Enterprise faced logistics management challenges to a moderate extent. The study had been recommended to enhance all the logistics management practices as well as to deal with mother plantation PLC. to make them support overall organizational logistics and balance level of logistics service in production delivery and cost. Improve internal customer service and stakeholders to keep up experienced human capital/ labor and farms' sustainability.

Key words: *Logistics management practices, organizational effectiveness*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Logistics has been described as being important for integrating the process of planning, implementing, and controlling the efficient, effective flow and storage of production, services, and related information between the point of origin and the point of consumption in order to meet organizational effectiveness in marketability and profitability. Logistics system is made up of logistics services, information systems and infrastructure/resources. Logistics services is made up of activities such as warehousing and transportation that support the movement of materials and products from point of origin to point of consumption, and vice versa. Information systems include modeling and management of decision making, and more important issues are tracking and tracing. On the other hand, infrastructure comprises human resources, financial resources, packaging materials, warehouses, transport and communications (BTRE, 2001).

Logistics management plays a significant role in the success of any company's operations and has a direct impact on its bottom line (effectiveness). More importantly; logistics processes play a big part in customer satisfaction which is more important than low product cost. Business logistics consists of Inventory management, purchasing, transportation and warehousing which can be defined as having the right item in the right quantity at right time at the right place for the right price. Logistics management has always been an important preoccupation of military operation but paradoxically it was only recently that it is being accorded attention in the academic and business world (Obiora, 2008). Organizations particularly in the developing economies are known for making detailed planning for management of financial, personnel and technology resources among other while the logistics aspects of other activities are left to the vagaries of the circumstances. For instance several department and units are created for the management of individual business resources with the assumption that once these are well managed optimal result will be accomplished. A common scenario is the obvious

absence of coordinating department saddled with logistics management in most of the organizations whether in the management or services industry (Fekadu ,2013).

Logistics according to (Rushton &Osley, 1991) is a concept based on total system view of the material goods and services flow activity from the source of supply chain through to the final point of consumption. In service industry however, many business especially in Ethiopian financial institutions have not recognized the impact that commitment of reasonable resources into logistics management can lead to the achievement of strategic goals. The significance of logistics management cannot be overemphasized as it influences not only the way resources are transferred between different production unit in an organization but more significantly as a determinant for cash control in the banking industry (Fekadu, 2013) The ability to transport goods quickly, safely, economically and reliably is seen as vital to success of business and to a nation's prosperity and capacity to compete in globalized economy.

Logistics is defined by council of logistics management as the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from point of origin to point of consumption for the purpose of conforming to customers' requirements. According to (Fikadu, 2013)Ethiopian logistics system is characterized by poor logistics management system and lack of coordination of goods transport, low level of development infrastructure and inadequate fleets of freight vehicles in number and age, damage and quality deterioration of goods while handling, transporting and in storage. This coupled with lack of sea port resulted in poor linkage of producers (farmers) to the consumers (market) and non-competitiveness of Ethiopian goods on global market, which compromised livelihood of the people and economy of the country. There is very high rate of traffic accident (first in the world) and congestion in cities and at city inlet, outlets to which freight vehicles contributes significantly. Efficient and effective logistics system needs to be put in place to solve these socio-economic problems. According to the World Bank report published in 2010 the logistics performance in comparison of all over the world index of Ethiopia was 2.41 (1=low and 5=high) logistics performance index overall score reflects perceptions of a country

logistics based on efficiency of customs clearance process, quality of trade and transport-related infrastructure, quality of logistics service, ability to track trace consignment.

Logistics becomes more important and complex today because of new requirements of service oriented economy, disparate business functions, the impact of various contemporary information technologies (IT). In logistics management unwise decision create multiple issues failed or delayed deliveries lead to buyer dissatisfaction. Damage of goods, due to careless transportation is another potential issue. Poor logistics planning gradually increases expenses and issues may arise from implementation of ineffective logistics system. To resolve these issues organizations should implement best logistics management practices. Company should focus on collaboration rather competition. Good collaboration among transportation providers, buyer and venders help reduce expenses. Also efficient and safe transportation provider is vital to business success (Janssen, 2010).

Currently in Ethiopian production industry, stiff competition has emerging from day to day. Despite these competitions each company in the country makes their last endeavors attempting to win the competition through strategic planning targeting excellence in customer services. However this seems to be null without practicing best logistics management (Fekadu, 2013). Also for HORIZON coffee plantation Enterprises' as indicated on Capital, Year 21st, 2019, contrary to its leading private coffee exporter in Ethiopia, facing challenge to avail full range of coherent productions and to curb recurrent quality problems. Thus logistics can play an important role in company's effectiveness through the planning, implementation and control of processes linked to quality of production, physical flows, and the integration of processes along the supply chain. This study therefore intended to address this gap by answering the following research questions in terms of customer service practices, warehouse management practices, inventory management practices, transportation management practices, information flow management practices and supply management practices.

1.2. Background of HORIZON PLC. Coffee plantation Enterprises

Coffee is the most important export commodity to the Ethiopian economy, with a share of 20-25% of the total foreign exchange earnings. At least 15 million people also directly or indirectly rely on coffee for their livelihood (Ministry of Trade, 2012). As the county of origin for crop, Ethiopia produces premium quality coffee. It is the leading producer in Africa, and the 5th in the world, following Brazil, Vietnam, Colombia and Indonesia. If we consider Arabica alone, Ethiopia is the 3rd largest producer after Brazil and Colombia (ICO 2015).

Horizon has been founded with a starting capital of 190 Million birr in 2003 developed green projects in agriculture and manufacturing and recently expanded its projects to 15 companies that have a cumulative capital of over 10 billion birr as Jemal Ahmed Abdu, owner and Co-founder of Horizon Plantation, indicated once on Capital newspaper. And now it is emerging as new large-scale agricultural and agro-processing ventures in Ethiopia and even in Africa. The company produces the world's best Arabica coffee, spices, fruits, vegetables, pulses (haricot bean and soybean), and maize. In the article *'Agribusiness and the Role of MIDROC Ethiopia'* expresses that HORIZON possesses organic honey in all coffee plantations as supplementary. Also it has been grown from a single Company into a group of six enterprises (four plantations and two agro-processing industries) across Ethiopia. Those six formerly state owned firms but currently owned by HORIZON PLC.; the Bebek Coffee Estate, Limmu Coffee Farm Enterprise and four on other non-coffee production Share Enterprises. (Mekonnen Teshome, 2010).

The Limmu's is the largest modern coffee plantation in the country since its establishment in 1980. Located in the most ideal coffee-producing area of the country, Oromia Regional State lies around Jimma town, in Jimma Zone about 350 km West of Jimma. It covers a total land area of 12,114 hectares of which nearly 8,000 has covered with coffee. HORIZON Plantations PLC brought; the properties, plant with equipment and inventories of the Enterprise as at 3 December 2013 in addition with a prime focus of boosting for matured coffee bean ETB 144 million was paid on equal annual installments over the consecutive five years plus interest. (HP PLC. Page powered by Ifriqiyah Media and Communications, 2015); Also it has an overall target to increase the ratio of washed

coffee from the current 70% to 90%, being triple the surrounding farmers' productivity by developing commercial farms, also to increase the national production; but logistics has not been much considered as a key source to meet the objective and the logistics function is still largely regarded as a separate entity whose activities are distinct from the functioning's of the rest of the company. Even Country level Logistics facility has its own gap, Brazil which exports more than 40 million bags sends less than 30 traders while Ethiopia's is by a support of up to 100 traders to export less than three million. Capital, Year 21st, No. 1051 Jan., 2019. Exporting is a crucial business activity for a national economy since it significantly contributes to employment, investment, trade balance, and economic growth (Czinkota, 1994). In the globalization era, exporting also plays a key role in enabling firms to achieve sustainable competitive advantage because it facilitates improved financial position, increased capacity utilization, higher technological standards, and enhanced business effectiveness (Lages, and Montgomery, 2004).

Organizational effectiveness is broader and captures organizational performance plus the plethora of internal performance outcomes normally associated with more efficient or effective operations and other external measures that relate to considerations that are broader than those simply associated with economic valuation (either by shareholders, managers, or customers), such as corporate social responsibility. Also innovation and efficiency measures are generally placed into the wider conceptual domain of organizational effectiveness (Cameron & Whetten, 1983).

Diaz and Perez (2002) carried out empirical and statistical analysis on data obtained by questionnaire survey to identify the key characteristics that resulted in operational, market and state inefficiencies that constrained logistics development in Venezuela. They also basically dealt with business logistics and integration into a supply chain. Cilliers and Nagel (1994) made assessment of status of logistics in South Africa using individual company's logistics excellence and how companies integrate into and the excellence of a supply chain they are part of. They used data gathered by questionnaire survey from key people in logistics industry. The elements of business logistics are treated well but many important factors such as infrastructure, advanced human capital in the market, customs in their processes, Strength and advancement of logistics chain, etc. are not taken in the

assessment. They considered external factors such as the effects of infrastructure; macroeconomic uncertainty (due to short-term economic policies), human resource scarcity, inefficient customs, presence of foreign competitors and identifying foreign markets as threats to logistics development but the variance was low and they concluded that factor analysis has limitations in the explanatory power. Transport logistics challenges affecting freight forwarding operations in Malawi by Rabiya Hanif and Edward Kaluwa (2016). Also challenges of transportation logistics in being landlocked. An assessment of the effect of logistics Management practices on operational efficiency at mumias sugar company limited, logistics management practices through embracing modern technology and employee training in Kenya by Daniel Wanyoike (June, 2015). Logistics Practices in Ethiopia; assess the current status of logistics practices in Ethiopia with the aim of identifying the gaps, potentials and constraints for development of effective and efficient logistics system (Fekadu Debela, 2013).

Supply chain collaboration practices in: a study on manufacturing companies – Ethiopia by Profesor D.Lalithia and Dr. Bogale (2015) conclude on Ethiopia's steel mil Manufacturing SCM; no successful transferring the issue of quality which enable to measure company's performance (internal integration, customer service, investment on collaboration) most for overall effectiveness. Thus achieved IT as a problem at a time in that it was not given due attention.

In this new era of economic development, both soft and hardware of logistics infrastructure are lacking in Ethiopia. The former assessed searchers showed using one, two or half of these management practices and thus the researcher here intended to site out using six logistics management practices that can facilitate over all organizational effectiveness.

1.2 Statement of the Problem

The main purpose to the study on logistics management practice in under HORIZON PLC ;. Limmu Coffee Farm Enterprise is to assess how logistics management practice in a company affects customer (internal and external) satisfaction, profitability, return on asset, return on investment and agility.

On the other hands as the pilot study made, information from the institutions circular and annual report materials and the researcher observations logistics management system of under HORIZON Coffee Plantation in Limmu Coffee Farms is characterized by lack of coordination in the chain, lack of skilled man power in inventory management and giving less attention to internal customer service practice, lengthy and quality problem purchasing process, lack of adequate transportation in distribution of stokes. In the case of both branches of HORIZON Coffee plantation in the effort to achieve Mission that is ‘to coordinate their resources in producing and processing the best quality and quantity of both washed and sun dried coffee while ensuring good agricultural practices, thereby expanding their coffee supply to the international market. It also lacks appropriate modern technology to the farmers and other private growers in the vicinity.’ (HRM quarter report of July 31,2019).

In business, logistics is having the right item in the right quantity at right time at the right place for the right price. Some of the key logistics management practices that impact effectiveness are related to estimation of customer needs, efficient and highest delivery, integration and collaboration throughout the supply chain, sharing of information and vision using ICT as well as informal methods and use of specialists for performing specific job across the supply chain, all of these practices impacts logistics performance in the company (Cited by Koykka, 2010).

According to (*Janssen et al. 2010*), in logistics management unwise decision, lack of skilled manpower and poor logistics practices such as planning gradually increase expenses and affect profitability of the company. Accordingly the researcher tries to look up to what extent the Limmu Coffee Farm under HORIZON; un automated inventory management, Central long-lasting with Locally quality and coasty purchasing process, and inadequate transportation for distribution of stock lack of technology support and poor infrastructure management affects the company’s profitability. In addition, the researcher will assess to what degree poor logistic management practice affects the company’s customer service satisfaction and overall impact on organizational effectiveness pertaining logistics management and looks up to the problem produced due to decisions made on logistics practices.

Hence, the research is to assess the logistics practice of the Limmu Coffee Farm under HORIZON Coffee Plantation and tries to propose better logistics management practices to be implemented and tries to answer to the problem stated.

1.3 Research Questions

The following are the research questions addressed in the study.

- I. What is the state of logistics management practices in under HORIZON, Limmu Coffee Farm Enterprise?
- II. What are the challenges of logistics management practices in Limmu Coffee Farm Enterprise?
- III. What is the effect of logistics management practices on the organizational effectiveness in relation to Limmu Coffee Farm Enterprise's efficiency?

1.4 Objectives of the Study

1.4.1 General Objective

The General objective of the study is to examine the effect of logistics management practices on organizational effectiveness of HORIZON's Coffee Plantation; the Limmu Coffee Farm Enterprise.

1.4.2 Specific Objective

The specific objectives of the study are:

- I To assess the logistics management practices in Limmu Coffee Farm Enterprise.
- II To determine the challenges of logistics management practices in Limmu Coffee Farm Enterprise.
- III To examine the relationship between logistics management practices and on the organizational efficiency of performing in Limmu Coffee Farm Enterprise.

1.5 Significance of the Study

The significance of the study can be seen from different perspectives. Firstly, this study will help the logistics managers in decision making concerning the suitable level of logistics facilities to be kept. Secondly, the study shall have significance for HORIZON Coffee Plantation Enterprise to see the connection between logistics management practice and organizational effectiveness which in turn will help the company to give emphasis for its logistics management practice to enhance its organizational efficiency. Thirdly, it will give insight for those who wish to replicate the findings of the study on related areas.

1.6 Scope of the Study

This study focused on the effect of logistics management practices on organizational effectiveness of HORIZON Coffee Plantations. The dimension of the study had also delimited to the logistics management practices of customer service practice, warehouse management practice, inventory management practice transportation management practice, information flow management practice and supply management practice specifically for the Limmu Coffee Farm Enterprise. Regarding organization effectiveness, the study was delimited to production level and marketing measures on their implication of efficiency.

1.7 Organization of the Study

The study has already organized into five chapters. Chapter one discussed the background of the study; which introduces about the study and HORIZON's Plantation along with Limmu Coffee Plantation Enterprise and secondly statement of the problem and continues with the research questions with objectives and the scope of the study; Chapter two presented Review of related literature which are ten related reviews and conceptual framework were covered; Chapter three discussed research design and methodology to be used in the study; Chapter four which analysis of data, research findings and discussions and Chapter Five presented Summary, conclusion and Recommendation at last.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter of the study describes the relevant literatures. It explains the history and advancement of logistics, logistics management practices, logistics management challenges, organizational effectiveness, theoretical and empirical literature reviews as well as conceptual framework of the study.

2.2 History and Advancement of Logistics

Logistics and Transport management are not new ideas. From the building of the pyramids to the relief of hunger in Africa, the principles underpinning the effective flow of materials and information to meet the requirements of customers have altered little (Christopher, 2011).

Early references to logistics as a word are found preliminary in military applications. It was found in 1898 that logistics is discussed as, “Strategy is art of handling troops in the theatre of war; tactics that of handling them on the field of battle... The French have a third process, which they call logistics, the art of moving and quartering troops...” (Galindo, 2016). Initially Logistics was a military activity concerned with getting soldiers and arms to the battlefield, but it is now seen as an integral part in the firm’s production process to carry raw-materials, semi-finished goods and finished goods to market and customer’s (Kumar and Shirisha, 2014).

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. Based on the American experience, the development of logistics could be divided into four periods (Kumar and Shirisha, 2014).

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 (Kumar and Shirisha, 2014). Parallel to the growth in the importance of distribution, logistics and the supply chain has been the growth in the number of associated names and different definitions that are used. Some of the different names that have been applied to distribution and logistics include: physical distribution, logistics, business logistics, materials management, procurement and supply, product flow, marketing logistics, supply chain management, demand chain management and there are several more (Rushton, 2010).

It is only in the recent past that business organizations have come to recognize the vital impact that logistics management can have in the achievement of competitive advantage (Christopher, 2011). Nowadays, the term logistics means, in a broad sense, the process of managing and controlling the flows of goods, energy, information and other resources as facilities, services and people. It involves the integration of information, transportation, inventory, warehousing, material handling and packing (Galindo, 2016). Logistics is the process that creates value by timing and positioning inventory; it is the combination of a firm's order management, inventory, transportation, warehousing, materials handling, and packaging as integrated throughout a facility network (Bowersox et, 2002).

Logistics encompasses all of the information and material flows throughout an organization. It includes everything from the movement of a product or from a service that needs to be rendered, through to the management of incoming raw materials, production, the storing of finished goods, its delivery to the customer and after-sales service” (Gunasekaran and Ngai, 2003).

Logistics implicates to the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. It comprises the management of raw materials flow to finished goods through an organization. Logistics means planning and organizing activities that ensure that resources are in place so that the process can be effectuated accordingly in efficient

and effective manner (Ristovska, 2017). Logistics is strategically important in many industries as it is central to achieving competitive advantage (Kenyon and Meixell, 2007)

It is the strategic management of movement, storage and information relating to materials, parts and finished goods in supply chains, through the stages of procurement, work-in-progress and final distribution. Its overall goal is to contribute to maximum current and future profitability through the cost effective fulfillment of customer orders (Tilanus, 1997).

2.3 Logistics Management

Logistics management is an activity involved in all levels of planning and execution—strategic, operational, and tactical. Logistics management is an integrating function which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions, including manufacturing(production), marketing, sales, finance, and information technology (CSCMP, 2010).

Logistics management is treated as a part of the supply chain management that deals with management of goods in an efficient way. It is the management process that integrates the movement of goods, services, information and capital, right from the sourcing of raw material, to the consumer. (Ristovska, Kozuharov, and Petkovski, 2017). With the help of logistics management, the proper flow of goods or services can be done, so that the needs of the clients can be fulfilled (Mishra, 2014). Logistics must therefore be seen as the link between the marketplace and the supply base. The scope of logistics spans the organization, from the management of raw materials through to the delivery of the final product (Christopher, 2011).

2.4 Logistics Management Practices

Logistics practices can be divided as key activities and support activities (Ballou, 2007) as cited in (Serdaris, 2014). Key Activities are central to the operation of every firm, involve transportation, inventory management, customer service, information flows, and order management. Support practices include warehousing, materials handling,

purchasing, packaging, cooperation with production/operation management, and maintenance of information systems.

The logistics system consists of the following components: Customer service, Inventory management, Transportation, Storage and materials handling, Packaging, Information processing, Demand forecasting, Production planning, Purchasing, Facility location and other activities for a specific organization could include tasks such as after-sales parts and service support, maintenance functions, return goods handling and recycling operations (Reddy and Jayam, 2016).

2.4.1 Customer Service Practices

Customer service is inextricably linked to the process of distribution and logistics. Within this process, there are many influences that may be relevant to customer service. These range from the ease of ordering to stock availability to delivery reliability. There is the need to balance the level of service provided with the cost of that provision (Rushton, 2010). The primary value of logistics is to accommodate customer requirements in a cost-effective manner. In basic customer service programs, the focus is typically on the operational aspects of logistics and ensuring that the organization is capable of the seven rights to its customer: the right amount of the right product at the right time at the right place in the right condition at the right price with the right information (Bowersox, et al.,2002).

According to Tan (2001) cited by Assefa, Supplier and customer relationship is defined as a set of firms' activities in managing its relationships with customers and suppliers to improve customer satisfaction and synchronize supply chain activities with suppliers, leverage suppliers' capacity to deliver superior products to customers. This is due to the ultimate objective of SCM is to deliver products to the satisfaction of end customers.

Organizations depend on their customers and therefore a firm's customer relationship practices can generate the organizational success in supply chain management practices efforts as well as its performance Supplier's partnership represents the long-term relationship between the organization and suppliers. In case of coffee industry develop the good relation with customer and supplier is very important for the success of the

organization. In the Customer context, having the smooth relationship with your buyers is help organization while the coffee price fluctuation in the international market, organization loyal customer is not switch from them. Supplier's context it contribute a lot for fulfillment your customer requirement as per requirement. Customer and suppliers relationship is use in the research as core and one perspective of the supply chain management practices in the organization. An effective supplier's and end users management can be critical components of a leading edge supply chain, (Ibrahim and Hamid, 2014).

Maximum customer service implies rapid delivery, large inventories, flexible assortments, liberal returns policies and a host of other services – all of which raise distribution costs. In contrast, minimum distribution cost implies slower delivery, small inventories and larger shipping lots – which represent a lower level of overall customer service. The goal of the marketing logistics system is providing a targeted level of customer service at the least cost (Kotler, et al, 2005).

2.4.2 Warehouse Management Practices

Warehousing is an integral part of every logistics system. Warehousing is part of a firm's logistics system that stores products (raw materials, parts, goods in process, finished goods) at and between point of origin and point of consumption of items being stored (Meng, 2006). The term distribution center (DC) is sometimes used, but the terms are not identical. Warehouse is the more generic term.

According to Tsige (2013), four material flows are possible in a warehouse. The first flow is the cross-docking activity, in which products are either stored in a staging area for a while or directly moved to shipping area. The second flow is when products stored in the reserve area relatively for longer period and order picking activities performed. The third flow is when products are first stored in reserve area and then moved to the forward area. In the fourth type of flow received products are directly moved into forward area so that the respective order consolidation can be carried out (Tsige, 2013). Approximately 55% of the total warehouses operating expenses are related to order-picking operations (Bartholdi & Hackman, 2011). Warehouse layout is also important in achieving greater efficiencies. Minimizing travel time between picking locations can greatly improve

productivity. However, to achieve this increase in efficiency, companies must develop processes to regularly monitor picking travel times and storage locations. Warehouse layout is one important factor affecting the order picking process.

Caron et al, 2000 find that the warehouse layout has a considerable effect on order picking travel distance. They point out the layout design has an effect of more than 60% on the total travel distance, and also find the relationship between warehouse layout and order picking travel distance (Bartholdi & Hackman, 2011). Warehouse operations that still use hard copy pick tickets find that it is not very efficient and prone to human errors. To combat this and to maximize efficiency, world class warehouse operations have adopted hand-held RF readers and printers. Companies are also introducing pick-to-light and voice recognition technology (Tsige, 2013).

A warehouse management system is a critical component of an effective overall supply chain management and plays a critical role in assuring high levels of customer service and overall logistics effectiveness. Warehouse management involves deciding on the location of the warehouse with the lowest cost that will provide easy access to its customers and suppliers. In addition, it involves planning of methodologies used for easy material flow in the warehouse, and management of the cycle lead time flow for products in the warehouse (Goksoy, 2013). One of the major challenges in managing a supply chain is that demand can change quickly, but supply takes longer to change. Warehouses allow us to respond quickly when demand changes (Bartholdi and Hackman, 2014).

A storage function is needed because production and consumption cycles rarely match. The storage function overcomes differences in needed quantities and timing (Kotler, et al, 2005). Inefficient warehouse management can lead to shipping delays, processing errors, and more complication that could negatively impact on the rate of customer satisfaction (Bagshaw, 2017).

2.4.3 Inventory Management Practices

Inventory is the stock of any item or resource used in an organization. An inventory system is the set of policies and controls that monitors levels of inventory and determines

what levels will be maintained, when stock will be replenished, and how large orders can be in place. (Augustine and Agu, 2013).

Holding inventory to optimal level may cause for creation of supply disruptions. As a result, firms would like to build inventory levels beyond the required for safety purpose usually. The extra inventory incurs costs that may not desirable by managers. The increase in cost of inventory may prevent the cost that would happen as a result of disruption. Therefore, there should be a trade-off between the cost resulting from disruptions and the cost resulting from the protection (Gurnani, Mehrotra & Ray 2012, P. 115). In order to keep customers' response efficient and customer satisfaction high, inventory should be kept. Holding stock for inventory requires investment of large capital. Any decisions about stock have direct relation to support the business and logistics strategies. Logistics strategy focuses on low costs to make stock holdings as efficient as possible. Stocks have a clear strategic impact on a firm influencing long-term options. But the strategic role of stocks has a clear effect on the organization's profit, margins, return on assets, and other financial measures of performance, measures of customer service, such as lead time, availability, perceived product value and reliability (Waters 2003, PP.31-59).

According to Babatunde & Arogundade (2008), inventories are the soul of any manufacturing organization. They refer to the stock of items used within the production system such as basic raw materials, supplies of components or work-in-progress and finished goods. Proper coordination of production activities based on the expected demand, available inventory profile, lead time, given capacity, and other related variables is of utmost importance (Bagshaw, 2017).

The main aim of inventory management is to ensure that organizations hold inventories at the lowest cost possible while at the same time achieving the objective of ensuring that the company has adequate and uninterrupted supplies to enhance continuity of operations (Mpwanya, 2005). Inventory management is primarily involved with specifying the size and placement of stocked goods. Inventory management is required at different locations within a facility or within multiple locations of a supply network to protect the regular and planned course of production against the random disturbance of running out of

materials. The scope of inventory management also involves managing the replenishment lead time, replenishment of goods, returns and defective goods and demand forecasting, carrying costs of inventory, asset management, physical inventory, available physical space, demand forecasting, inventory valuation, inventory visibility, future inventory price forecasting and quality management (Agu Okoro Ag, Anike, and Alnate and C., 2016).

Inventory management is a critical management issue for most companies – large companies, medium-sized companies, and small companies. Effective inventory flow management in supply chains is one of the key factors for success. The challenge in managing inventory is to balance the supply of inventory with demand. A company would ideally want to have enough inventories to satisfy the demands of its customers- no lost sales due to inventory stock-outs. On the other hand, the company does not want to have too much inventory staying on hand because of the cost of carrying inventory (Agu Okoro Ag et al., 2016).

Inventory ordering systems reflect part of the strategies available to an organization in meeting its products' or inputs' inventory management objectives. Basically, there are three major inventory ordering systems, the fixed – order quantity system, the fixed-order interval system and the ABC inventory analysis system (Augustine and Agu, 2013).

The ABC Inventory Analysis - Effective control of inventories can be costly, time and effort consuming. There are some items, however, whose quantities are small but whose monetary values are exorbitant. They normally account for between 10-20 per cent of total items kept in inventory, while they account for as high as between 70-80 per cent of the total monetary value of investment in inventory. These are the so called “significant few” inventory items usually designated as belonging to the A group. There are also those items that account for between 30-40 per cent of the total items of inventory and at the same time, take as much as 15-20 per cent of the monetary value of total investment in inventory. These groups of items are classified into group B for purposes of effective management. The last class of inventory items falls into group C. These are the items that are usually greater in number but account for the smallest value of the total monetary

investment in inventory. This group of inventory items is referred to as the “insignificant many” (Augustine and Agu, 2013).

2.4.4 Transportation Management Practices

Transportation can be defined as the act of moving goods or people from an origin to a required destination. It also includes the creation of time and place utilities. Transportation plays a key role in the supply chain, because without the efficient movement of finished goods and raw materials the entire system would not be able to work at its full potential (Randall et al., 2010). According to the investigation of National Council of Physical Distribution Management in 1982, the cost of transportation, on average, accounted for 6.5% of market revenue.

The goal for any business owner is to minimize transportation costs while also meeting demand for products. Transportation costs generally depend upon the distance between the source and the destination, the means of transportation chosen, and the size and quantity of the product to be shipped. In many cases, there are several sources and many destinations for the same product, which adds a significant level of complexity to the problem of minimizing transportation costs (Lambert, 2004).

Transport system is the most important economic activity among the components of business logistics systems. It provides the physical link through the movement and storage of materials for production, and outbound logistic through the movement and storage of finished goods to the customer (Sabry, 2015).

Transportation is an essential and a major sub-function of logistics that creates time and place utility in goods. In fact, the backbone of the entire supply chain is the transportation management that makes it possible to achieve the well-known seven R's- the right product in the right quantity and the right condition, at the right place, at the right time, for the right customer at the right cost (Kumar and Shirisha, 2014). Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these functions and sub-functions into a system of goods movement in order to minimize cost

maximize service to the customers that constitutes the concept of business logistics (Tseng, et al, 2005).

Transportation management deals with transportation mode, fleet size, route selection, and vehicle scheduling and freight consolidation. All four areas are economically interrelated and can be planned in an integrated manner to achieve maximum benefit (Reddy and Jayam, 2016). In shipping goods to its warehouses, dealers and customers, the company can choose among five transportation modes: road, rail, water, pipeline and air (Kotler, et al, 2005).

In choosing a transportation mode for a product, shippers must balance many considerations: speed, dependability, availability, cost, capability and others. Thus, if a shipper needs speed, air and truck are the prime choices. If the goal is low cost, then water or pipeline might be best. In practice, firms may rely on a combination of transportation methods which would best enable them to meet logistics objectives cost-effectively (Kotler, et al, 2005).

2.4.5 Information Flow Management Practices

According to Bowersox, et al, (2002), Information flow identifies specific locations within a logistical system that have requirements. Information also integrates the three operating areas. Within individual logistics areas, different movement requirements exist with respect to size of order, availability of inventory, and urgency of movement. The primary objective of information flow management is to reconcile these differentials to improve overall supply chain effectiveness. It is important to stress that information requirements parallel the actual work performed in market distribution, manufacturing support, and procurement. Whereas these areas contain the actual logistics work, information facilitates coordination of planning and control of day-to-day operations. Without accurate information the effort involved in the logistical system can be wasted.

Digitizing the Information flow business process through e Information Flow solution improves visibility of supply chain data. And, this in turn improves the supply chain performance and reduces the supply chain costs (Mwencha *et al*, 2017).

Lee & Whang (2000) discuss various types of shared information and their potential benefits. For example, sharing order status can improve the quality of customer service, reduce payment cycles and reduce labor cost. On the other hand, information sharing on forecast demand of products that have high demand variability is significant in assist reduce stock out and over-stocking related costs whereas sharing information on market knowledge can help improve advertisement. While sharing information, it is important to consider the level of benefit to the users and timeliness; delayed transmission of information increases the effects of volatility afflicting the upstream level of supply chain.

There is possibility that some companies might not want to share their detail data with partners, fearing that the data could leak to their competitors (Foerstl et al, 2010). Advances in information technology have changed modern business practice, making collaborative supply chain management possible (Chatfield et al, 2004). Effective logistics management in the enterprise is based largely on the flow of information, that is occurred as smoothly and quickly as possible, so as to provide managers with comprehensive knowledge (Grunt and Nowakowska, 2007). The application of computers, internet and information communication systems can be seen in virtually all activity in the logistics industry, such as transportation, warehousing, order processing, materials management, and procurement. It can help companies to achieve competitive advantages by providing customers with superior services (Adebambo and Toyin, 2011). From a logistics perspective, information flows such as customer orders, billing, inventory levels and even customer data are closely linked to channel effectiveness. Information can be shared and managed in many ways – by mail or telephone, through salespeople, via the Internet, or through electronic data interchange (EDI), the computerized exchange of data between organizations (Kotler et al., 2005).

2.4.6 Supply Management Practices

Physical supplying is a whole process that concern also materials and finished product, a physical movement of goods from the manufacturers to intermediaries and finally to the ultimate consumer. Distribution accomplishes this by providing time and place utility, in other words, availability and its goals are like any other marketing goals: consumer's

satisfaction and profit for the firms (Muhscina, 2008). There are various routes that products or services use after their production until they are purchased and used by end users. Distribution channel management is very critical for the firms when they decide to enter one or more markets. (Kotler et al, 2006).

Supply chain collaboration practices in Ethiopia manufacturing companies or Manufacturing SCM; to be successful, the issue of quality which enable to measure company's performance (internal integration, customer service, investment on collaboration, IT) most for overall effectiveness. (Profesor D.Lalithia and Dr. Bogale, 2015). The logistics interface with procurement and manufacturing is that the efficient and effective coordination of manufacturing strategy with the procurement of materials and components ultimately relies on logistics. Resource inputs must be procured and made available when needed Just-in-Time, (Bowersox et al., 2002).

2.5 Organizational Effectiveness

Although the concept of organizational effectiveness is very common in the academic literature, its definition is difficult because of its many meanings. For this reason, there is no universally accepted definition of this concept (Gavrea, Ilies, and Stegorean, 2011).

Organizational effectiveness encompasses three specific areas of firm outcomes: (a) financial effectiveness (profits, return on assets, return on investment, etc.); (b) product market effectiveness (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc. (Richard and George, 2009). Effectiveness has been viewed in a great variety of ways by logistics researchers. The definition and measurement of effectiveness is often a challenge for researchers because organizations have multiple and frequently conflicting goals. Thus, the definition of the effectiveness is 'ultimately up to the evaluator' (Shang and Marlow, 2007).

An excellent measurement system has produce three primary benefits: reduced costs, improved service, and the generation of healthy growth (Shang, 2004). It is a metric used to quantify the efficiency and/or effectiveness of operation /an action and the set of metrics used to quantify both the efficiency and effectiveness of operations /actions. A number of prior studies have measured organizational effectiveness using both financial

and market criteria, including profit margin on sales, the growth of ROI, the growth of sales, the growth of market share, and overall competitive position (Wijetunge, 2016). Also Korsita and Cania (2006), have measured organizational effectiveness using these two criteria too.

2.6. Relation of Logistics Management Practices and Organizational Effectiveness

Organizations adopt numerous business improvement methodologies to improve business effectiveness. Logistics as well as supply chain management has been regarded to be the crucial factor for the companies to obtain competitive edge (Li, 2014). The efficiency and effectiveness of the logistics operation has a considerable influence not only on the business effectiveness of manufacturers/producers but also on the customer's perception of the quality of the products and services provided by the plant. Effective logistics management can provide major source of competitive advantage to a company by ensuring that it is able to continually respond faster, more efficiently than competitors to its customers' requirement on a global basis (Adebambo et al., 2016).

Many Organizational performance measures are themselves time dependent. Logistics becomes the centerpiece of a new business strategy featuring time-based competition and core competencies. Using time-based competition, the winner in the logistics game was the company that provides the fastest product delivery and the shortest order cycle time (Ackerman, 1997). Companies today are placing greater emphasis on logistics for several reasons: Customer satisfaction, Companies can gain a powerful competitive advantage by using improved logistics to give customers faster delivery, better service or lower prices (Kotler, et al, 2005).

Very poor management of logistics is imposing difficult constraints on the ordering process and inventory management which affects the effectiveness of the firms (Bagshaw, 2017). Due to the trend of nationalization and globalization in recent decades, the importance of logistics management has been growing in various areas. For industries, logistics helps to optimize the existing production and distribution processes

based on the same resources through management techniques for promoting the efficiency and competitiveness of enterprises (Tseng, et al, 2005).

2.7. Challenges of Logistics Management Practices

Nowadays, companies are faced with increasing competitive pressure, unpredictable market changes and dynamically changing regulations. (Roth, et al, 2013) Logistics is a process which interfaces and interacts in practically every department within the entire company and with external ones, some activities are infrequent, some are daily and all require integration and teamwork. But Logistics in many companies is not really understood. It can be viewed in wrong or narrow terms. Logistics is responsible for the movement of products from vendors' right through to the delivery at customer's door, including moves through manufacturing facilities, warehouses, third-parties, such as repackages or distributors. It is not shipping and receiving, nor is it traffic or warehousing.

The other challenge of logistics is information flow fragmentation. Information integration permits to examine the operations of the organization in totality and not to be in a fragmented, functionally isolated manner (Bagchi and Larsen, 2002). Integrated information must flow between the company and its suppliers, carriers, forwarders, warehouses and customers. It must also move internally among customer service, logistics, manufacturing, sales, marketing and accounting. And doing this goes beyond Email, faxes and phone calls. Investment in information technology is not an alternative anymore; it is a requirement for logistics and corporate effectiveness.

The ability to respond to the dynamics of the global marketplace is another challenge of logistics. Changing forecasts, customer requirements, new sourcing, and how to manage all these changes--must be done quickly. Orders must be filled completely, accurately and quickly. It is no longer months or weeks for lead times. It may not even be days. Hours may decide customer service, competitiveness and value-added. (Bakar, et al, 2014).

Increasing logistics costs is another challenge of logistics. Cost has always been the main indispensable dimension in assessing the logistics effective contributions (Bakar, et al, 2014). Cost is the key measure by which logistics performance is often measured in terms

of Inventory control, Freight forwarding, Warehouse labor, Public warehouse charges and other items. Cost control, containment, and management is important for corporate profitability. Minimizing the cost of the various logistics elements, such as freight and warehousing, can sub optimize the effectiveness of the logistics group and of the company in satisfying its customers.

Logistics infrastructure is required in order to transmit products and services to different producers and demand centers in different parts of the globe. Constraints with logistics infrastructure affect the logistics effectiveness (Bakar et al., 2014). It is the collection of physical locations, transportation vehicles and supporting systems through which the products and services are managed and ultimately delivered to improve organizational effectiveness.

2.8 Empirical Literature Review

This section of the literature review includes the global studies from prior researchers about the relationship between logistics management practices and organizational effectiveness. According to Nyaberi and Mwangangi (2014), order process logistics management practices contributes to increase in profit, sales volume, service delivery, production levels and quality of product. This therefore shows that the importance of logistics management in any of the organization cannot be underrated. It is the core business to formulate and design order processing logistics practices to enhance effectiveness. According to them, Inventory control logistics management assists to reduce costs of maintenance of stock, to maintain quality of the product, to improve production flow and to reduce cost of breakages. This in turn leads to customer good will and a high volume of sales, hence improvement in overall effectiveness of the business.

Today's turbulent competitive environment mandates that a firm must have agility in the marketplace to survive and succeed. Therefore, logistics has become an increasing area of strategic concern for firms (Olavarrieta and Ellinger, 1997). In their study of logistics, strategy and structure: Stock et al. (1998) argued that as competition shifts from head to head competition between firms to competition between supply chains, competitive success will depend increasingly on the ability to coordinate and integrate the production

activities at geographically dispersed and organizationally distinct locations. These “new” enterprises logistics will place a high priority on inter firm integration of logistics activities and sustainable commercial success. Focusing on the enhancement of logistics capabilities is associated with superior firm effectiveness (Olavarrieta and Ellinger, 1997).

A study done by Muslimin, Hadi, and Ardiansyah (2015), shows that logistics operation has a significant impact on financial effectiveness. In the same manner, logistics cost and service quality has positive impact on financial effectiveness. According to the study conducted by Tilokavichai et al. (2012) about Analysis of Linkages between Logistics Information Systems and Logistics Effectiveness Management under Uncertainty companies can achieve more efficient and higher effectiveness if they systematically plan their logistics management strategy. In their study of logistics in the hospital: methodology for measuring effectiveness, Serrou and Abou abdellah (2016) have shown the importance of logistics costs in health institutions, as well as effectiveness analysis via the cost, safety and quality.

From the research conducted by Tabeni (2006) about the impact of inbound logistics activities on the operational effectiveness of the postal services organization in South Africa, It has been revealed that there exists significant relationship between inbound logistics activities and the operational effectiveness of the business. According to this study, it has been supported that inbound logistics activities and revenue generation are positively correlated. The research concluded that whatever improvement is done in respect of inbound logistics will help to enhance business effectiveness in terms of increased revenue generated in a very cost effective way. Kuswanto and Rosli (2012) in their study Logistics Efficiency and Firm Effectiveness: Evidence from Indonesian Small and Medium Enterprises, showed the significant impact of logistics innovations in information sharing and transportation coordination on firm effectiveness is sufficient to explain the variation in effectiveness. In addition, the finding of this study showed that the application of information technology, such as the internet enables firms to improve their market knowledge and relationship with clients and suppliers within the same value chain. This would improve logistics efficiency in terms of costs and delivery time and

finally the effectiveness. In addition, innovative transportation coordination was found to improve logistics efficiency, which directly influenced effectiveness.

2.9 Conceptual Framework

A Conceptual framework is defined as a network, or “plane,” of linked concepts that together provide a comprehensive understanding of a phenomenon (Jabareen, 2009).

The below figure illustrates the conceptual framework of this study. Based on the research questions, literatures and presumed relationship between the logistics management practices and organizational effectiveness, the conceptual framework underlines the effect of logistics management practices on the organizational effectiveness. Considering the different practices of logistics management and measurement of organizational effectiveness, this study adopts the logistics management practices of customer service, warehouse management, inventory management, transportation management, information flow management and supply management as independent variable and organizational effectiveness (Its efficiency rate) as dependent variable.

Independent Variables

Logistics management Practices
Effectiveness

- Customer service practice
- Warehouse management practice
- Inventory management practice
- Transportation management practice
- Information flow management practice
- Supply Management practice

Logistics
management
practices

Dependent Variables

Organizational

➤ Effectiveness Rate

Fig 2.1: Conceptual framework

Source: Adopted from Mwangangi, (2016) with modification.

The above figure (fig. 2.2) depicts the determinant of best logistics management practice and its result based on theoretical frame works. Accordingly, the first column shows six major logistics activities or factors help to determine the occurrence of best management practices which are: customer service management, warehousing management, inventory planning and management, transportation management, information management and supply management practice. Second the arrow column shows the application of best logistics management on each logistics activities those listed under column one.

Finally, the last column shows the result or outcome of application of best logistics management on each logistics activities described under column one. Hence, the application of best management practice in customer service management results in customer satisfaction; best management practice in inventory, information flow planning and management and supply management on the other hand ends with cost reduction and profitability respectively. The result of applying best management practice on transportation management and warehousing management are agility and best resource utilization.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 introductions

This chapter describes the research design and methodology that is used in carrying out the research. It states the description of the study area, the research approach, the research design, the population and sampling of the study. Furthermore, it deals with the data source and type, the data collection procedures, validity of instrument, reliability, ethical consideration and data analysis.

3.2 Description of the Study

The study is aimed at assessing the effect of logistics management practices on organizational effectiveness of under Horizon's Coffee Plantation, Limmu Coffee Farm Enterprise. The main reason to study logistics management practices in Horizon's Coffee Plantation; Limmu Coffee Farm that as it is a producing and also Coffee processing Company, the logistics activities are crucial and it is one of a process quality and profit determinant of the industry. Since the concept of logistics management is broad and the institution's product is huge, it manages these activities in six practices under one management center. Therefore the researcher has selected Customer service, warehousing management, inventory management, transportation, information and Supply management for the area of study.

3.3 Research Approach and Design

A study approach is an exploratory and descriptive thesis. An explanatory study had sets out to explain and account for the descriptive information. Explanatory studies seek to ask 'why' and how' questions (Grey, 2014). It builds on exploratory and descriptive research and goes on to identify actual reasons a phenomenon occurs. Also explanatory research has searched for causes and reasons and provides evidence to support or refute an explanation or prediction. Thus, descriptive and explanatory research designs were

employed to conduct the study. The study used quantitative research approach to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics and relies on responses to pre-formulated questions.

3.4 Data Source and Collection Method

The researcher used primary data and some secondary sources. These primary data were collected through questionnaire and interview. The following 3 types of data collection technique were used and a triangulation research method was applied thereby reliable research finding can be produced.

Survey method: The primary data was collected from 180 employees using questionnaire included open-ended and close-ended questions as questionnaire are simple to administer and relatively inexpensive to analyze. Questionnaires were distributed personally by researcher visiting the entire stratum in the six farms. To maintain the validity of the constructs and scale used in this research, most of the questionnaires were adopted from previous researches with modifications and some of the questionnaires were developed based on careful review of literatures. The answers for the structured part of the questionnaire were based on Likert's -scale of five ordinal measures of agreement towards each statement (from 1 to 5) .The reasons for adopting this simple scale were to provide simplicity for the respondent to answer, and to make evaluation of collected data easier. Likert's-scale is important to know respondents' feelings or attitudes about something.

Interview method: Semi structured Interview was prepared for 18 purposively selected managing body.

Document review method: Secondary data (past data that had been previously collected and tabulated through use of graphs, charts and reports) were referred from the six farms and central office, of Limmu Farm enterprise.

3.5 Population and Sample

Here the population is from a list of all workers in HORIZON's Coffee Plantation, the Limmu Coffee Farm those were hired or employed. The sampling frame of this study was population employees of HORIZON's Coffee Plantation, in the Limmu Coffee Farm Enterprise within different working units (Technique Division, Logistics and Supply, Farm operation, Personnel and Property management, Plan and Information Service, Finance and Civil & Construction); sample was drawn from 326 those were permanently hired and well educated (certificate and above).

3.5.1 Sampling Technique and Sample Size

According to Kothari (2004), when the field of inquiry is large, considerations of time and cost almost invariably lead to a selection of respondents i.e., selection of only a few items. The respondents or representative of the total population selected as possible in order to produce a miniature cross-section. Under stratified sampling the population is divided into several sub-populations that are individually more homogeneous than the total population ('strata') and then items selected from each stratum to constitute a sample. Since each stratum is more homogeneous than the total population, stratified random sampling enable to get more precise estimates and more accurately by giving a better estimate of the whole.

The size of sample is neither be excessively large, nor too small. It has to be optimum. An optimum sample is one which fulfills the requirements of efficiency, representativeness, reliability and flexibility (Kothari, 2004). The sample size was **180** respondents out of those **326** populations available under the mentioned working units. The sample size was calculated using **Yamane (1967)** provides a simplified formula to calculate sample sizes. Then priority of educational level and simple random that was lottery method had been used for participating them in questioner.

$$n = \frac{N}{1 + (N)e^2} \qquad n = \frac{326}{1 + (326)(0.05)^2} \approx 180$$

$$P_i = n (N_1/N), n (N_2/N), n (N_3/N) \dots$$

P_i - proportion of population

n – Total Sample size

N – Total Population

e = Error tolerance - at desired level of confidence, take 0.05 at 95% confidence level

Table 3.1 Sampled Strata of permanent well literate/educated employees

	Strata by working unit /Department/	Number of employees (target population)	Strata/ sampled
1	Logistic and Supply	31.....180*(31/326)	17
2	Technique Division	42.....	23
3	Farm Operation	110.....	61
4	Plan and Information Service	17.....	10
5	Resource and Personnel Administration	35.....	19
6	Finance	40.....	22
7	Civil and Construction	51.....	28
Tot		326.....>	180

Source: - (HRM quarter report of July 31, 2019) and sampled.

3.6 Data Collection Procedures

to collect the necessary data the researcher follows the following procedures:

- ✓ Request the organizations permission to communicate the respective farm offices.
- ✓ The researcher discussed with the main officer and each farms’ respective higher officials by briefing the purpose and benefit of the study.

- ✓ Distributing the questionnaire to the selected 180 employees of six Limmu Coffee Farms and conducting interview with the purposely selected 18 managing interviewees at their work place.
- ✓ A week period had given to the respondents in order to have adequate time to fill the questionnaires and more were collected after a month from each farm.
- ✓ Looked some secondary materials as reference.
- ✓ Finally, pre-pilot and pilot test was conducted to determine the reliability and validity of the instruments and for the sake of accuracy.

3.7. Pilot Test of Research Instruments

A pilot study was one of the important stages in a research project and conducted to identify potential problem areas and deficiencies in the research instruments prior to implementation during the full study. Generally, 10–20% of the main sample size is a reasonable number for conducting a pilot study (Hazzi and Maldaon, 2015).

Pilot test has been undertaken prior to the main study by selecting 28 respondents (15.6% of the main sample size) from the target population (4 respondents from each population stratum) and issuing them a questionnaire. The feedback from the pilot test helped in deleting and adjusting some of the items in the measuring instruments. And the selected respondents for the pilot test have not been included in the main study.

3.8. Data Processing and Analysis

Data was collected in quantitative form and analysis carried out depending on each specific objective. Quantitative data was mainly obtained from questionnaires through the semi closed ended questions and interviews results. The responses from open-ended questions were coded before analysis.

Data analysis was done using; mean standard deviation, correlation analysis (Pearson's r), ANOVA test and regression analysis. For ease of analysis, the procedure within Statistical Package for Social Sciences (SPSS) version 23 was used. Responses from the conducted interviews were used to reinforce these findings.

3.8.1. Multiple Regression Analysis

According to Gujarati (2004), the term regression was introduced by Francis Galton. Regression analysis is concerned with the study of the dependence of one variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/or predicting the (population) mean or average value of the former in terms of the known or fixed (in repeated sampling) values of the latter.

The multiple regression analysis was used to determine whether logistics management practices was influence the organizational effectiveness of HORIZON Coffee Plantation; Limmu Farm Enterprise. The study took the six determinant factors as independent variables and the organizational effectiveness as dependent variable in the regression model. The study used the following multiple regression model to establish the statistical significance of the independent variables on the dependent variable.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + e$$

Where; Y = Organizational effectiveness

X1 = Customer service practice

X2 = Warehouse management practice

X3 = Inventory management practice

X4 = Transportation management practice

X5 = Information flow management practice

X6 = Supply management practice

In the model, β_0 = Constant, β_1 to β_6 = Regression coefficients represent the mean change in the dependent variable for one unit of change in the independent variable while holding other independent variables in the model constant and e = Error term which captures the unexplained variation in the model.

H1: Customer service practice has an effect on organizational effectiveness with the Logistics mgmt. practice.

H2: Warehouse mgt. has an effect on organizational effectiveness with the Logistics mgmt. practice.

H3: Inventory mgmt. practice has an effect on organizational effectiveness with the Logistics mgmt. practice.

H4: Transportation mgmt. practice has an effect on organizational effectiveness with the Logistics mgmt. practice.

H5: Information flow mgmt. has an effect on organizational effectiveness with the Logistics mgmt. practice.

H6: Supply mgmt. practice has an effect on organizational effectiveness with the Logistics mgmt. practice.

3.9 Model Specification and Description of Study Variables

3.9.1 Model Diagnosis

3.9.1.1 Tests for Normality

The hypotheses used in testing data normality were based on the data distribution that tests for:

Ho: The distribution of the data is normal

Ha: The distribution of the data is not normal

In addition to the formal tests for normality, then data for normality was graphically examined and it was normal.

3.9.1.2 Tests for Linearity

The ANOVA table contains tests for the linear, nonlinear, and combined relationship between variables. The hypotheses used in testing data normality are: Ho: There is no linear relationship between variables, Ha: There is linear relationship between variables. If the test for linearity has a significance value smaller than 0.05, this indicates that there is a linear relationship. Alternatively, a graphical approach was used to observe plots for linearity. Linearity had displayed by the data points being arranged in the shape of an oval.

3.9.1.3 Test for Multicollinearity

This was carried out using the analysis of the Variable Inflation Factor (VIF) statistics. Small inter correlations among the independent variables was expressed with $VIF \approx 1$. However, $VIF > 10$ depicts collinearity is a problem. $VIF = 1 / \text{tolerance}$, where $\text{tolerance} = 1 - R^2$, R^2 is the coefficient of determination. In addition, correlation analysis was conducted to examine for multicollinearity problem.

3.9.1.4. Validity and Reliability

Validity

Validity is the extent to which a test measures what it claims to measure (Lakshmi and Mohideen, 2013). A measure is valid if it measures what it is supposed to measure. To maintain the validity of the instruments, most of the questionnaires had been adopted from previous researches. Some of the questionnaires were developed based on careful review of literatures. In addition, pilot testing of questionnaires was conducted to obtain a feedback from the respondent on validity and responses were collected and questionnaire had been adjusted subsequently.

Reliability

Reliability is the extent to which measurements are repeatable when different persons perform the measurements on different occasions under different conditions with supposedly alternative instruments which measure the same thing (Drost, 2011). Reliability is consistency of measurement or stability of measurement over a variety of conditions in which basically the same results will be obtained.

The most popular method of testing for internal consistency in the behavioral science is Cronbach's coefficient alpha. Cronbach's alpha reliability coefficient normally ranges between 0 and 1, Gliem and Gliem (2003).

Interpretation of the alpha reliability

Researchers used the rule of George and Mallery (2003):-

- Greater than 0.9..... Excellent.
- Greater than 0.8..... Good.
- Greater than 0.7..... Acceptable.
- Greater than 0.6..... Questionable.
- Greater than 0.5..... Poor.
- Less than 0.5..... Unacceptable.

The closer the coefficient to 1.0, the greater is the internal consistency of items (variables) in the scale.

Table 3.2 Cronbach's alpha reliability test

	Instrument dimension	Cronbach's alpha	No. of items	Reliability range
1	Customer service practice	0.906	6	Excellent
2	Warehouse management practice	0.863	7	Good
3	Inventory management practice	0.869	7	Good
4	Transportation management practice	0.698	7	Acceptable
5	Information flow management practice	0.738	6	Acceptable
6	Supply management practice	0.799	7	Acceptable
7	Organizational effectiveness	0.910	6	Excellent
8	Challenges of logistics management practice	0.719	8	Acceptable
	Overall	0.855	54	Good

Source: Researcher, 2020

3.10. Ethical Consideration

Ethics are the norms or standards for conduct that distinguish between right and wrong. They help to determine the difference between acceptable and unacceptable behaviors. Ethics is particularly significant components throughout the research procedures and if failed to be taken into account, it can lead to misinterpretation or even invalid conclusions.

Hence, this paper had not go under any form of bias or change, and the researcher respected the code address issues such as honesty, objectivity, respect for intellectual property, social responsibility, confidentiality, non-discrimination and etc

CHAPTER FOUR

DATA ANALYSIS, RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, research findings and discussions with respect to research objectives and research questions stated in the first chapter of the study.

4.2 Response Rate

Response rate is formally defined as the number of completed questionnaires divided by the number of eligible sample members (Frohlich, 2001). Response rates are generally considered to be the most widely compared statistic for judging the quality of surveys (Johnson and Owens, 2008). There is no specific response rate that guarantees an unbiased representation of the population. As a general rule of thumb, most reviewers look for a response rate $\geq 70\%$ (Rubinfeld, 2004). A total of 180 questionnaires were distributed to logistics and supply, technique division, farm operation, plan and information service, resource and personnel administration, finance and civil & construction units employees of Limmu Coffee Farm Enterprises under Horizon plantation. Out of the 180 questionnaires, 176 were returned to the researcher which represents a response rate of 97.7%. This percentage was considered sufficient for the study as it is higher than the general response rate rule of thumb.

Table 4.1 Response rate

Response Status	Frequency	Percentage
Filled and returned	176	97.78
Not returned	4	2.22
Total	180	100

Source: Researcher, 2020

4.3 Respondents General Information

This section presents general information about respondents. The general information collected was on gender, level of education, work unit and work experience. The level of education was important to imply that the respondents were well educated and had the ability to understand and respond to the issues sought by the study. Work unit was required to infer that the respondents were able to understand the different logistics practices sought by the research. Work experience was important to ensure aspects of familiarity and experience of the respondents in matters of logistics management practices.

4.3.1 Education Level of Respondents

The study sought to find out the education level of respondents and the responses were analyzed as shown in table 4.3.

Table 4.2 Education level of respondents

		Education Level			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Certificate	20	11.1	11.4	11.4
	Diploma	48	26.7	27.3	38.6
	First Degree	108	60.0	61.4	100.0
	Total	176	97.8	100.0	
Missing	System	4	2.2		
Total		180	100.0		

Source: Researcher, 2020

The study established that majority (60.0%) of the respondents had first degree level of education followed by 26.7% of the respondents who had diploma level of education and then 11.1% who had certificate level education. This indicates that the respondents had sufficient levels of education to understand and respond to the issues sought by the study.

4.3.2 Work Unit of Respondents

The study sought to know the various work units that the respondents belongs to ascertain whether they had relevant knowledge in their area of specialization. The responses were analyzed, and the results are shown in table 4.4.

Table 4.3 Work unit of respondents

Work Unit	Frequency	Valid Percent	Cumulative Percent
Logistic and Supply	17	9.7	9.7
Technique Division	23	13.1	22.7
Farm Operation	55	31.3	54.0
Plan and Information Service	11	6.3	60.2
Resource and Personnel Administration	19	10.8	71.0
Finance	23	13.1	84.1
Civil and Construction	28	15.9	100.0
Total	176	100.0	

Source: Researcher, 2020

The study found out that 31.3% of the respondents were from Farm operation work unit followed by Civil and construction work unit (15.9%) and Technique division and Finance work unit both with (13.1%). 10.8% were from Resource and personnel management, 9.7% were from Logistics and supply work unit and last not the end 6.3% were from plan and information service working unit. This implies that the respondents were able to understand the different logistics practices sought by the research based on the different work units they belong.

4.3.4 Work Experience of Respondents

The research wanted to find out the years the respondents has been with the logistics management functions in the case company. The responses were analyzed, and the results are shown in table 4.4

Table 4.4 Work experience of respondents

Experience	Frequency	Valid Percent	Cumulative Percent
Below 1 year	2	1.1	1.1
1 up to 3 years	13	7.4	8.5
4 up to 6 years	82	46.6	55.1
Above 6 years	79	44.9	100.0
Total	176	100.0	

Source: Researcher, 2020

The study findings revealed that majority of the respondents (46.6%), had a work experience of 4 - 6 years whereas 44.9% had a work experience of above 6 years and followed by those of 7.4% had experience of between 1 - 3. only 1.1% had below 1 year of work experience as indicated in table 4.5. This shows that majority of the respondents had served for a considerable period of time which implies that they were in a position to give credible information relating to the study.

4.4 The State of Logistics Management Practices in Limmu Coffee Farm Enterprise

The first objective of the study was to assess the logistics management practices in Limmu Coffee Farm Enterprise under Horizon Coffee Plantation. The respondents were asked to indicate the state of logistics management practices in Limmu Coffee Farm Enterprise under Horizon Coffee Plantation.

The logistics management practices included was customer service practices, warehouse management practices, inventory management practices, transportation management

practices, information flow management practices and supply management practices. A five-point Likert scale with 1 = Poor; 2 = rarely practiced; 3 = Medium; 4 = highly practiced; 5 = Very high was used to rate the state of logistics management practices.

Analysis of the data was done using means and standard deviations. The means recorded were interpreted as follows: 1-1.49 = (poor); 1.5-2.49 = Rarely practiced; 2.5-3.49 = Medium practiced; 3.5-4.49 = Highly practiced; 4.5-5.0 =Very high practiced (Lady, 2016).

4.4.1 Customer Service Practices

The study sought to determine the state of customer service practices in Limmu Coffee Farm Enterprise under Horizon Coffee Plantation. The study findings are as shown in table 4.6.

Table 4.6: Customer service practices

Customer Service Practices						
	Right product to customers all the time	Quick response for customers' needs	Proper customers' compliant handling	Easy and flexible customer ordering system	Achieve minimized order processing cost	Regular customer satisfaction evaluation
Vald	176	176	176	176	176	176
Mean	3.86	3.27	2.34	2.59	2.81	2.26
Std. D	.723	.773	1.012	.890	.860	1.031

Source: Researcher, 2020

As shown from the above table, an overall mean and standard deviation of (M=2.855, SD= 0.79051) was recorded indicating that customer service was medium practiced as indicated on the case of (Lady, 2016) magnitude scale of practice. As revealed from the table, provide right product to customers all the time was highly practiced with relatively highest mean (M= 3.86, SD= 0.723) followed by quick response to customer needs (M= 3.27, SD= 0.773) and Achieve minimum customer order processing cost (M=2.81, SD=

0.860), Easy and flexible customer ordering system (M= 2.59, SD= 0.890) those were medium practiced. Proper customer compliant handling (M=2.34, SD= 1.012) and regular customer satisfaction evaluation and measurement (M= 2.26, SD= 1.031) both were rarely practiced respectively.

The analysis also showed that a high standard deviation spread from 0.723 to 1.031 which implies that respondents were more varied in their opinion to the responses given under customer service practices.

The finding about customer service practices in Limmu Coffee Farm Enterprise (table 4.6) disagrees with the literature review that was presented in the second chapter of the study. According to Bowersox et al. (2002), the primary value of logistics is to accommodate customer requirements in a cost effective manner; here as the analysis from searched data Cost effectiveness was medium practiced and not the highest. In basic customer service programs, the focus is typically on the operational aspects of logistics and ensuring that the organization is capable of the seven rights to its customer: the right amount of the right product at the right time at the right place in the right condition at the right price with the right information.

4.4.2 Warehouse Management Practices

The study sought to reveal the state of warehouse management practices in Limmu Coffee Farm Enterprise. The results are shown in table 4.7

Table 4.7: Warehouse management practices

warehouse management							
	product/ inputs receipt	(ERP) to control material transaction	space optimizatio n	order picking	warehouse layout	storage guide lines	safety standards
Valid	176	176	176	176	176	176	176
Mean	3.60	3.53	3.34	3.44	3.16	3.49	2.93
Std. D	.757	.828	.886	.886	.927	.862	.866

Source: Researcher, 2020

As shown from the above table, an overall mean and standard deviation of (M=3.3557, SD= 0.84693) also as (Lady, 2016) descriptive scale, it was recorded indicating that warehouse management was medium practiced. As revealed from the table, the statement that proper material receipt (M= 3.60, SD= 0.757) and use of enterprise resource planning (ERP) system to control material transaction were relatively the most rated with mean of (M= 3.53, SD= 0.896) indicating that both were highly practiced followed by storing material according to recommended storage guide lines (M= 3.49, SD= 0.986), Accurate order picking (M= 3.44, SD= 0.986), storage space optimization (M=3.34, SD= 0.986), and applying warehouse safety standard (M=2.93, SD= 1.001) were rarely practiced respectively. The least rated statement was applying warehouse safety standards with mean of (M=2.93, SD= 0.866) rarely practiced.

The analysis also showed that a high standard deviation spread from 0.757 to 0.986 which implies that respondents were relatively less varied in their opinion to the responses given under warehouse management practices. The findings from the above table agree with the literature review that was conducted in the second chapter of the study. According to Bagshaw (2017), inefficient warehouse management can lead to shipping delays, processing errors, and more complication that could negatively impact on the rate of customer satisfaction.

4.4.3. Inventory Management Practices

The study sought to establish the state of inventory management practices in Limmu Coffee Farm. The results are shown in table 4.8

Table 4.8: Inventory management practices

Inventory management							
Practices	Applying demand based replenishment	It keeps at a minimum cost	Automated recording	Monitoring stock movements	Determination of inventory levels	Coffee per hectare audit	Applying periodic inventory technique
Valid	176	176	176	176	176	176	176
Mean	3.49	2.90	2.65	3.31	3.44	3.30	3.56
Std. D	.756	1.012	.848	.738	.819	.760	.722

Source: Researcher, 2018

As shown from the above table, an overall mean and standard deviation of (M=3.2357, SD=0.92947) according to (Lady, 2016) descriptive scale it was recorded indicating that inventory management was medium practiced. As revealed from the table, the statement that periodic inventory counting with applying inventory techniques was relatively the front leveled with mean of (M= 3.56, SD= 0.852) indicating that it was highly practiced followed by applying demand based replenishment (M= 3.49, SD= 0.789), determining of inventory levels (M=3.44, SD= 0.98), monitoring of stock movements (M=3.31, SD= 0.98), Inventory of Coffee trees per hectare (M= 3.30, SD= 0.79), inventory management system keeps cost at a minimum with mean of (M=2.90, SD= 1.131) and were medium practiced respectively. The least rated statement was Automated inventory recording (M= 2.65, SD= 0.948) showing it was rarely practiced. The analysis also showed that a relatively high standard deviation spread here from 0.82 to 1.012 which implies that respondents were more varied in their opinion to the responses given under inventory management practices. The findings from the above table disagree with the study of Thogori and Gathenya (2014) which concluded that companies are keen in managing their inventory so as to reduce costs, improve the quality of service, enhance product availability and ultimately ensure customer satisfaction; but according to these researchers data collection and analysis, cost effectiveness in inventory was the last.

4.4.4 Transport Management Practices

The study sought to establish the state of transport management practices in Limmu Coffee Farm Enterprise. The results were analyzed as shown in table 4.9.

Table 4.9: Transportation management practices

Transportation management							
practices	fleet control	truck scheduling	advance route planning	Vehicle inspection	destination tracking	Trucks load plan	timely delivery
Valid	176	176	176	176	176	176	176
Mean	3.51	2.79	3.33	3.45	3.45	3.46	2.68
Std.D	.684	.966	.796	.792	.798	.785	.992

Source: Researcher, 2020

As shown from the above table, an overall mean and standard deviation of (M=2.7457, SD=0.87334) also as (Lady, 2016) descriptive scale, it was recorded indicating that transportation management was medium practiced. As revealed from the table, applying fleet control system with relatively highest mean (M= 3.51, SD= 0.784) that interpreted as highly practiced, followed by vehicle truck load planning (M=3.46, SD= 0.789), vehicle destination tracking system (M=3.45, SD= 0.885), vehicle inspection schedule (M= 3.45, SD= 0.892), Vehicle route planning (M= 2.79, SD= 0.986), vehicle scheduling (M=2.79, SD= 0.996), and lastly timely material delivery was occasionally practiced was with the least average with mean (M= 2.68, SD= 0.992). And were medium practiced occasionally practiced respectively.

The analysis also showed that a high standard deviation spread from 0.684 to 0.992 which implies that respondents were more varied in their opinion to the responses given under transportation management practices.

The findings from the above table agree with the literature review that was conducted. According to Reddy and Jayam (2016), by moving goods from locations where they are

sourced to locations where they are demanded, transportation provides the essential service of linking a company to its suppliers and customers.

4.4.5 Information Flow Management Practices

The study sought to find out the state of Information flow management practices in Limmu Coffee Farm Enterprise. These responses were analyzed as shown in table 4.10.

Table 4.10: Information flow management practices

Information management						
Practices	smooth info flow	Adequate information	Reliability of info	coordinated Logistics info	communicability of info	info to plan Logistic activities
Valid	176	176	176	176	176	176
Mean	3.21	2.80	3.41	2.91	3.34	3.23
Std.D	.846	.976	.653	.931	.722	.671

Source: Researcher, 2018

As shown from the above table, an overall mean and standard deviation of (M=3.15, SD= 0.78489) according to (Lady, 2016) descriptive scale, it was recorded indicating that information flow management was medium practiced. As revealed from the table, Reliable information flow in the logistics process with relatively highest mean (M= 3.41, SD= 0.743) followed by Information flow communicates the logistics activities/ communicability of information with mean (M= 3.34, SD= 0.722), was medium practiced, Information flow uses to plan the logistics activities (M= 3.23, SD= 0.671). Also smooth information flow to all logistics functions (M= 3.21, SD= 0.846), information flow coordinates the logistics activities (M=2.91, SD= 0.931), and adequate information flow in the logistics process (M=2.80, SD= 0.976), were medium practiced respectively. Here adequate information flow in the logistics process took the lowest mean in information management practice.

The analysis also showed that a high standard deviation spread from 0.671 to 0.980 which implies that respondents were not more varied in their opinion to the responses given under information flow management practices. The findings about information flow management practice in Limmu Coffee Farm (table 4.10) disagrees with the literature review that was presented in the second chapter of the study. According to Grunt and Nowakowska (2007), Effective logistics management in the enterprise is based largely on the flow of information, that should occur as smoothly and quickly as possible, so as to provide managers with comprehensive knowledge. The application of computers, internet and information communication systems can be seen in virtually all activity in the logistics industry, such as transportation, warehousing, order processing, materials management, and procurement. It can help companies to achieve competitive advantages by providing customers with superior services (Adebambo and Toyin, 2011).

4.4.6 Supply Management Practices

The study sought to find out the state of supply management practices in Limmu Coffee Farm Enterprise. The response from respondents were analyzed as shown in table 4.11

Table 4.11: Supply management practices

Supply chain management							
Practices	need identific ation	effective order processing	Automated customer catalogue	win-win negotiati on	strategic relationsh ips	supply effectivenes s evaluation	supply electronic exchange
Valid	176	176	176	176	176	176	176
Mean	3.56	3.48	2.98	2.99	3.31	2.97	2.65
Std. D	.698	.756	.872	.659	.784	.900	.969

Source: Researcher, 2020

As shown from the above table, an overall mean and standard deviation of (M=3.134, SD=0.68817) here as (Lady, 2016) descriptive scale, it was recorded indicating that supply management was middy practiced. As revealed from the table, the statement that appropriate need identification (M= 3.56, SD=0.698) was the most rated that practiced

highly. Effective purchase order processing (M=3.48, SD= 0.756), creating strategic relationships with suppliers mean of (M= 3.31, SD= 0.784), Automated supplier catalog (M= 2.8, SD= 0.978), regular supplier effectiveness evaluation (M=2.97, SD= 0.900) and followed by were electronic exchange with customers who in need of supply (M= 2.65, SD= 0.969) were medium practiced respectively.

The analysis also showed that a high standard deviation spread from 0.698 to 0.969 which implies that respondents were more varied in their opinion to the responses given under supply management practices.

The findings from the above table disagree with the literature review showed in the second chapter of the study. According to Rushton (2010), purchasing and supply, also known as procurement, are amongst the key links in the supply chain and as such can have a significant influence on the overall success of the organization.

4.5 Limmu Coffee Farm Enterprise Organizational Effectiveness

In this section of data analysis, the study sought to identify the extent to which logistics management practice contribute to the organizational effectiveness of Limmu Coffee Farm. Different parameters were used to measure organizational effectiveness. Analysis of the data was done using means and standard deviations. The means recorded were interpreted as follows: 1-1.49 = Low; 1.5-2.49 = Small Extent; 2.5-3.49 = Moderate Extent; 3.5-4.49 = Great Extent; 4.5-5.0 = Very great extent.

Table 4.12: Logistics management practice and organizational effectiveness of Limmu Coffee Farm.

Practices and effectiveness				
	Market share increment	Growth of Sales rate	Return on investment growth	Competitive position increment
Valid	176	176	176	176
Mean	4.35	4.35	4.23	4.16
Std. D	.685	.676	.736	.937

Source: Researcher, 2020

As shown from the above table, an overall mean and standard deviation of (M=4.27, SD= 0.93778) was recorded indicating that logistics management practices contributed to Limmu Coffee Farm effectiveness to a great extent. As evidenced from the table, the statement that Logistics management practices have led to the growth of Limmu Coffee Farm market share (M= 4.35 , SD=0.685) and logistics management practices, Limmu Coffee Farm increased its sale rate growth with mean of (M= 4.35, SD= 0.676) were relatively the most rated that told us from analysis it relates in great extent. Limmu Coffee Farm has got return on investment by applying logistics management practices to a moderate extent with a mean of (M= 4.23, SD= 0.736), that also showed great extent relation. Then through the implementation of logistics management practices in Limmu Coffee Farm has increased its competitive position (M= 4.16, SD= 0.937), also indicated their great extent in modifying its effectiveness even if it seems relatively low rated.

The study further revealed that through the implementation of logistics management practices Limmu Coffee Farm has grown its sales and competitive position of Limmu Coffee Farm has increased due to implementation of logistics management practices to a great extent. The least rated statement was Logistics management practices have led to the growth of Limmu Coffee Farm competitive position showing it was also great extent. The analysis also showed that a relatively low standard deviation spread from 0.676 to 0.937 here implies that respondents were not more varied in their opinion to the responses given regarding the extent of logistics management practices contribution to organizational effectiveness of Limmu coffee farm.

The findings from the above table agreed with the study of Thogori and Gathenya (2016) who concluded that logistics activities, factors of logistics activities and critical factors affecting those logistics activities are important element for business effectiveness. The study done by Olavarrieta and Ellinger (1997), concluded that Focusing on the enhancement of logistics capabilities is associated with superior firm effectiveness.

4.6 Relationship between Logistics Management Practices and Limmu Coffee Farm Organizational Effectiveness

The second objective of the study was to examine the relationship between logistics management practice and organizational effectiveness in Limmu Coffee Farm. Inferential statistical analysis, correlation and multiple linear regression analysis were used to examine the relationship between the independent variable (logistics management practices) and dependent variable (organizational effectiveness).

4.6.1 Correlation Analysis

The sign of the correlation coefficient determines whether the correlation is positive or negative. The magnitude of the correlation coefficient determines the strength of the correlation. The strength of correlation can be described using the guide that Evans (1996) suggests for the absolute value of r as cited in (Beldjazia and Alatou, 2016). If “ $r = 0.00-0.19$ - very weak, $r = 0.20 - 0.39$ - weak, $r = 0.40-0.59$ - moderate, $r = 0.60-0.79$ - strong and $r = 0.80-1.0$ - very strong”. Pearson correlation coefficients were determined with the objective to obtain information about the relationships between the dependent and independent variables as presented in table 4.13.

Table 4.13: Correlation coefficients between dependent and independent variables

Correlations

Practices & Org Eff		Organizational Effectiveness	Customer Service Practice	Warehouse Management Practice	Inventory Management Practice	Transport Management Practice	Info flow Mznzgement Practice	Supply Management Practice
Org. Eff	P/Correlation	1	.334**	.345**	.382**	.307**	.495**	.215**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.004
	N	176	176	176	176	176	176	176
Custom Serv. Practice	P/Correlation	.334**	1	.444**	.472**	.374**	.384**	-.128
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.091
	N	176	176	176	176	176	176	176
W/H Mgmt Practice	P/Correlation	.345**	.444**	1	.571**	.543**	.459**	.024
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.749
	N	176	176	176	176	176	176	176
Invent Mgmt Practice	P/Correlation	.382**	.472**	.571**	1	.490**	.466**	-.015
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.839
	N	176	176	176	176	176	176	176
Transport Mgmt Practice	P/Correlation	.307**	.374**	.543**	.490**	1	.471**	.090
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.233
	N	176	176	176	176	176	176	176
Info flow Mgmt Practice	P/Correlation	.495**	.384**	.459**	.466**	.471**	1	.154*
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.042
	N	176	176	176	176	176	176	176
Supply Mgmt Practice	P/Correlation	.215**	-.128	.024	-.015	.090	.154*	1
	Sig. (2-tailed)	.004	.091	.749	.839	.233	.042	
	N	176	176	176	176	176	176	176

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

* . Correlation is significant at the 0.05 level (2-tailed).

Source: Researcher, 2020

The results indicated that there is a perfectly positively correlation among the six practices and all practices are significantly correlate to organizational effectiveness in which all with $p < 0.01$.

There is a positively and significant correlation between Information flow management practice and organizational effectiveness with $p < 0.01$ ($r = .495$, $p = .000$). According to Evans (1996) magnitude of correlation, the relationship between the two variables is moderate. Here also there is a positively and significant correlation between Inventory management practice and organizational effectiveness with $p < 0.01$ ($r = .382$, $p = .000$). Accordingly magnitude of correlation, the relationship between the two variables is weak. There is positively and significant correlation between Warehouse management practice; Customer service practice and organizational effectiveness with $p < 0.01$ ($r = .345$, $p = 0.000$) and ($r = .334$, $p = 0.000$) respectively both also with weak magnitude. Again Supply management practice and Transportation management practice positively and significantly correlate to organizational effectiveness with $p < 0.01$ ($r = .307$, $p = 0.000$) and ($r = .215$, $p = 0.00$) respectively with weak magnitude.

Generally, the correlation analysis showed that there is a positive relationship between logistics management practices and organizational effectiveness of Limmu coffee farm. These findings are consistent with the findings indicated as Effective logistics management in the enterprise is based largely on the flow of information, that is occurred as smoothly and quickly as possible, so as to provide managers with comprehensive knowledge by (Grunt and Nowakowska, 2007). Also it is greatly supported the conclusion of (Bagshaw, 2017), that says Proper coordination of production activities based on the expected demand, available inventory profile, lead time, given capacity, and other related variables is of utmost importance for companies effectiveness.

4.6.2 Regression Analysis

A multiple regression analysis was carried out to determine the influence of independent variables on the dependent variable. Multiple regressions also used to determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained.

According to Ballance (2004), the correct use of the multiple regression model requires that several critical assumptions be satisfied in order to apply the model and establish validity. Inferences and generalizations about the theory are only valid if the assumptions in an analysis have been tested and fulfilled. Before carrying out multiple regression analysis, the researcher has checked the required assumptions that the data must meet to make the analysis reliable and valid.

The following assumptions of multiple linear regressions were tested using SPSS.

1. Linearity assumption: Linearity defines the dependent variable as a linear function of the predictor (independent) variable (Balance, 2004). Linearity assumption was tested by producing scatterplots of the relationship between each of independent variable and the dependent variable. By visually looking at the scatterplot produced by SPSS, the relationship between each independent variable and the dependent variable found to be linear as shown in appendix B.

2. Multicollinearity assumption: Multicollinearity is a statistical phenomenon in which there exists a perfect or exact relationship between the predictor variables. When there is a perfect or exact relationship between the predictor variables, it is difficult to come up with reliable estimates of their individual coefficients. It will result in incorrect conclusions about the relationship between outcome variable and predictor variables (Alibuhtto and Peiris, 2015). According to Reddy et al. (2013) the most widely applicable method of detecting the multicollinearity is Variance Inflation Factor and it is very accurate in determining the problem of multicollinearity. The common thumb rule is if any of the VIF values exceeds 5 or 10, it implies that the associated regression coefficients are poorly estimated because of multicollinearity. Accordingly, collinearity diagnostics was conducted using SPSS and VIF values found to be less than the values

stated in the rule of thumb which shows that multicollinearity was not a problem as shown in appendix B.

3. Normality assumption: Multiple regressions assume that variables have normal distributions. This means that errors are normally distributed, and that a plot of the values of the residuals will approximate a normal curve. Two common methods to check normality assumption include using a histogram (with a superimposed normal curve) and a Normal P-P Plot. It can be concluded that normality is guaranteed as the histogram generated is normally distributed and the P-P plot follows the diagonal reference line as shown in appendix B.

4. Homoscedasticity assumption: The assumption of homoscedasticity refers to equal variance of errors across all levels of the independent variables. This means that errors are spread out consistently between the variables. This is evident when the variance around the regression line is the same for all values of the predictor variable. Homoscedasticity can be checked by visual examination of a plot of the standardized residuals by the regression standardized predicted value. Ideally, residuals are randomly scattered around zero (the horizontal line) providing even distribution. Heteroscedasticity is indicated when the scatter is not even; fan and butterfly shapes are common patterns of violation. To assess homoscedasticity, the researcher created a scatterplot of standardized residuals versus standardized predicted values using SPSS and found that heteroscedasticity was not a major problem as shown in appendix B.

After the data was checked for the above required multiple regression assumptions and confirmed that it has meet all these assumptions, multiple regression analysis was carried out to determine how well the regression model fits the data (model summary), independent variables statistically significantly predict the dependent variable (ANOVA) and statistical significance of each of the independent variables (regression coefficients).

4.6.2.1 Model Summary As indicated in the below model summary table (table 4.14),

The "R" column represents the value of R, the multiple correlation coefficients. R value of 0.564 indicates moderate correlation between organizational effectiveness and the six independent variables which shows a good level of prediction. The "R Square" column

represents the R² value (also called the coefficient of determination), which is the proportion of variance in the dependent variable that can be explained by the independent variables. As shown from the table, R² value of .319 indicates that 31.9% of the variation in the organizational effectiveness of Limmu coffee farm can be explained by the logistics management practices (independent variables included in the model).

Table 4.14: Model summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.564 ^a	.319	.294	.482	2.227

a. Predictors: (Constant), Supply Management Practice, Inventory Management Practice, Customer Service Practice, Transport Management Practice, Info flow Management Practice, Warehouse Management Practice

b. Dependent Variable: Organizational Effectiveness

Source: Researcher, 2020

4.6.2.2 ANOVA Model Fit

The F-ratio in the below ANOVA table (table 4.15) tests whether the overall regression model is a good fit for the data. The table shows that the independent variables statistically significantly predict the dependent variable, $F = 13.164$, $p < .001$ (i.e., the regression model is a good fit of the data).

Table 4.15: ANOVA model fit

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.377	6	3.063	13.164	.000 ^b
	Residual	39.320	169	.233		
	Total	57.698	175			

a. Dependent Variable: Organizational Effectiveness

b. Predictors: (Constant), Customer service practices, Warehouse management practices, Inventory management practices, Transport management practices, Information flow management practices Supply management practices,

Source: Researcher, 2020

4.6.2.3 Regression Coefficients

Table 4.16: Linear Regression Result

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.469	.363		1.293	.198	-.247	1.185		
	Cust Service Practice	.143	.074	.148	1.932	.055	-.003	.289	.685	1.459
	W/H Mgmt. Practice	.045	.072	.053	.624	.533	-.098	.188	.550	1.818
	Invent Mgmt. Practice	.133	.080	.140	1.654	.100	-.026	.292	.564	1.774
	Trans Mgmt. Practice	-.015	.073	-.017	-.207	.836	-.160	.130	.611	1.635
	Info flow Mgmt. Practice	.301	.072	.328	4.161	.000	.158	.444	.649	1.540
	Supply Mgmt. Practice	.181	.064	.186	2.820	.005	.054	.308	.928	1.078

a. Dependent Variable: Organizational Effectiveness

Source: Researcher, 2020

Standardized Coefficients

The standardized coefficients are useful to know which of the different independent variables is more important. They are used in comparison of impact of any independent variable on the dependent variable. As indicated in regression coefficients table (table 4.16), Information flow management had the highest standardized coefficient (.328) followed by Supply management practices (.186). This revealed that information flow management practices had higher relative effect on organizational effectiveness. Supply

management practices have next higher relative effect and a customer service management practice with standardized coefficient (.148) is the third relative effect. Inventory management and warehouse management practice have ranked from four to five respectively in their relative importance on organizational effectiveness while transport management practices show negative effect.

As it can be seen from the linear regression table, the results showed that among the six hypotheses three hypothesis (H2, H3, and H5) were not significant ($p > 0.05$). That is: warehouse mgmt. practice, inventory mgmt. practice, and transportation mgmt. practices failed to be a significant predictors of Supply chain organizational effectiveness. And the predictor variables of information flow management practices and supply management practices are statistically significant in predicting organizational effectiveness, because all their p-values are less than alpha level of 0.01. However, the p-value for transport management practices (0.836) and warehouse management (0.533) are greater than alpha level of 0.05, which indicates that they are not statistically significant which shows that changes in these variables are not associated with changes in the dependent variable (organizational effectiveness at this moment data analysis).

Here the two, Information flow management and Supply management practice are best for enterprise effectiveness but literatures showed in the second chapter of the study that warehouse management and supply management practices were important factors of logistics management practices in determining organizational effectiveness.

Unstandardized Coefficients

Unstandardized coefficient denotes the change in the dependent variable with a unit change in the independent variable. The constant is 0.469 and this can be interpreted as meaning that if all the logistics management practice of organizational supply chain effectiveness predictor for this particular model were to be zero, the model predicts that the level of supply chain effectiveness for under HORIZON, Limmu Coffee Farm is by nearly 47%. As stated in chapter three, the study used the following multiple regression model to establish the statistical significance of the independent variables on the dependent variable.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon$$

Where; Y = Organizational effectiveness

X1 = Customer service practices

X2 = Warehouse management practices

X3 = Inventory management practices

X4 = Transportation management practices

X5 = Information flow management practices

X6 = Supply management practices

In the model, β_0 = Constant, β_1 to β_6 = Regression coefficients represent the mean change in the dependent variable for one unit of change in the independent variable while holding other independent variables in the model constant and ϵ = Error term which captures the unexplained variation in the model.

$$Y = .469 + .143X_1 + .045X_2 + .133X_3 + -.015X_4 + .301X_5 + .181X_6 + \epsilon$$

The constant value ($\beta_0 = .469$) shows that organizational effectiveness of Limmu coffee farm would be .469 if other variables of the model were zero. Similarly, for example a beta coefficient of .143 indicates that a unit change in customer service practice leads to a change in the organizational effectiveness of Limmu coffee farm by .143. In addition, the Error term (ϵ) estimate was assumed to be zero. Regression coefficient results shows that two out of the six variables are statistically significant in predicting the organizational effectiveness of Limmu coffee farm. The statistically significant variables are information flow management practices and supply management practices as evidenced by their P-values ($P < 0.05$). This indicates that an increase in these variables results in an increase in the organizational effectiveness. The study best agreed to that digitizing the Information flow business process through the Information Flow solution improves visibility of supply chain data. And, this in turn improves the supply chain performance and reduces the supply chain costs (Mwencha *et al*, 2017).

Also best agree to findings that: Manufacturing SCM; to be successful, the issue of quality which enable to measure company's performance (internal integration, customer service, investment on collaboration, IT) most for overall effectiveness. (Profesor D.Lalithia and Dr. Bogale, 2015).

4.7 Challenges of Logistics Management Practices in Limmu coffee farm

The third objective of the study was to determine the challenges of logistics management practices in Limmu coffee farm. The respondents were asked to indicate the extent to which the different challenge parameters affect organizational effectiveness of Limmu coffee farm.

Analysis of the data was done using means and standard deviations. The means recorded were interpreted as follows: 1-1.49 = Not at all; 1.5-2.49 = Small Extent; 2.5-3.49 = Moderate Extent; 3.5-4.49 = Great Extent; 4.5-5.0 = Very great extent.

Table 4.17: Challenges of logistics management practices in Limmu coffee farm

Challenges of logistics management practices	N	Mean	Std. D
Shortage of logistics infrastructure	176	3.52	.828
Increasing logistics cost	176	3.44	.860
Poor exchange of information	176	2.89	.904
Insufficient logistics management capacity	176	2.57	.941
Lack of integrated system	176	2.68	.876
Lack of modern management techniques	176	2.90	.939
Inability to access and apply the emerging logistics knowledge base	176	3.16	.946
Foreign currency shortage	176	2.49	1.100
Overall	176	3.1252	0.53244

Source: Researcher, 2020

As shown from the above table, the study established that Limmu coffee farm faced with logistics management challenges that affect its organizational effectiveness with moderate extent as shown by the overall mean of (M=3.1252, SD= 0.53244). As the study revealed, Shortage of logistics infrastructure was the most faced challenge to a large extent (M=3.52, SD= 0.828). Increasing logistics cost also the next most with mean of (M: 3.44, SD: 0.860) was the second identified challenge faced. Inability to access and apply the emerging logistics knowledge base (M: 3.16, SD: 0.946), Lack of modern management techniques (M: 2.90, SD: 0.939) and poor exchange of information (M: 2.89, SD: 0.904), were also other most faced challenges to a moderate extent respectively.

Lastly, lack of integrated system (M: 2.68, SD: 0.876), Insufficient logistics management capacity (M: 2.57 SD: 0.941) and Foreign currency shortage (M: 2.49, SD: 1.100) respectively and were relatively the least faced challenges to a moderate extent.

Other Challenges from open written question on questionnaire:-

Other Challenges from written response analysis were:-

The logistics provision for internal customers, mutual community or stakeholders base practices and insufficient transport logistics were substantial. These front liners indicated challenges were essential which can challenge organizational sustainability or survival.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The study sought to establish the effect of logistics management practices on the organizational effectiveness of Limmu coffee farm. The three objectives of the study were to assess the logistics management practices in Limmu coffee farm, to examine the relationship between logistics management practices and organizational effectiveness in it and to determine the challenges of logistics management practices in Limmu coffee farm. This chapter provides the summary of findings with respect to the study objectives, conclusions and recommendations of the study as well as limitations and suggestions for future research.

5.2 Summary of Findings

The study was an attempted to cover the effect of logistics management practices on organizational effectiveness in Limmu coffee farm in relation to customer service practices, warehouse management practices, inventory management practices, transportation management practices, information flow practices and supply management practices. The study was also an attempt to determine the challenges of logistics management practices in Limmu coffee farm. The study tried to explore detail important concepts in relation to the research objective in consideration. It included review of related literatures regarding history and advancement of logistics, logistics management practices, challenges of logistics management, organizational effectiveness as well as theoretical and empirical reviews in relation to the study.

Data for the study was obtained through distribution of questionnaires to a pre-determined sample of employees in Limmu coffee farm. A total of 180 questionnaires with 54 items were distributed to respondents and 176 were returned with a response rate of 97.78%. An overall value of Cronbach's alpha ($\alpha = 0.855$) was obtained and the overall internal consistency test of research instruments was found in "Good" reliability range.

In relation to the general information of respondents, 61.4% of the respondents had first degree, While 27.3% had Diploma and 11.4% of them had Certificate level of education. In addition, 46.6% of respondents had a work experience of above 6 years, 44.9% had a work experience between 4 to 6 years and 8.5% of them had below 3 years of work experience.

The first objective of the study was to assess the logistics management practices in Limmu coffee farm. Through the descriptive statistical analysis, an overall mean score was computed for each independent variable (logistics management practices). The study revealed that Warehouse management ($M=3.3557$, $SD= 0.84693$) was relatively the most practiced logistics activity in Limmu Coffee Farm followed by inventory management practice ($M=3.2357$, $SD= 0.92947$). Information flow management, supply chain management, customer service and Transportation management, were practiced next to these two with mean and standard deviation of ($M=3.15$, $SD= 0.78489$), ($M=3.134$, $SD= 0.68817$), ($M: 2.855$, $SD: 0.79051$) and ($M=2.7457$, $SD= 0.87334$) respectively. Transport management was relatively the least practiced logistics activity. The study also discovered that logistics management practices contributed to Limmu coffee farm effectiveness to a moderate extent with an overall mean of ($M=2.6758$, $SD= 0.93778$).

The second objective of the study was to examine the relationship between logistics management practices and organizational effectiveness in Limmu coffee farm. Pearson correlation coefficients were determined to obtain information about the relationships between the dependent (organizational effectiveness) and independent variables (logistics management practices). The study revealed that there is a perfect and statistically significant relationship among each independent variable and positive relation with the dependent variable.

Based on the Pearson correlation analysis result, there is a positive and significant correlation between information flow management and organizational effectiveness ($r=0.495$, $p<0.01$) with moderate magnitude. Inventory management practice is positively and significantly correlated with organizational effectiveness ($r=0.382$, $p<0.01$). Warehouse management practice is positively and significantly correlated with organizational effectiveness ($r=0.345$, $p<0.01$). Customer service practice is positively

and significantly correlated with organizational effectiveness ($r=0.334$, $p<0.01$). The correlation between transport management practice and organizational effectiveness is positive and significant ($r=0.307$, $p<0.01$). Positive and significant correlation is found between supply management practice and organizational effectiveness with ($r=0.215$, $p<0.01$). The study also further discovered from Pearson correlation analysis that the relationship between each independent variable and the dependent variable is moderate according to Evans (1996) magnitude of correlation.

Multiple regression analysis was used to determine whether the independent variables will influence the dependent variable. R square value from the regression model summary ($R^2 = 0.319$) indicated that 31.9% of the variation in the organizational effectiveness of Limmu coffee farm can be explained by the logistics management practices (independent variables in the model).

The ANOVA test result revealed that the independent variables statistically and significantly predict the dependent variable ($F = 13.164$, $p < .001$). The regression analysis result further revealed that the predictor variables of information flow management practice and supply management practices are statistically significant in predicting organizational effectiveness because all their p-values are less than alpha level of 0.05. However, the p-value for customer service practice which is a few greater than alpha and the p-value for the rest inventory, warehouse and transport management practices are greater than alpha level of 0.05 which indicated that they are not statistically significant in predicting the organizational effectiveness despite literature has outlined them as important logistics management practices which shows that they are not properly addressed in Limmu coffee farm.

The third objective of the study was to determine the challenges of logistics management practices in Limmu coffee farm. Through the descriptive statistical analysis, an overall mean score was computed to determine the extent to which the different challenge parameters affect organizational effectiveness of Limmu coffee farm. The study indicated that Limmu coffee farm faced with logistics management challenges that affect its organizational effectiveness to a moderate extent with an overall mean of ($M=3.1252$,

SD= 0.53244). Logistics infrastructure and higher logistics cost are the most detected challenges.

Other challenges from written responses: such as no automation, reduced internal customers' satisfaction, minimum transportation logistics and length of formal procurement while from local a quality and cost problem.

5.3 Conclusions

Based on the findings presented in previous sections, the study drawn the following conclusions. From the descriptive statistical analysis result regarding the state of logistics management practice in Limmu coffee farm, the study concluded that:

- All the logistics management practices (customer service practices, warehouse management practices, inventory management practices, transportation management practices, information flow management practices and supply management practices) were practiced moderately.
- In addition, the study concluded that logistics management practices contributed to limmu coffee farm effectiveness to a moderate extent.

In relation to the relationship between logistics management practices and organizational effectiveness, the study concluded that:

- ❖ There is a positive and significant relationship between the six logistics management practices and organizational effectiveness of Limmu coffee farm Enterprise.
- ❖ Furthermore, all logistics management practices specially information flow management practices and other had described to have positive and significant relationship among one another subsequently have a moderate effect over organizational effectiveness of the Coffee Farm Enterprise.

In relation to the predicting power of independent variables, the study concluded that:

- ✚ The independent variables of information flow management and supply management practices had predicting power on organizational effectiveness of

Limmu coffee farm. But inventory management practices, warehouse management and transport management practices did not showing power effect on organizational effectiveness of the coffee farm.

Regarding the logistics management challenges faced by Limmu coffee farm Enterprise:

- ✚ The study concluded that the challenges of logistics practices were detected at a moderate extent in affecting organizational effectiveness. Also logistics infrastructure problem and ↑ logistics cost were a front line detected challenges.

Further, the study concludes as response of open question indicated as additional challenge in Logistics Management Practice and thus affects org. supply management effectiveness are:

- lack of integrated and automated system
- Poor customer (internal; stakeholder) satisfaction assessment.
- Old & reduced no. transport logistics (especially trucks & services).
- Problem in availability of the required materials & inputs procured centrally with in the right quantity and at the right time; local procurements quality & cost.
- Inter farm road network problem.

5.4 Recommendations

Based on the above findings the study therefore recommends as follows.

The findings of the study showed that Limmu coffee farm adopted logistics management practices moderately. Moreover, the study confirmed that logistics management practices had strong positive relationship with organizational effectiveness of Limmu coffee farm. Therefore, the study recommends Limmu coffee farm to give priority and enhance the logistics management practices because if all of these properly practiced and planned selectively according to their descriptive mean rank, they can significantly grow its organizational effectiveness. In addition, the study confirmed that the two logistics management practices namely information flow management practices and supply management practices, significantly influence the organizational effectiveness power of Limmu coffee farm. The study therefore recommends Limmu coffee farm Enterprise to:-

- ❖ Exercise anticipating and becoming more responsive to fulfill all information flow facilities needed, applying smooth flow, adequate in a safety standards reliable manner, to coordinate all logistics activities to communicate with every and use to plan the logistics activities. Coordinate all enterprise farms together with in their sub farms to solve problem of organizational information defect.
- ❖ Invest on application of computers, internet and information communication systems; and enhance electronic data interchange.
- ❖ Have supply management practice strategy such as appropriate need identification, effective buyers' order processing and automated customers' catalogue and create strategic relationship, exercising win, win negotiation with customers, regular supplying performance evaluation and facilitate electronic exchange of information with customers/ buyers.

Further, the study established that the key logistics management challenges faced by Limmu coffee farm were logistics infrastructure shortage and increasing logistics cost. The study recommends that the coffee farm to:-

- Prioritize and Logistics management should plan to work with concerned stakeholders; the main HORIZON Plantation plc. to improve all the practices and

cost effectiveness of coffee farm regards to solve these transportation related; about timely delivery, trucks and service vehicles inefficiency, supply infrastructure such as smooth and timely distribution of inputs and other logistics resolution to shortage of logistics infrastructure.

- Build inter-farm road network.
- Balance the level of production delivery with the cost of that provision to reduce the increasing logistics cost.
- Improve customer service status, their needs, creating smooth interaction and assess customers' satisfaction; internal customers, employees' belongingness, incentives. Retrieve and stand for community mobilization strategy to get indirect positive impact for effectiveness from organizational sustainability.

5.5 Suggestions for future research

There are limitations in this study which are left for future research. Firstly, the study focused on six logistics management practices namely customer service practice, warehouse management practice, inventory management practice, transportation management practice, information flow management practice and supply management practice. There are other practices and hence it suggests conducting further studies considering several other types of logistics management practices like packaging and demand forecasting.

Secondly, the study only focused on the logistics management practices of Limmu coffee farm or the mother plantation's plc.; Similar studies should be conducted on manufacturing or other service providing firms for comparing the logistics management practices among services and manufacturing firms.

Thirdly, the study considered indicating challenges of logistics management practices faced by limmu coffee farm. But the study did not consider all possible solutions and therefore it suggests further studies on how to solve more other hindrance challenges of logistics management practices in Limmu coffee farm under HORIZON plantation plc.

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APPENDIXES

Appendix A: Questionnaire

JIMMA UNIVERSITY

BUSINESS AND ECONOMICS COLLEGE

DEPARTMENT OF LOGISTICS AND TRANSPORT MANAGEMENT POST GRADUATE PROGRAM

Questionnaire to be filled by sourcing and facility employees of Limmu Coffee Plantation Enterprise

Dear Participant,

I am a postgraduate student at Jimma University Business and Economics College and I am conducting a study on **“The effect of logistics management practices on organizational effectiveness: a case of Limmu Coffee Plantation Enterprise”**. The purpose of the questionnaire is to collect primary data to conduct the study for the partial fulfillment of Master of Arts in Logistics and Transport management. This is purely for academic purpose and the information you provide will be kept strictly confidential. Hence, I kindly request you to fill the questionnaire genuinely. Thanks in advance for your cooperation.

General Instruction

- Please do not write your name or address on the questionnaire.
- Please put a tick (√) mark in the appropriate box of your answer
- Contact address: if you have any question please contact me through the following address.

Telephone: 0938001724

Email: teyib2019@gmail.com

Section A: General information

1. Your work Place and unit:

1. 1. *Place of work:* - 1. Main Office 2. Gomma-1 3. Gomma-2 4. Gumer 5. Kossa. 6. Suntu 7. Cheleleki

1. 2. *Working Unit:-*

1. Logistic and Supply	5. Resource and Personnel Administration
2. Technique Division	6. Finance
3. Farm Operation	7. Civil and Construction
4. Plan and Information Service	8. Other

2. **Sex:** 1. Male 2. Female

3. **Educational level:** 1. Certificate 2. Diploma 3. First degree
4. Second degree and above

4. Work experience in your work unit:

1) Below 1 Year	3) 4 – 6 years
2) 1 - 3 years	4) Above 6 years

SECTION B: Logistics Management Practices in Limmu Coffee Plantation

Enterprise

5. Questions related with logistics management practices. Please **Circle** on the appropriate number to indicate the state of logistics management practice in Limmu Coffee Farm Enterprise. The item scales are five-point scales with 1 = **Poor**, 2 = rarely practiced, 3 = **Medium**, 4 = **High**, 5 = **Very high**

	Logistics scale	1- poor	2rarel y	3med ium	4hig h	5v. high
1	Customer service practice					
1.1	Provide right product to customers all the time	1	2	3	4	5
1.2	Quick response to customer needs	1	2	3	4	5

1.3	Proper customer compliant handling	1	2	3	4	5
1.4	Easy and flexible customer ordering system	1	2	3	4	5
1.5	Achieve minimum customer order processing cost	1	2	3	4	5
1.6	Regular customer satisfaction evaluation and measurement	1	2	3	4	5
2	Warehouse management practices					
2.1	Proper product/ inputs receipt	1	2	3	4	5
2.2	Use of enterprise resource planning (ERP) system to control material transaction	1	2	3	4	5
2.3	Suitable storage space optimization /It has enough space/	1	2	3	4	5
2.4	Accurate order picking	1	2	3	4	5
2.5	Good planning and optimizing warehouse layout	1	2	3	4	5
2.6	Storing material according to recommended storage guide lines	1	2	3	4	5
2.7	Applying warehouse safety standards	1	2	3	4	5
3	Inventory management practices					
3.1	Applying demand based replenishment & periodic Inventory	1	2	3	4	5
3.2	Inventory management system keeps cost at a minimum	1	2	3	4	5
3.3	Automated inventory recording	1	2	3	4	5
3.4	Monitoring of stock movements	1	2	3	4	5
3.5	Determining of inventory levels	1	2	3	4	5
2.6	Periodic audit of coffee plant per hectare to solve defects	1	2	3	4	5
3.7	Applying inventory management technique (ABC)	1	2	3	4	5
4	Transportation management practices					
4.1	Applying effective fleet control system	1	2	3	4	5
4.2	Suitable Vehicle /truck scheduling	1	2	3	4	5

4.3	Advanced Vehicle route planning	1	2	3	4	5
4.4	Vehicle inspection in exact schedule	1	2	3	4	5
4.5	Vehicles tracking system for every destination of trucks	1	2	3	4	5
4.6	Trucks load planning as per trucks /full truck load schedule in advance	1	2	3	4	5
4.7	Timely product & material delivery	1	2	3	4	5
5	Information flow management practices					
5.1	Smooth information flow to all logistics functions	1	2	3	4	5
5.2	Adequate information flow in the logistics process	1	2	3	4	5
5.3	Reliable information flow in the logistics process	1	2	3	4	5
5.4	Information flow coordinates the logistics activities	1	2	3	4	5
5.5	Information flow communicates with every logistics activities	1	2	3	4	5
5.6	Information flow uses to plan the logistics activities	1	2	3	4	5
6	Supply management practices					
6.1	Appropriate need identification	1	2	3	4	5
6.2	Effective buyers' order processing	1	2	3	4	5
6.3	Automated customers' catalogue	1	2	3	4	5
6.4	Exercising win-win negotiation with customers	1	2	3	4	5
6.5	Creating strategic relationships with Customers (Buyers)	1	2	3	4	5
6.6	Regular supplying performance evaluation	1	2	3	4	5
6.7	Electronic exchange of information with Customers	1	2	3	4	5

Section C: Logistics management practice and organizational rate of Effectiveness of Limmu Coffee Farm Enterprise

Please **Circle** on the appropriate number with the best scale. Here are the five-point scales; with **1= strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = strongly agree**

		SDA	DA	mode rate	A	SA
	Organizational Effectiveness Rate					
1	Because of improved Logistics management practices; the Coffee Farm Enterprise's market share is growing	1	2	3	4	5
2	By bettering logistics management practices, the Coffee Farm Enterprise has grown its sales in a best way	1	2	3	4	5
3	Logistics management practices have paved a way to increase Return on Investment.	1	2	3	4	5
4	Through the implementation of logistics management practices, the Coffee Farm Enterprise has increased its rate of performing in a minimized cost.	1	2	3	4	5
5	The Coffee Farm Enterprise's Competitive position has raised due to implementing logistics management practices	1	2	3	4	5

If there is other Limmu-Coffee Farm Logistics effectiveness indicator, if possible specify its strength.

.....

>

Section D: Challenges of Logistics Management Practices and equally of Organizational effectiveness

Please **Circle** on the appropriate number that best show your agreement's scale. Here are the five-point scales; with **1= strongly disagree, 2 = Disagree, 3 = Medium 4 = Agree, 5 = strongly agree**

	Organizational Challenges	SDA	DA	moderate	A	SA
1	Shortage of logistics infrastructure	1	2	3	4	5
2	Increasing logistics costs	1	2	3	4	5

3	Poor exchange of information	1	2	3	4	5
4	Insufficient logistics management capacity	1	2	3	4	5
5	Lack of integrated system	1	2	3	4	5
6	Lack of modern management techniques	1	2	3	4	5
7	Inability to access and apply the emerging logistics knowledge base	1	2	3	4	5
8	Foreign currency shortage	1	2	3	4	5

Please specify if there are other logistics management challenges that Limmu Coffee Farm Enterprise must address in order to improve the logistics management practices, if possible indicate its severity.

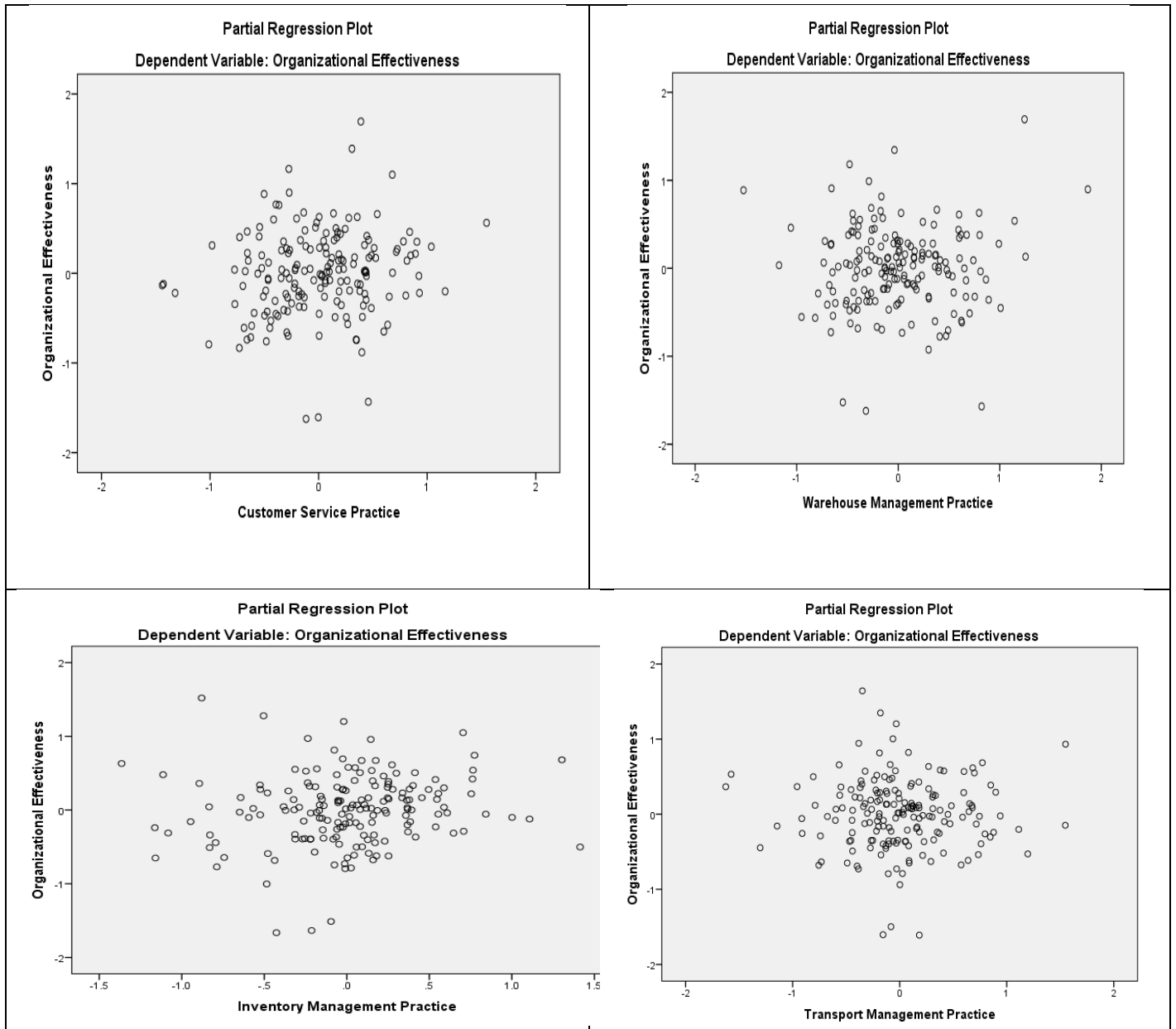
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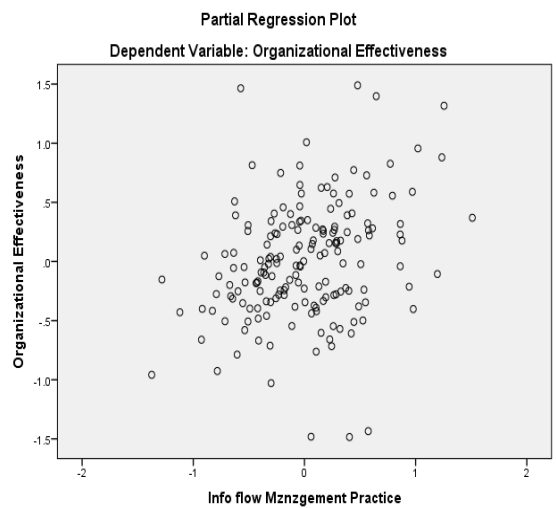
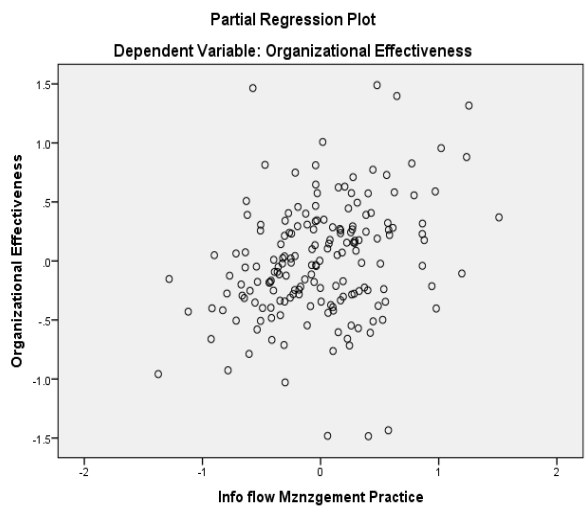
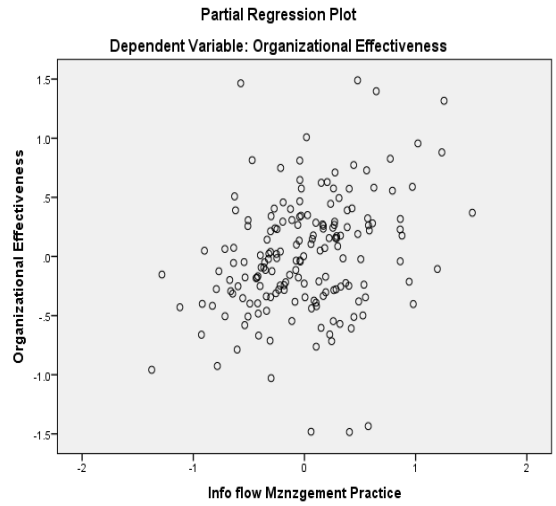
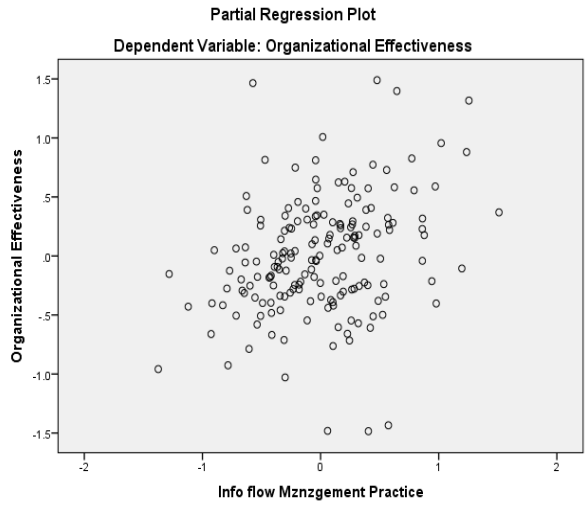
Thank You for Your Precious Time!!!!

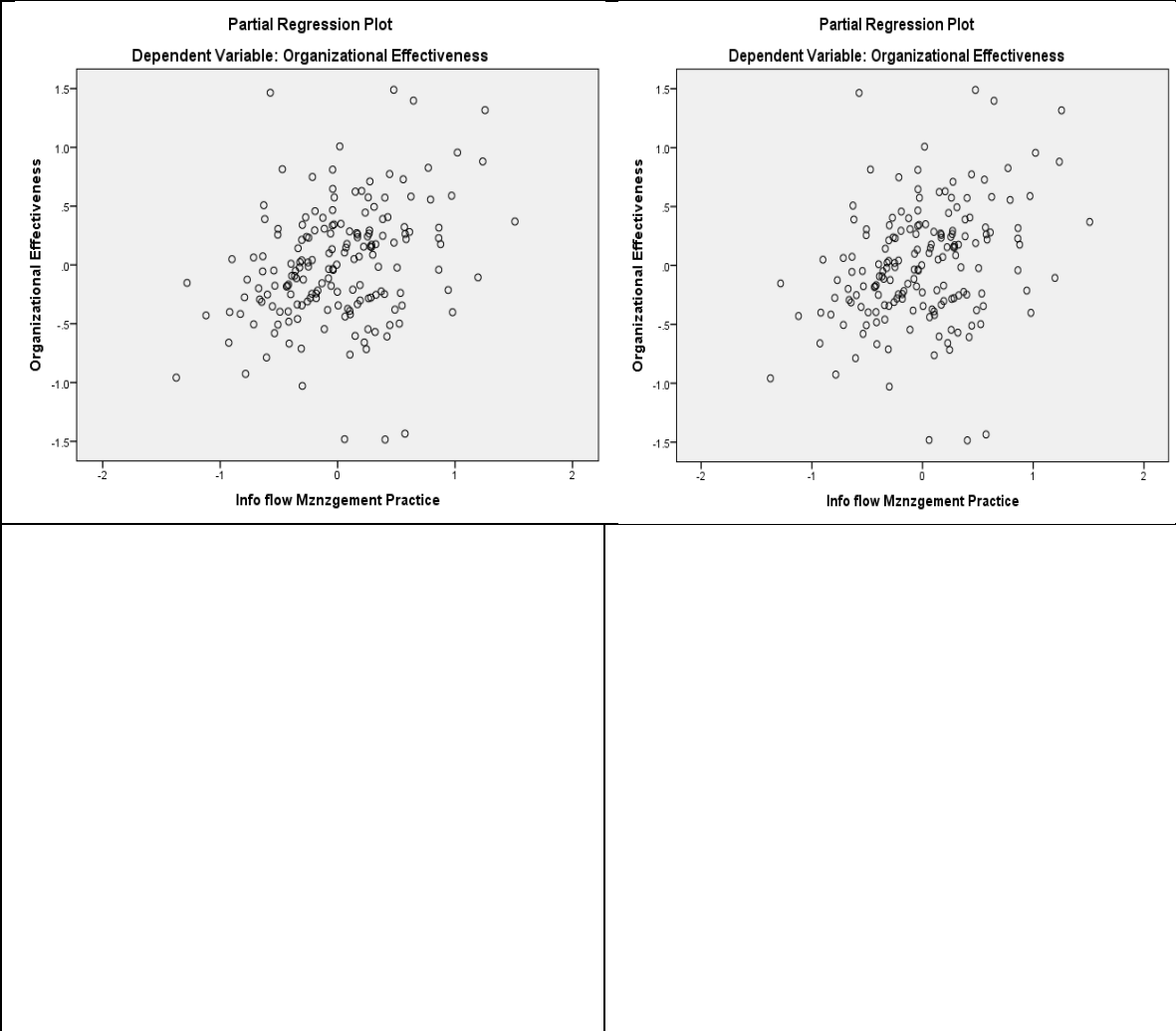
Appendix B

Appendix B: Linear Regression Assumptions

1. Linearity of relationship test







2. Multicollinearity Test Result

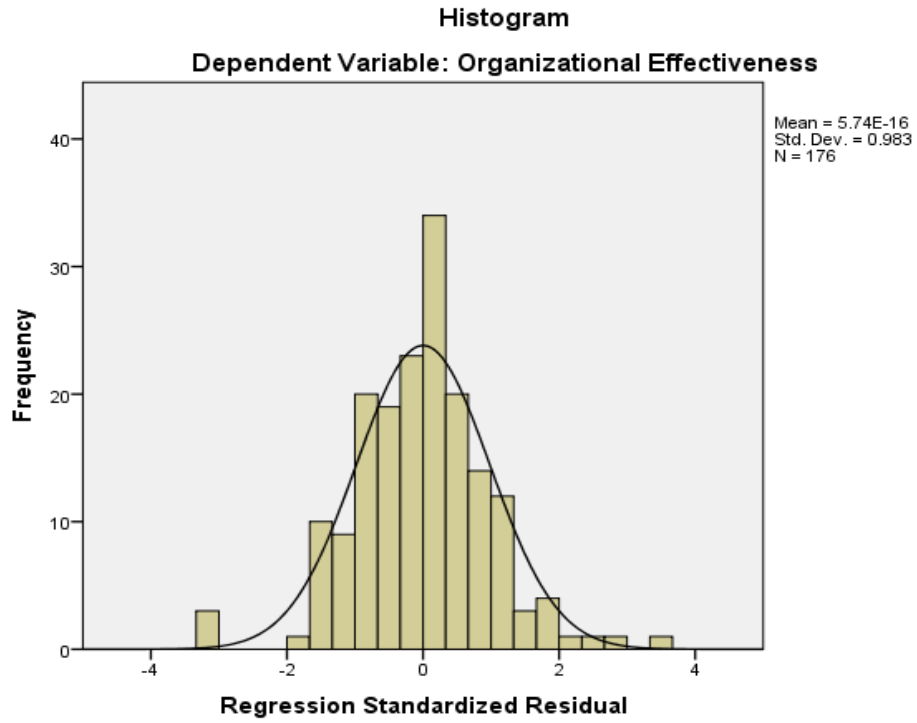
Coefficients^a										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.469	.363		1.293	.198	-.247	1.185		
	Cus Serv Pract	.143	.074	.148	1.932	.055	-.003	.289	.685	1.459
	W/H Mgmt Practice	.045	.072	.053	.624	.533	-.098	.188	.550	1.818
	Invent Mgmt Practice	.133	.080	.140	1.654	.100	-.026	.292	.564	1.774
	Transport Mgmt Practice	-.015	.073	-.017	-.207	.836	-.160	.130	.611	1.635
	Info flow Mgmt Practice	.301	.072	.328	4.161	.000	.158	.444	.649	1.540
	Supply Mgmt Practice	.181	.064	.186	2.820	.005	.054	.308	.928	1.078

a. Dependent Variable: Organizational Effectiveness

Collinearity Diagnostics^a										
Model	Dimension	Eigenvalue	Condition Index	Variance Proportions						
				(Constant)	Customer Service Practice	Warehouse Management Practice	Inventory Management Practice	Transport Management Practice	Info flow Management Practice	Supply Management Practice
1	1	6.873	1.000	.00	.00	.00	.00	.00	.00	.00
	2	.040	13.073	.03	.13	.05	.03	.01	.00	.23
	3	.026	16.317	.02	.63	.08	.00	.18	.06	.01
	4	.021	18.071	.01	.01	.14	.02	.03	.90	.01
	5	.018	19.715	.00	.09	.18	.22	.74	.02	.00
	6	.015	21.317	.00	.03	.55	.69	.04	.02	.01
	7	.007	31.420	.94	.11	.00	.04	.00	.01	.75

a. Dependent Variable: Organizational Effectiveness

3. Normality Test: Checking for Normality



4. Homoscedasticity Test

Scatterplot

Dependent Variable: Organizational Effectiveness

