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FACTORS AFFECTING MARKET EFFICIENCYOF ETHIOPIA COMMODITY EXCHANGE.

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The Department of Marketing Management.

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CERTIFICATION

This thesis work entitled to certify that, "**FACTORS AFFECTING MARKET EFFICIENCY OF ECX."** submitted in partial fulfillment of the requirements for the award of the degree of Masters of Marketing Management to the School of Commerce, Addis Ababa University, through the Department of Marketing Management done by Sisay Endashaw is an authentic work carried out by him under our guidance. The matter embodied in this thesis has not been submitted earlier for award of any degree or diploma to the best of our knowledge and belief.

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Chairman, Department Graduate Committee Signature Date

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Advisor Signature Date

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Declaration

I, sisay Endashaw, declare that the study entitled “Factors affect marketing efficiency of ECX.” is the result of my own effort in research undertaking. The study has not been submitted to any Degree or Diploma in any College or University. It is submitted to the partial fulfillment of the requirement of the Masters of Arts in Marketing Management.

Sisay Endashaw

Signature and Date

Statement of Certification

This is to certify that Sisay Endashaw carried out his research on the topic entitled

"Factors that affect marketing efficiency of ECX." under my supervision. This work is original in nature and is suitable for submission for the award of Degree of Master of Marketing Management.

Advisor: Dr Mulugeta

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List of Acronyms

ANOVA	Analysis of Variance
SPSS	Statistical Packages for Social Science
ECX	Ethiopian Commodity Exchange
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WRS	Warehouse Receipt System
MoARD	Ministry of Agriculture and Rural Development
ADLI	Agricultural Development Lead Industrialization
ICAs	International commodity agreements
CBOT	Chicago Board of Trade
RECOTIS	Regional Commodity Trade and Information System
ADLI	Agricultural Development Lead Industrialization
KACE	Kenyan Agricultural Commodity Exchange
UCE	Uganda Commodity Exchange
ZAMACE	New Zambian exchange,
US	United State
OECD	The organisation for economic cooperation and devlopment
PACDEX	Pan-African Commodities and Derivatives Exchange
EAGC	Eastern African Grain Council
NCPB	National Cereals Produce Board

Abstract

In marketing, efficiency is one of cost benefits analysis measurement tools that are used to determine by some factors. Among these factors, regulation, warehouse, clearing and settlement system, market information, and trading system has been used for this study. Today, the attitude of marketing philosophies are changed thus the researcher have tried to find out really these factors of market efficiency affect the market interaction.

Efficiency in marketing is the most used measure of market performance. Improved marketing efficiency is a common goal of farmers, marketing organizations, consumers, and society. The research had the objective of identifying and explaining the factors of Market efficiency of ECX. In order to address its objectives, the research has been generally set conceptual framework. A survey questionnaires was prepared to collect a primary data,

The questionnaire was distributed to 186 Ethiopian commodity exchange member participants randomly and out of which 170 were collected. The data was analyzed through descriptive analysis and multiple linear regression models by using SPSS version 21.

*Out of the five independent variables, market information showed a moderate positive relation (.353**) with marketing efficiency while Warehouse system showed a small level of positive relation (.128) with the marketing efficiency, trading system of commodity exchange showed a moderate level of positive relation (.365**) with the marketing efficiency. The rest two variables namely regulation, clearing and settlement system show moderate level of positive relation of .378** and .506** respectively.*

Therefore, study recommended that ECX should give more attention about market information, regulation, clearing and settlement, warehouse and also trading system of the company.

***Key Words**: Market efficiency, ECX, regulation, clearing and settlement system, warehouses, market information and trading system ECX member.*

Chapter One

1. Introduction

1.1. Background of the study

In the era of globalization, how the economy and commodity market exchange is organized and coordinated is increasingly became a fundamental concern of all nations across the world. More specifically, linking of buyers and sellers in to commodity market for the effective and efficient accomplishment of transactions among the participants is the most challenging task. In response to this and following market liberalization and increasingly affordable information technology since 1990, commodity exchanges have mushroomed around the world. Commodity derivative exchanges provide a platform where traders and investors from various parts of the world can participate in the hedging and price discovery of any listed commodity (Bose, 2009). Instruments (contracts) traded on commodity exchanges include futures, options and other derivatives. Trading in these instruments began with floor trading, also called open outcry systems. In open outcry systems, traders assembled in a pit in the exchange and traded commodities by indicating their bids or offers to others in the pits. Commodity futures markets help with price discovery and provide a way to hedge for producers and buyers of commodities (Thomas, 2008).

The idea of market efficiency initially appeared in the 19th century. It reached its academic maturity in the eighties, however, since then its popularity and empirical validity has declined.10 Similar thoughts to the random walk theory were first expressed in the 17th–18th centuries. Howe, the very first ideas of random walk came from other fields than finance: mathematics, botany, physics, logic (Sewell, 2011). In turn, the economic terms of the efficient market theory were found at the end of the 19th century.

According to De Moor, Vanden Bossche and Verheyden (2013), the founder of the efficient market theory was G. Gibson. In 1889, he published a book on London, Paris and New York stock exchanges, arguing that stock prices reflect the views of the smartest market participants. Gibson saw stock valuation as a voting process in which the participants vote on in which direction the stock price will change. Smartest participants would eventually gain more votes for their correct guesses which would allow them to accumulate more funds (De Moor, Van den Bossche, Verheyden, 2013). Another pioneer in the efficient market theory was a

French mathematician L.Bachelier who published "Speculation theory" in 1900 where he argued that the expected return of an investment is always equal to zero (Sewell, 2011).

Comprehensive understanding of market efficiency is also crucial for corporate executives whose decisions and actions determine perceived value of companies. Allen, Brealey and Myers (2011) defined a market as efficient when it was not possible to earn a return higher than the market return. In other words, the value of shares reflects the fair value of the company and is equal to the future cash flows discounted by an alternative cost of capital. Eakins and Mishkin (2012) argued that an efficient market was a market where asset prices fully reflected all information available. Generally, the essence of an efficient market is built on two pillars: 1) in efficient markets, available information is already incorporated in stock prices; 2) in efficient markets, investors cannot earn a risk-weighted excess return.

Market Efficiency

It is difficult to get a single definition of market efficiency that may hold for all markets. Even within the same market, different authors use different definitions. Ratchfordet"al (1996, p. 168) forwarded a concise definition of market efficiency that they have deducted from the studies they reviewed.

They defined it in terms of the "actual or potential losses to individual consumers, which results from imperfect information about alternatives: An inefficient market is one in which such losses are or can be large." This definition seems to focus on the end results than the process in the market. Preston & Collins (1966, p. 155) on the other hand forwarded a definition that emphasizes the process in the market than the end results as "the facility and effectiveness with which the potential exchanges are accomplished". As the authors themselves admit, their definition is divorced from the specific characteristics of the quality and volume of goods and services being traded and the trading prices used in the exchange process. The most widely used definition of an efficient market was given by Fama (1970, p.383) in which he stated that "A market in which prices always "fully reflect available information is called efficient"

According to Fama (1965) an efficent markat is a markat where given the available information, actual price at every point in time represent very good estimate of interinsic value. It is also

assumed that investors are capable processing all available information and that is the reason why the price of an asset is reflex of that information.

Fama (1970) identifies three forms of market efficiency;

(a) weak form, when only historical price information is available;

(b) semi-strong form, when recent and obvious publicly available information is added to the previous set;

(c) strong form, when information held by private groups and which is not publicly available, is considered.

Marketing efficiency affected by marketing information, clearing and settlement system, regulation, trading system and warehouse.

Marketing information system

Marketing information is vital for the success of business and effective implementation of rules and regulations developed by the government. Marketing information most often used are traditional means of communication like word of mouth as well as rumors. Word of mouth typically traditional means is almost in appropriate source of marketing information in commodity market but it shows improvement together with change in technology somewhat used modern information technology other than conventional communication.

Establishing a real-time market data system in a country like Ethiopia is certainly an enormous challenge, which seems to have been dealt with through a considerable investment in IT systems, made possible with the financial support of the World Bank and other international organizations (Alemu and Meijerink 2010).

As findings of Tollens, (2006) revealed that market information and commodity exchanges can be powerful instruments to inform participants about market conditions and prices, to find willing buyers, to empower them by making the transactions more equal and fair, to inform them about the optimal timing of buying and selling, to induce them to store optimally and to plan ahead, making better informed optimal production and marketing decisions. This helps to break

the vicious poverty trap, inducing resilience and better coping mechanisms, and reducing inequality in the markets.

Clearance and Settlement and Trading

Clearance and settlement of everyday transactions take place through the information system explained above. According to ECX, this ensures the payment to the supplier takes place within 24 hours. Nonetheless, some exporters claim that although the time for monetary transactions has decreased, delivery time of the actual product has increased due to inadequate infrastructure at the regional warehouses and transportation services.

The ECX is entrusted with broad objective of modernizing the Ethiopian agricultural market by providing a quality service and there by attaining overall economic growth. It is also expected to provide a centralized marketing mechanism in which transactions are carried out publicly through a physical trading floor or electronic system or both and to create an efficient, transparent, and orderly marketing system which addresses the interest of all stakeholders including buyers, sellers and intermediaries and small scale producers.

Commodity derivative exchanges provide a platform where traders and investors from various parts of the world can participate in the hedging and price discovery of any listed commodity (Bose, 2009). Instruments (contracts) traded on commodity exchanges include futures, options and other derivatives. Trading in these instruments began with floor trading, also called open outcry systems. In open outcry systems, traders assembled in a pit in the exchange and traded commodities by indicating their bids or offers to others in the pits. Commodity futures markets help with price discovery and provide a way to hedge for producers and buyers of commodities (Thomas, 2008).

The ECX Journey (2009) state that the ECX set out as a new commercial initiative in April 2008 with a radical vision; tradition revolutionize Ethiopia's tradition bound agriculture through a new marketplace that would serve all market actor in the commodity chain farmer ,trader, processor ,exporter and institutional buyers.

The first of its kind in Ethiopia, ECX is a national multi commodity exchanges that Provides market integrity, by guaranteeing the product grade, quantity and operating the system.

To resolve market inefficiencies, particularly concerning prices along the agricultural marketing channel, a landmark proclamation was issued by the parliament in 2007 that paved the way for the establishment of the ECX under the supervision of the Ministry of Agriculture and Rural Development (MoARD) in Proclamation No-551/2007. The ECX was finally established in April 2008 with the aim of filling the gap created by missing institutions and infrastructure in agricultural commodity markets (Gabre-Madhin, 2001).

Commodity exchange was to perform four basic functions:

- Reduce transaction costs,
- Ensure price transparency and price discovery by creating a secure and reliable system for handling, grading and storing services for commodity transactions,
- Promote risk-free payments, and
- Provide a goods delivery system to settle transactions (Gabre-Madhin, 2006; Alemu and Meijerink, 2010).

1.2 Statement of problem

The Ethiopian Commodity Exchange (ECX) is designed to be a marketplace where buyers and sellers meet to trade, assured of quality, quantity, delivery and payment. It will control a system of daily clearing and settling of contracts. It will improve market efficiency by operating a trading system where buyers and sellers use standardized contracts. Market transparency will be accomplished by distributing market information in real time to all market players. However, Commodities exchange play vital role in marketing agricultural outputs and improving the return for the primary producers (Bethlehem Girma, 2009). The study there was those factors of market efficiency trading system of commodity exchanges, markating information, clearing and settlement ,regulation and warehouse system design to tackle most of the problems that has identified as the major impediments to a fair and efficient market system.

As findings of Tollens, (2006) revealed that market information and commodity exchanges can be powerful instruments to inform participants about market conditions and prices, to find willing buyers, to empower them by making the transactions more equal and fair, to inform them about the optimal timing of buying and selling, to induce them to store optimally and to plan ahead, making better informed optimal production and marketing decisions. This thus helps to

break the vicious poverty trap, inducing resilience and better coping mechanisms, and reducing inequality in the markets.

According to Mukhebi(2004) high contract default, unreliable supply, volatile prices, poor information, unregulated actors, unreliable trading partners are taken as the major initiatives to establish commodity exchange and as interest in commodities has risen the range of available products has developed to meet the needs of new and existing investors.

Ahmed (2017) stated that higher transaction cost, price fluctuation, difficulty of network access, lack of adequate warehouses that accommodate ECX participants request poor recording and management system of the warehouses inefficient and inadequate in store credit; expensive membership seat fee and exposed and non transparent quality grading and sampling system of the exchange, bias, corruption were found to be amongst the forefront bottlenecks or constraints to the development and success of ECX.

Rashid, identified constraints for the development of commodity exchange, internet and telecommunications in the ECX are still quite deficient (sometimes non-existent) to disseminate information to the participants. In light of the above conditions and the ECX role to the society in nation building, the researchers find that the need to examine the determinants of market efficiency of Ethiopian commodity exchange.

Now the student resercher was make to contribute the literature on marketing efficiency of the ECX by using quantitative and explanatory research technique.

However, there were a challenges on the market efficiency in volatile price; poor quality and poor information uncoordinated markets that will consider as the factors that affect the modern trading system to be more efficient (Bethlehem Girma, 2009). This implies that the some of the major factors like Trading system of commodity exchanges, markating information, clearing and settlement ,regulation and warehouse system. Most likely affect the market efficiency of ECX. The study, therefore, tries to measure the level of efficiency with different factors exhibit varying degrees of efficiency.

1.3. Research Questions;

Kothari (2004) said we all posses the vital instinct of inquisitiveness for, when the unknown confront us, we wonder and our inquisitiveness make us probe and attain full and fuller understanding of the unknown. This inquisitiveness is the mother of all knowledge and the method, which man employs for obtaining the knowledge of whatever the unknown, can be termed as research. Kothari added the purpose of research is to discover answer to questions through the application of scientific procedure answers to those questions.

The student researcher inquisitiveness forward question that enable to obtain knowledge of undiscovered and answer to those questions.

What factor affects the ECX marketing efficiency? This is the basic research question and this study specifically provides answer for the following question;

- To what extent does the trading system of ECX affect its market efficiency?
- How does the clearing and settlement system of ECX affect its market efficiency?
- To what extent does marketing information affect the market efficiency of ECX?
- How does the warehouse system of ECX affect its market efficiency?
- To what extent does regulation affect the market efficiency of ECX?

1.4. Research objectives

According to Kothari (2004) the objective of research to gain familiarity with phenomenon or to achieve new insights into it, to portray accurately the characteristics of a particular individual, situation or a group, to determine the frequency with which something occurs or with which it is associated with something else; and to test a hypothesis of a causal relationship between variables.

Hence the objectives of this research are;

1.4.1. General objective

The main objective of the study was assessing the core factors affect marketing efficiency in the ECX. The propose research aims at predicting novel way of identifying and searching the factor affect marketing efficiency in ECX.

1.4.2. Specific objectives

The proposed study specifically aims to;

- To examine the effect of the warehouse system on the marketing efficiency.
- To determine the effect of marketing information on market efficiency of ECX.
- To examine the effect of trading system on the market efficiency of ECX.
- To determine the effect of regulation on market efficiency of ECX.
- To analyze the effect of clearing and settlement system on the market efficiency of ECX.

1.5. Significance of the Study

Kothari (2004) stated that research has its special significance in solving various operational and planning problems of business and industry. Operational research and market research, along with motivational research, are considered crucial and their result assists, in more than one way, in taking business decisions. Kothari added research inculcates scientific and inductive thinking and it promote the development of logical habits of thinking and organization.

The ECX (2009) report that ECX set out as new commercial initiative in April 2008 with a radical vision; to revolutionize Ethiopia tradition bound agriculture through a new market place that would serve all market actor in the commodity chain farmer, trader processor, exporter and institutional buyer; the ECX value proposition was an orderly, transparent, reliable and efficient market, operating on zero default principle.

The analysis is believed to provide a chance of broadening the skill of analyzing and interpreting the current operation of commodity exchanges. It also increases the stack of information all have about the performance of commodity exchanges.

Policy makers, planners and Ethiopian commodity exchange to make clued-up decisions regarding their service deliverance mechanisms for better.

And also the study will contributed or draws lessons on the issue under consideration for better success in the field.

Finally, it may also be useful for different individuals of different category who want to have an insight about the performance of the Ethiopian commodity exchanges and triggers researchers to conduct further research in the commodity exchanges.

1.6. Scope of the Study

The aim of this research is to investigate factor affect marketing efficiency of ECX. In this study quantitative and explanatory research design were used and data was collected through self administered questionnaire and the respondents were the ECX members.

The study covers only few among several of the factor affect marketing efficiency of ECX Such as regulation, clearing and settlement, trading system, warehouse, and market information.

Now considering the manageability of data, budget, time and resources availability, the target population was take from Addis Ababa ECX branch members only.

1.7. Limitations of the study

Though this study has presented a comprehensive theme over the succeeding chapters, it was not free from limitations. Limited number of prior research works regarding commodity exchange in Ethiopia with market efficiency on contemporary issues in the reading shelves. And this study was methodologically limited because researcher did not take all the population which is members of the ECX as well the clients. For the same reason both in sample and area coverage was limited on the first case specific membership only participating and on the second case geographically location also restricted in Addis Ababa. This study was limited to compute the remaining other members such as clients, cooperatives and farmers of ECX market actors. As a result of the study was expected to give value in designing appropriate strategies to reduce market inefficiency of ECX.

1.8. Definition of terms

Webster (2010) defined commodity as an economic goods, as a product of agriculture or mining an article of commerce especially when delivered for shipment, a mass-produced unspecialized product a good or service whose wide availability typically leads to smaller profit margin and

diminishes the importance of factor (as brand name) other than price, one that is subject to ready exchange or exploitation within a market.

Commodity exchanges are private institutions that facilitate trade by creating and enforcing property rights and governing contractual relationships between commodity buyers and sellers which makes the exchange very successful (Jerry, 1991).

ECX is one of the agricultural exchange markets available in developing countries of Africa. Currently, Ethiopia is following a development policy of Agricultural Development Lead Industrialization (ADLI). This policy of the government encourages both farmers and private investors to produce market oriented commodities so as to have industrial development in the long run (Paul I, 2011).

1.9. Organization of the Paper

The study is organized in to five chapters. The first chapter deals with the background of the study, statement of the problem, objectives of the study, the research questions, the significance of the study, and Scope of the study. The second chapter discusses review literature of the study third chapter the research methodology. The fourth chapter discusses data analysis and finding. Finally, chapter five encapsulates the major issues raised in the study and provides summery, conclusion as well as recommendation.

Chapter two

2. Review of related literature

2.1. Theoretical Literature

2.2. Over View of Market Efficiency and Commodity Exchange

A commodity market is a market that trades in primary economic sector economic rather than manufactured products. Soft commodities are agricultural products such as wheat, coffee, cocoa, fruit and sugar. Hard commodities are mined, such as gold and oil. Investors access about major commodity markets worldwide with purely financial transactions increasingly outnumbering physical trades in which goods are delivered.

Commodity Exchange is an exchange where various commodities and derivatives products are traded. Most commodity markets across the world trade in agricultural products and other raw materials (like wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals, etc.) and contracts based on them. These contracts can include spot prices, forwards, futures and options on futures (UNCTAD report, 2009)

Commodity exchanges are highly efficient platforms for buyers and sellers to meet; primarily to manage their price risks better, but also to improve the marketing of their physical products.

They have significant, well-documented development benefits, making economies more inclusive, boosting the links between agriculture and finance, and making the commodity sector more efficient and competitive. ECX is a market place to sell or buy commodities. Its operation, however, is well integrated with and substantially dependent on other institutions and sectors.

The Exchange promises to replace the unorganized, unreliable, inefficient commodity market with a market that has better efficiency, order, transparency and integrity (Gabre-Madhin, 2009). Beside the poor infrastructural development in the country, the weakly organized agricultural marketing structure is the source of higher transaction cost and unfair distribution of trade benefits (Gabre-Madhin, 2001).

2.3. The Market Efficiency

Forwarding a single definition of efficiency is not a simple task. The concept of efficiency has been used in different perspectives. It has been used from consumers‟ perspective, producers‟ perspective, market perspective and economic perspective.

(Mas-Colellet‟al, 1990) stated that the issue of efficiency captured a great deal of the focus of welfare economics. This can generally indicate what is meant by efficiency when it is used in either of the perspectives. It can also be deducted that efficiency has something to do with welfare enhancement. The use of efficiency in consumers‟ and producers‟ perspective refers to maximization of consumer and producer surpluses as a measure of welfare gain by the two economic agents.

2.4. Evolution of Commodity Exchanges

The commodity exchange is a development of the fairs and open-air markets of the middle ages. The Chicago Board of Trade, opened in 1848, was the first commodity exchange in the United States and is the largest today.

Organized commodity exchanges have a long history. Grain traders in Japan began experimenting with the idea in 1730, and the Chicago Board of Trade (CBOT) and the London Metal Exchange successfully launched their operations in 1864 and 1877, respectively. For more than a century, commodity exchanges remained largely confined to industrialized nations.

However, with market liberalization and increasingly affordable information technology since 1990, commodity exchanges have mushroomed around the world. By 2005, non-OECD countries accounted for more than 50 percent of the agricultural futures and options traded in the world and a majority of the world's functional commodity exchanges are located outside of the North America and Europe (UNCTAD, 2007). Growing interest in commodity exchange from government and donors in Africa is a clear reflection of need for commodity risk management. Because international markets remain volatile and domestic markets are thin and fragmented, risk management is critical for commodity sector development. With the dismantling or weakening of marketing boards and the unsatisfactory performance of international commodity agreements (ICAs), governments and their development partners have increasingly looked to

commodity exchanges as an alternative for managing risks in a liberalized market environment. There have been many donor-supported initiatives to establish commodity exchanges in developing countries, but very few have succeeded. In Africa, five countries launched agricultural commodity exchanges shortly after market liberalization in the 1990s, but only South Africa succeeded in making its exchange sustainable. Despite initial signs of success, Zambia and Zimbabwe suspended their operations following unusual price hikes and subsequent government intervention.

Other exchanges established in the 1990s include the Kenyan Agricultural Commodity Exchange (KACE) which no longer support actual trades but exist with donor support and the Uganda Commodity Exchange (UCE) which does coordinate trades but not been able to attract sufficient trade volumes to be self sustaining.

Since 2004, more and more countries have been launching exchanges notable ones include Malawi in 2004, Nigeria in 2006, the Ethiopian Commodity Exchange (ECX) in 2008 and the new Zambian exchange, ZAMACE, established in 2007.

A commodity exchange is an institutional response, at a basic level to the fundamental problem of achieving self-coordinating market order in the trade of agricultural products, which by their nature, are risky. One of the world's largest and oldest commodity exchanges, the Chicago Board of Trade, was established in 1848 by 82 grain traders in what was then a small Midwestern town, in conditions not too different from that of Ethiopian agriculture today, in response to a bumper harvest when farmers who went to Chicago and could not find buyers had to dump their unsold cereal in Lake Michigan.

This strikes a hauntingly familiar chord for those who recall that Ethiopian farmers left grain torot in the fields in 2002 as prices collapsed. The challenges that US markets faced 150 years ago were not much different from what they face today, or what Ethiopian markets face today: to coordinate the exchange of grains and livestock produced across dispersed locations and dispersed producers to major markets hundreds of miles away (Tafara, 2005).

Thus, a farmer would agree with the trader on a price to deliver a certain quantity of grain at a future time. The deal was advantageous to both parties in that the farmer knew in advance his market price and the trader knew his costs. As these contracts common, they began to be used as

collateral against bank loans and began to exchange hands before the physical delivery itself. Thus, a farmer might pass on his obligation to deliver to another farmer, with the price going up or down depending on what was happening in the market. As these "forward contracts" became common over a 15 year period, CBOT introduced in 1865 a standard contract known as a "futures contract" with a pre-specified delivery date and a margin requirement to act as a performance bond. This innovation reduced the risks and costs associated with negotiating forward contracts on an individual basis (stiglitz, J.E., 1974).

Alongside these developments, CBOT was chartered officially by the state in 1859 (a decade after first opening), and therefore mandated to set standards of quality, product uniformity, and undertake routine inspections of the grain traded in the exchange, in order to maintain the integrity of the market. It was not until 1922, some 74 years after the Chicago market first opened, that the government established the Grain Futures

Administration as a regulatory body to oversee the expanding grain market, it was not until 1967 that CBOT began the electronic display of market prices, reducing the price reporting time to seconds. What is salient from this quick historical overview is that the Chicago market was established and evolved to resolve the real problems of transaction costs and risks faced by farmers in the market and the need to coordinate the exchange of agricultural goods across actors, across space and time. It is also important to note that state regulation, increasing in scope as the market grew, followed the market rather than led it (UNCTAD Report, 2009).

Following the sweep of market liberalization across the globe, emerging exchanges are rapidly growing in developing or transition countries to fill the gap left by marketing boards and fixed price systems. There are currently more than 100 of these exchanges across developing countries: 28 in Latin America (15 of them in Brazil), more than 20 in Asia, 3 in Africa, 4 in Eastern Europe, and several in Russia (UNDP Report, 2006). Most of these exchanges have been created since 1992.

The government has organized ECX authority through proclamation in order to eliminate market related problems and to facilitate transparent, efficient, and innovative marketing system to protect the interests of both producers and consumers. ECX's model is the first of its kind in Africa with its end-to-end integrated system of central trading, warehousing, product grade

certification, clearing, settlement, delivery, and market information dissemination (MoFED, 2009).

Furthermore, ECX started live trading on April 24, 2008. It provides a market place where buyers and sellers can come together to trade and be assured of quality, delivery, and payment. The exchange is a private-public undertaking with capital investment from its main promoter, Government of Ethiopia, and membership seats privately owned by trading and intermediary members. The Exchange is jointly governed by a private-public board of directors and managed professionally by an internationally recruited team.

2.5. Experiences in commodity exchange in neighboring East African countries

The gradual liberalization of agricultural trade combined with the reduction of government support to agricultural producers outside the OECD, heightened the interest in the use of risk management and other modern financial instruments, including commodity exchanges, in the developing world (UNCTAD, 2006). In recent years, there is substantial growth in emerging commodity markets driven by the continued growth of existing exchanges, particularly those in China and India, and also by the rise of other exchanges situated in emerging markets.

In Africa, the Pan-African Commodities and Derivatives Exchange (PACDEX) initiative has stimulated the development of national exchanges in a number of countries, including Nigeria, Ethiopia, Kenya and Uganda (its establishment has been strongly supported by the African Union). The PACDEX model comprises a hub in Botswana managing a common exchange, as well as a back-office platform that links together various national exchanges and warehouses to facilitate regional trade in contracts across the agricultural, metals, energy and currency sectors.

Kenyan Experience in commodity exchange Currently, Kenya has three commodity exchanges: The Nairobi Coffee Exchanges dealing with coffee, the Tea Auction in Mombasa, and the Kenya Agriculture Commodity Exchange (KACE), a spot exchange that deals with a variety of commodities but mostly maize and beans.

The KACE is a private sector firm that has been in operation in Kenya since 1994. KACE has been an important private sector initiative that has made significant contributions to agricultural marketing in the country, and to smallholder farmers in particular in two ways: linking producers

and buyers of agricultural commodities, and provision of market information for commercial actors within the subsector.

However, KACE faces several challenges among which the following two are the most important:

(i) the poor quality of produce that farmers deliver combined with the fact that most small-scale farmers find it difficult to deliver in bulk which is ideal for an exchange; and

(ii) most of the commodities in Kenya are heavily regulated by boards and are grown and marketed in an environment of struggling cooperatives, which are inefficient, mismanaged and have cumbersome internal bureaucracies (Mukhebi, 2004).

To overcome the stated challenges, KACE is supporting smallholder farmers to organize themselves into marketing associations in order to cost-effectively accessmarket and information services provided by the exchange. This allows them to consolidate supplies of marketable quality commodities for offer through the exchange, and purchasing of inputs in volumes to achieve economies of scale. In addition, KACE‟s electronic market information system, the Regional Commodity Trade and Information System (RECOTIS), is providing market information throughout the eastern and central Africa region to promote regional trade.

In general, faced with fragmented markets, government intervention and significant infrastructural deficiencies, trade through KACE has always been minimal. Instead, focus has been on information dissemination with KACE acting as a provider of paid-for price information, a business model supported by private sector partnerships and aid donor funding.

For June 2010, the Nairobi bourse plans to launch a commodities exchange by a joint effort of the National Cereals Produce Board (NCPB), KACE, Eastern African Grain Council (EAGC) and Nairobi Stock Exchange. It will consist of a platform where futures can be traded. The market will initially trade major grains produced in East Africa, including maize, wheat, rice and beans but will ultimately trade other agricultural commodities, including inputs such as fertilizers and seed.

Kenya Coffee Planters and Traders (KCPT), the association that runs Nairobi Coffee Exchange, said the country has not established the fundamentals for a credible commodities exchange.

Experts reckon that for a commodities exchange to work in Kenya, the government needs to back the initiative with sound legal and regulatory frameworks suchas enacting a Commodities Exchange Act and a Warehouse Receipts Act. The system also requires major improvements in road networks connecting farms and a substantial investment in NCPB facilities to fit them with modern equipment like sievers and driers to enable hold grains for longer periods (Omondi 2010).

2.6. Factors that Affect Market Efficiency

There are different factors that affect market efficiency. The Ethiopian Commodity Exchange (ECX) is designed to be a marketplace where buyers and sellers meet to trade, assured regulation, wearehouse, trading system, clearing and settlement and market information.

The ECX is a national multi -commodity exchange with the aim of providing market integrity, by guaranteeing the product regulation. It will manage a system of daily clearing and settling of contracts. It will enhance market efficiency by operating a trading system where buyers and sellers use standardized contracts. Market transparency will be achieved by disseminating market information in real time to all market players.

First, the prices available on commodity exchanges provided information on fundamental market conditions, informing future decisions about production and consumption. Moreover, prices quoted on commodity exchanges supplanted prices set by monopolistic producers,which contributed to an increase in the competitiveness of commodity markets. Second, commodity exchanges lowered transaction costs by reducing intermediaries and facilitating the matching of buyers and suppliers. Third, they provided storage facilities and clearing services, thereby further increasing the liquidity and efficiency of commodity cash markets (Piero Cinquegrana , 2008).

2.6.1. Trading System of Commodity Exchanges

A movement towards electronic trading has taken place in recent years. This has been driven by technological advances and by the advantages in speed, cost, transparency and functionality that such trade typically offers over the established “open outcry” form of trading, which brings traders together on a trading floor. And in addition Computer technology has the potential to increase the efficiency, transparency, and liquidity of the commodity markets by increasing the

speed of transactions and lowering transaction costs. Electronic trading typically brings a number of other potential advantages. These include limiting informational asymmetries between trading interests, allowing potentially longer trading hours, and increasing access to markets regardless of one geographical location (Thomas, 2008). It was also explained by Gbremedhin et al (2005) that trading on a commodity exchange is like a continuous two-way auction, in which offers to buy are going on simultaneously with offers to sell. This is possible because the graded product needs no description with a standardized contract and because there is sufficient volume of both buy and sell orders.

2.6.2. Clearing and Settlement Services

A clearing and settlement system that assures payment to sellers as well as minimizes overexposure of counterparties is essential. Financial institutions which are members of the exchange usually offer clearing services. Reliable and timely dissemination of such market information as would ensure informed decisions by various parties, local and regional, who intend to trade. Informed decisions are critical tomarket efficiency (Gideon, 2003).

Clearing is the process of determination of obligations, after which the obligations are discharged by settlement. Settlement is a two-way process that involves legal transfer of the title to funds and securities/other assets on the settlement date.The clearing bank services are a highly time critical activity as delays directly impact the members/exchange. Banks can play an important role in settlement of obligations in the overall ecosystem including exchanges, members, clients, custodians, etc. This is highly transactional nature of the business. Dedicated infrastructure, trained manpower, and use of technology are the key parameters to doing this business (Sahadevan, 2002).

And the banking settlement system plays a crucial role in the overall risk management of the exchange mechanism, wherein daily settlement of trades/obligations, ability to manage fund flows in volatile days, coordination with exchanges and members, etc contribute towards effective functioning of the exchange mechanism. Apart from clearing services, banks also provide fund and non-fund based facilities to the members of the exchange for managing their working capital requirements and, thus, earn revenues through float funds, interest earned on overdrafts/loans, commission income, etc.

All members of an exchange are required to clear their trades through the clearing house at the end of each trading session, and to deposit with the clearing house a sum of money (based on clearinghouse margin requirements) sufficient to cover the member‟s debit balance (Lerner,2000).

2.6.3. Market Information System

Market Information System is a very important part of any commodity exchange. Providing appropriate market information has paramount role to sustain increased production and improve the livelihood of smallholder farmers. Hence, having integrated marketing information system in a particular country plays decisive role in enhancing the performance of commodity exchange (Babcock, 1999).

According to Gebremedhin and Goggin (2005) the core attribute of an exchange, is to enhances market transparency through generating and disseminating information. Through its own functioning, the exchange creates market information about the underlying supply and demand conditions in the economy. Thus, contrary to popular perception, commodity exchange does not require an external market information system as a pre-requisite to its proper functioning.

A market information system is a service that involves the collection on a regular basis of informationon prices and, in some cases, quantities of widely traded agricultural products from rural assembly markets, wholesale and retail markets, as appropriate, and dissemination of this information on a timely and regular basis through various media to farmers, traders, government officials, policy-makers and others including consumers.

Market information helps potential buyers and sellers to make market decisions and gives them the assurance that the market is transparent and can handle their market needs. Once the market is established, market information is disseminated by word of mouth, as market user's travel to and from the market to other locations. As the market evolves, market information is also often carried by newspapers that are distributed within the market catchment area; today such information can also be disseminated by radio, TV, telephone links and via the web (Ibid).

2.6.4. Warehouse and Quality Grading System

Warehouse can be defined as a place in which goods or merchandise are stored; a storehouse. And the development of warehousing has positive knock-on effects up and down the supply chain. The warehouse receipt system (WRS) provides a platform for the introduction of other institutional innovations, notably grading, contracting and exchange trading. It facilitates public procurement as national and international agencies can simplify their activities by dealing in paper such as warehouse receipts, rather than trade directly in physical commodities. WRS is also a valuable instrument for financing agricultural commodity chains, especially in countries where the shortage of alternative forms of collateral constitutes one of the most important obstacles in access to finance. Warehouse receipts are issued by warehouse operators as evidence that specified commodities of stated quantity and quality have been deposited at particular locations by named depositors. The warehouse operator holds the stored commodity by way of safe custody; implying he is legally liable to make good any value lost through theft or damage by fire and other catastrophes but has no legal or beneficial interest in it (Gideon ,2010).

ECX quality certification is based on a modification of the existing quality grading system,with a new crop classification based on classes, types and grades of the commodity. Currently ECX has over 20 warehouse branches at different regions; namely Hawassa,Dilla,WolyitaSodo, Gimbi,Asossa, Nekemte, Adama, Gonder, Dansha, Metema, Hummera, Abirhajira, Shiraro, Dire Dawa, Kombolcha,Bedelle, Bonga, Jimma, Bure, and Pawi. The major roles of these warehouses are arrival, sampling,coding and decoding,grading, weighing, deposit, reconciliation, and reporting. For the transaction to be applied at the exchange, primary depositors should bring their commodity to their nearby branch so that the load shall be sampled, graded and weighted.

The quality of warehouse and storage management skills tends to be highly variable in most developing countries. Improving professional skillsin the warehousing industry is necessary if storage losses are to be kept at a minimum. Similartraining and capacity building is required to enable traders and processing companies to utilize the WRS in cost-effectively managing their inventories (

ibid).

2.6.5. Regulation

Commodity exchanges typically institute and robustly enforce relevant procedures, rules, regulations and guidelines to regulate the conduct of members, brokers and transactors. They are often able to take disciplinary action against parties in the event of non-compliance with the rules and procedures. They also tend to establish formal systems for quick and low cost resolution of trade disputes (Gideon O.E, 2003)

Government has two important role to play an oversight role by which the government disciplining those who try to manipulate the markets for their own benefit, and ensuring the sanctity of contracts; and secondly, an enabling role by which the government providing the necessary legal and regulatory framework for the smooth functioning of the system.The regulatory intervention should be most active at the time of the establishment of the exchange and of contracts. If the contracts are well formulated, and delivery modalities provide effective line of defense against attempts at manipulation, government has to only act as a watchdog intervening only when necessary. The goal of regulatory agency is not only to regulate but also to inculcate the culture of self-regulation among the participants. This in turn, over a period of time, will give way for more self-regulation supported by the advisory role of state regulation (Sahadevan, 2002)

2.7 EmpiricalLiterature

Gabremedhin and Ian Goggin, (2005) before the establishment of the ECX found that the Ethiopian grain markets faced some constraints such as; lack of sufficient market coordination between buyers and sellers, the lack of market information, the lack of trust among market actors, the lack of contract enforcement, and the lack of grades and standards, implies that buyers and sellers operate within narrow market channels, that is, only those channels for which they can obtain information and in which they have a few trusted trading partners and their concluding showed that establishing of a commodity exchange will eliminate constraints that the Ethiopian commodity market faced.

Poorly instituted modes of production (Zewdu et al., 2010), high marketing costs (Rashid et al. 2010), volatile prices (Gemech and Struthers, 2007), inadequatemarket infrastructure (Rashid etal 2010, Gabre-Madhin, 2009), and an unorganized commodity marketing approach (Gabre-

Madhin, 2009; Gemech and Struthers, 2007) are indicators of market inefficiency that significantly limit coffee growers' share from the value of exports and total earnings from the sector.

Tollens (2006) in his study cited that the absence of easily accessible market information for farmers or small traders leads to lack of market transparency, low bargaining power of the buyers and sellers, low and highly variable prices due to market inefficiency, coexistence of surplus and deficit areas due to weak spatial integration of markets, high risks, low produce quality and high losses, high transaction costs and insufficient production to satisfy consumer demand.

According to Gideon (2010) quality of warehouse and storage management skills tends to be highly variable in most African countries. Improving professional skills in the warehousing industry is necessary if storage losses are to be kept at a minimum. Similar training and capacity building is required to enable traders and processing companies to utilize the WRS in costeffectively managing their inventories.

According to the study made by Alemu et al (2010) limited availability of international market information in terms of prices and production levels, which is reflected in poor linkage / transmission of price trends with the national market, is expected to be another challenge considerably affecting the competitiveness of the Ethiopian sesame in the international market and this is expected to create disincentives for sesame exporters to engage in the sesame market

through ECX.

In addition Celeste Aida (2010) found that Internet and telecommunications in the ECX are still quite deficient (sometimes non- existent) to disseminate information to the participants. And as it is explained by Francesconi (2009) his study " Lack of capital, remoteness, poorly developed roads and telephone lines are only some of the barriers that keep farm households far away from markets, and therefore from the potential benefits of the ECX".

Gideon O.E (2010) found that "Liquidity in the agricultural trade can be enhanced if lenders aversion to the provision of inventory finance is addressed through the development of credible warehouse system which allows stored commodities to be used as collateral for loan".

Sarkar and Tozzi (1998), suggest that although open outcry systems were more effective to trade highly active contracts, electronic trading has the potential to enhance operational efficiency and reduce costs. In contrary to the above Tse and Zabotina (2001) found that electronic trading systems reduce spreads while open outcry systems have higher market quality due to smaller variance of pricing error and higher information content. Information content is measured by studying the bid-ask spreads in response to trades. In addition according Robin Thomas (2008) Electronic trading leads to reduced price movement, then it would lead to lower volatility and hence lower risk in the market. Shahidur et al (2010) found that Countries with successful exchanges have far more developed communications and/or transportation infrastructure than countries with less successful exchanges and the researchers added that the real challenge in African commodity exchange is not the development of grades but the enforcement of contracts that use those goods.

2.8. Market Efficiency Models

2.8.1. The Efficient Market Hypothesis (EMH)

Fama‟s definition of an efficient market to represent what is known in literatures as the "Efficient Market Hypothesis". Eugene Fama himself admitted that his definitional statement needs to specify in more detail the process of price formation in order to make the too general definitional statements a testable model.

Beaver (1981) belittled the difficulty to make the definitional statement a testable model as "*a pervasive phenomenon not unique to the efficient market literature*". Beaver argued that the fact that empirical investigations preceded the development of theories of market efficiency "*make the widely cited definitions of market efficiency conceptually incomplete and deficient in a fundamental sense*".

The efficient market framework is also criticized for inconsistency with some forecasting techniques usually used in economics and the validity of the hypothesis, thus, can only stand on the cost of the effectiveness of these techniques (Laffer & Ranson, 1978). In addition to this, after recognizing Fama‟s work to be influential Malkiel (2003) documented a challenge to the hypothesis from economist who stress behavioral and psychological elements especially in the

capital market. Answering all these critics induces the need to discuss the concept of market efficiency from its grass root.

2.8.2. The Expected Return or "Fair Game" Models

As discussed earlier, the definitional statement lacks empirical testability due to the too general wordings used to portray an efficient market. In an attempt to make a testable model and explain what is meant to "fully reflect" available information on market prices, there is a need to specify the price formation process. The first attempt to use the expected return or "Fair Game" models in market efficiency theory was rigorously studied by Mandelbrot (1966) and Samuelson (1965) both cited in Fama, 1970). Such theories would posit that conditional on some relevant information set, the equilibrium expected return is a function of its "risk". And different theories would then differ primarily on how "risk" is defined.

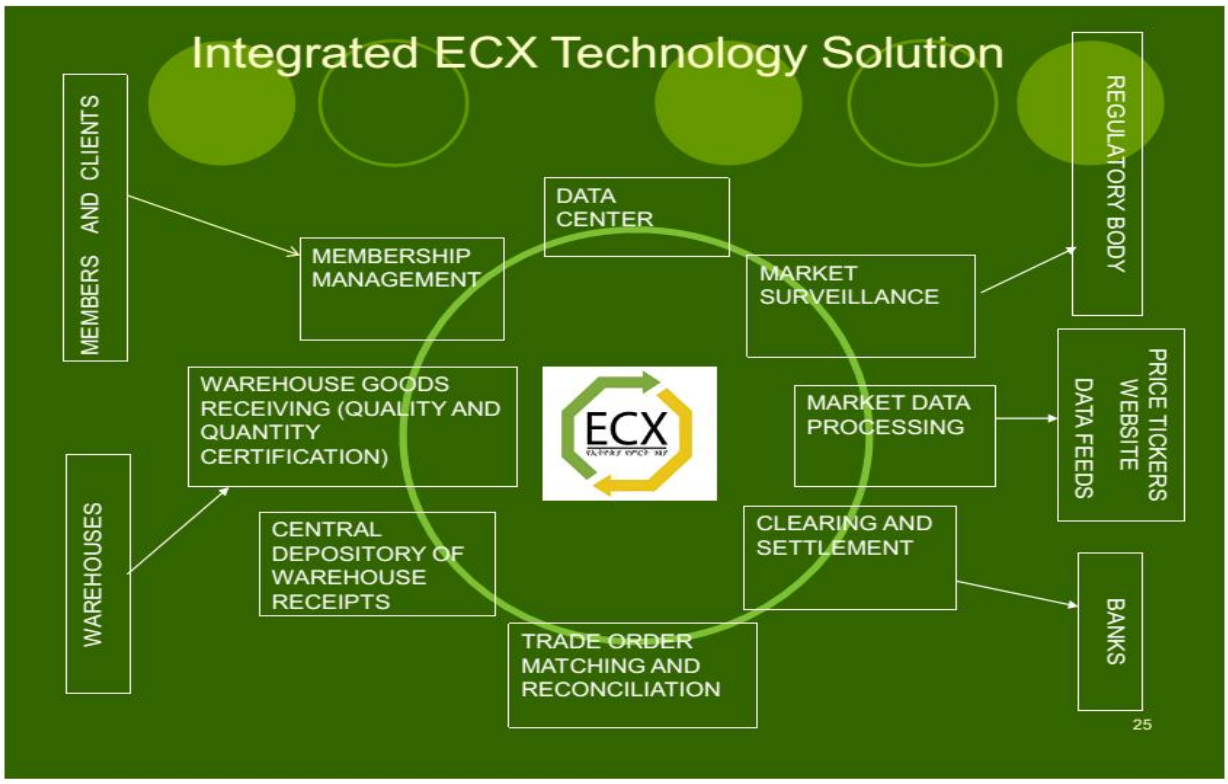
The model summarized by as the "fair game" model, are implications of the assumptions that:

I. The conditions of market equilibrium can be stated in terms of expected returns, and

II. The information is fully utilized by the market in forming equilibrium expected returns and thus current prices

These two assumptions have a major empirical implication i.e. they rule out the possibility of trading system that have expected returns in excess of equilibrium expected returns

2.8.3. The ECX Model



Source: Ethiopian Commodity Exchange

Fig.1 Ethiopia commodity exchange modele

2.9. conceptual framework

In an efficient market model the statement that current price "fully reflects" available information is assumed to imply that successive price changes are independent and are identically distributed. These two premises together constitute the random walk model (Fama,1970).As a result conceptual framework is developed using the following parameter those are Market Information, regulation, trading system , Clearing & Settlement and wearehouse.

The student resercher has prior observation that there is limitation of markating efficency of ECX though this might be supported or rejected by the studey. If there is markate inefficent, it

may be caused by different factor. Hence from the review of litrature and experience one can propose the following variable that might cause markate inefficent.

The conceptual framework of the research looks likethe following;

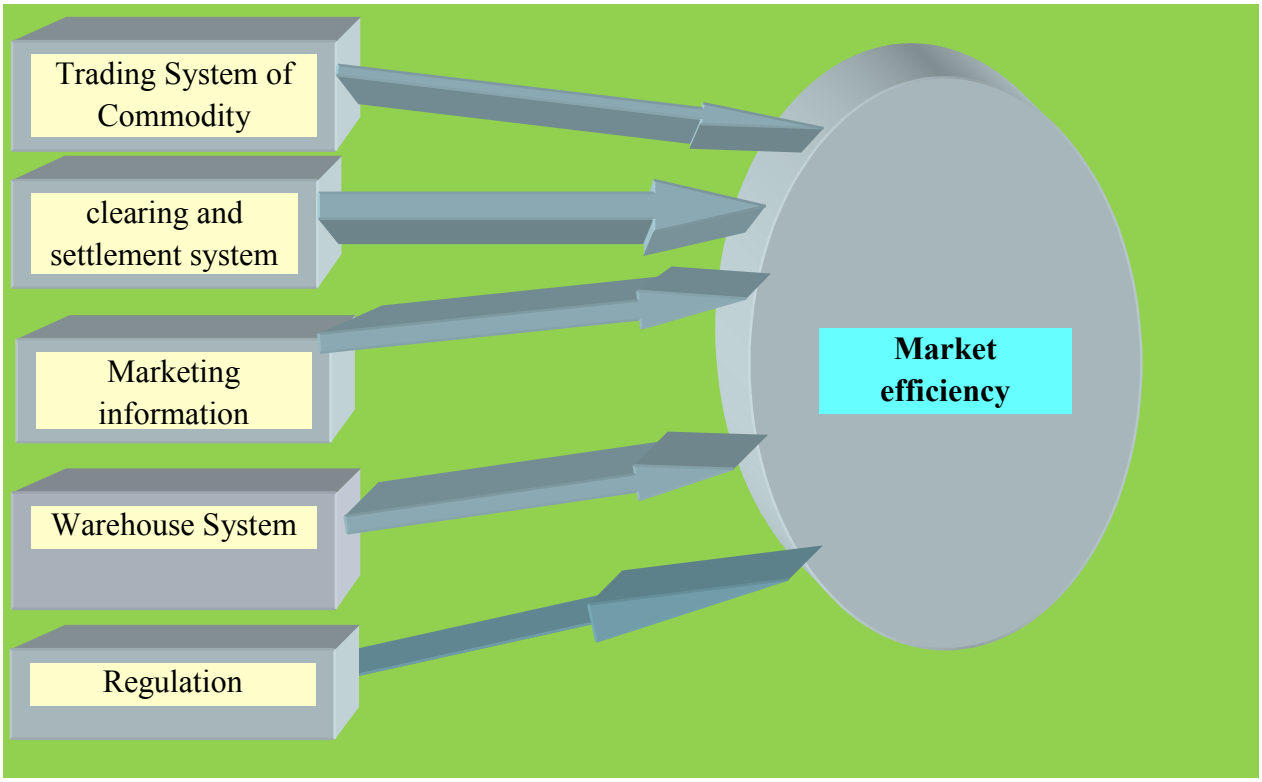


Fig2. **A Conceptual Framework**

Source: Source: Adopted form random walks (Eugene Fama1970) . The Three Forms of Efficient Market Hypothesis: The Weak Form of EMH, The Semi-strong Form of EMH and The Strong Form of EMH by Fama (1970), Model of information mapping developed by (Heeks & Alemayehu.

2.10. Research Hypotheses

At this point it is imperative to state clearly what kind of result are expected from the study and it is necessary to explicit about any assumption the research method rests up on. The factors affect market efficiency of ECX might have multiple roots or single root.

Trading system of commodity exchanges when the movement towards electronic trading has taken place in recent years. This has been driven by technological advances and by the

advantages in speed, cost, transparency and functionality that such trade typically offers over the established "open outcry" form of trading, which brings traders together on a trading floor. And in addition Computer technology has the potential to increase the efficiency, transparency, and liquidity of the commodity markets by increasing the speed of transactions and lowering transaction costs. Electronic trading typically brings a number of other potential advantages. These include limiting informational asymmetries between trading interests, allowing potentially longer trading hours, and increasing access to markets regardless of one geographical location (Thomas, 2008).

H1. Trading System of Commodity Exchanges has a positive & significant effect on market efficiency of ECX.

A clearing and settlement system that assures payment to sellers as well as minimizes overexposure of counterparties is essential. Financial institutions which are members of the exchange usually offer clearing services. Reliable and timely dissemination of such market information as would ensure informed decisions by various parties, local and regional, who intend to trade. Informed decisions are critical to market efficiency (Gideon, 2003).

Clearing is the process of determination of obligations, after which the obligations are discharged by settlement. Settlement is a two-way process that involves legal transfer of the title to funds and securities/other assets on the settlement date. The clearing bank services are a highly time critical activity as delays directly impact the members/exchange. Banks can play an important role in settlement of obligations in the overall ecosystem including exchanges, members, clients, custodians, etc. This is highly transactional nature of the business. Dedicated infrastructure, trained manpower, and use of technology are the key parameters to doing this business (Sahadevan, 2002).

H2. A clearing and settlement system has a positive & significant effect on market efficiency of ECX.

Market Information System according to Gebremedhin and Goggin (2005) the core attribute of an exchange, is to enhances market transparency through generating and disseminating information. Through its own functioning, the exchange creates market information about the underlying supply and demand conditions in the economy and market information system is a

service that involves the collection on a regular basis of information on prices and in some cases, quantities of widely traded agricultural products from rural assembly markets, wholesale and retail markets, as appropriate, and dissemination of this information on a timely and regular basis through various media to farmers, traders, government officials, policy-makers and others including consumers market information helps potential buyers and sellers to make market efficent.

H3. Marketing information has a positive & significant effect on market efficiency of ECX.

Warehouse System a place in which goods or merchandise are stored; a storehouse. And the development of warehousing has positive knock-on effects up and down the supply chain. The warehouse receipt system (WRS) provides a platform for the introduction of other institutional innovations, notably grading, contracting and exchange trading. It facilitates public procurement as national and international agencies can simplify their activities by dealing in paper such as warehouse receipts, rather than trade directly in physical commodities. Warehouse receipts are issued by warehouse operators as evidence that specified commodities of stated quantity and quality have been deposited at particular locations by named depositors. The warehouse operator holds the stored commodity by way of safe custody; implying he is legally liable to makegood any value lost through theft or damage by fire and other catastrophes but has no legal or beneficial interest in it.

The quality of warehouse and storage management skills tends to be highly variable in most developing countries. Improving professional skillsin the warehousing industry is necessary if storage losses are to be kept at a minimum.

H4. Warehouse System has a positive & significant effect on market efficiency of ECX.

Contracts of commodity exchange is most commodity markets across the world trade in agricultural products and other raw materials (such as wheat, barley, sugar, maize, cotton, cocoa, coffee, milk products, pork bellies, oil, metals) and contracts based on them.

Commodity exchanges usually trade futures contracts on commodities, such as trading contracts to receive something and it protects the farmer (seller) from price drops and the buyer from price

rises. By offering standardized contracts, the exchange makes it easier, cheaper, and less risky for unknown partners to trade with each other.

H5. **Regulation** has a positive & significant effect on market efficiency of ECX.

Chapter Three

3. Reserch methodology

3.1. Research Approach

Research design is a plan and procedure for the researches that span the decision from broad assumption to detail methods of data collection and of three types qualitative, quantitative and mixed methods (Creswell john W, 2009).

According to Kothari (2004*)* Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In the study the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them.

Quantitative methods are research techniques mainly dealing with numbers and measurable features. Whereas qualitative methods allow for smaller samples and are more interested in the depth of the data, quantitative methods tolerate larger samples and make generalization easier.

Bryman (2001) also emphasizes that qualitative methods tend to be associated with words as unit of analysis, where as quantitative methods tend to be linked with numbers.

Generally, quantative approach was used to employing survey questionnaire. So the study was used quantitative methods of approach on factors that affect markating efficency of ECX.

3.2. Research Design

Research design is a plan and procedure for the researches that span the decision from broad assumption to detail methods of data collection and of three types qualitative, quantitative and mixed methods (Creswell john W, 2009).

The study was employing both descriptive and explanatory techniques in order to describe factor that affect marketing efficiency of ECX. Descriptive research includes surveys and fact-finding enquiries of different kinds.

The major purpose of descriptive research is description of the state of affairs as it exists at present. In this case, describing the factors that affect marketing efficiency of ECX.

The major purpose of descriptive research, as the term implies to describe characteristics of a population or phenomenon while explanatory research design focuses on studying the relationship between variables. It is to use explanatory design to examine the determining factors.

3.3 Source of Data

The source of data for this study was comprised primary sources. According to Kothari (2004), primary data are those collected fresh and for the first time and thus happen to be original in character. Primary data source was collect through employing questionnaire to identify the main factor affect marketing efficiency of the ECX.

3.4. Data collection method

A self-administer questionnaire was distribute to around 186 ECX members in order to find out the factors that affect marketing efficiency of ECX. The respondent of ECX answer the questionnaire distributed.

Questioners were the main instrument of data collection method. After all questioners results were collected then data analysis takes place.

3.5 Sampling Design

Sampling design is the selection of a part of population or a material to represent the whole population. The objective of sampling is to make correct inference about the aggregate and is only justify. The select part the sample population is a true representative of the main population.

3.5.1. Population of the study

Population is defined as the complete set of units of analysis that are under investigation, while element is the unit from which the necessary data is collected (Davis 2000, pp. 220).

The target population for the purpose of this study was marketing membership (trading Members and intermediary members) of ECX.

Considering the manageability of data, budget, time and resources availability, the target population was limit in Addis Ababa.

The ECX participants include in the sample was those commodities actors such as buyers, sellers and exporters of coffee, sesame, haricot bean, maize, and wheat which are the legal members of the ECX.

Therefore, the target population of the research was all members in ECX have **347** members (Intermediary **323** and Trading **24**).

3.5.2. Sampling Technique

(Kothari, 2004) stated the researcher must decide the type of sample he was use i.e. he must decide about the technique to be used in selecting the item for sample.

With regards to sampling techniques, random sampling was used to select the sample from the total population of all members who are trading mandating commodities.

3.5.3. Sample Size

From the total study population of 347 ECX members, which was categorize as **trading** members and **Intermediary** members of the ECX, engage in buying, selling and exporting of commodities in ECX.

Calculating the sample size was determined by the calculation method Using taro Yamane (1967) simplified formula to calculate, the sample size for the study.

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

Where n= the sample size

N= the size of the population and

e= the is the level of precision.

$$n = \frac{347}{1+347\,(0.05)^2}$$

$$= 186$$

Therefore, samples of one hundred eighty six members from the total members were taken as representative sample as per the formula developed by Taro Yamane.

3.5.4. Data collection procedure

Self- administer questionnaires was distributed to around 186 ECX members in order to find out the factors that affect marketing efficiency of ECX.

The Amharic version of the questionnaire was delivered for those respondents who have low command of the English language. After the translation was done, the researcher has modified the questionnaire when necessary.

The questionnaire consists of 2 sections. Section1 has surveying about the general information of the respondent. The questions ask about the gender, age and education.

In Section 2, there are questions that surveying respondents on the factors that affect marketing efficiency of ECX.

From the working model and theoretical frame work, questioners were developed. After testing the questioners and correcting errors in developing, the questioners were distributed randomly to 186 respondents.

Respondents were asked to indicate their degree of agreement with each of the items on five point Likert scale.

Respondents perception were measured by requesting respondents to indicate, on a five -point Likert- scales, anchored on,,,,1 = strongly disagree,,,,2 = disagree,,,,3 = neutral,,,,4 = agree,,,,5 = strongly agree.

After giving reasonable time for the respondents, questioners were collect and analyze using SPSS 21 version.

3.6. Method of Data Analysis

Data analysis is the process of systematically applying statistical and logical techniques to describe and illustrate, condense and recap, and evaluate data.

The researcher used both descriptive statistics and multiple linear regression analysis method to analyze the data obtained from primary sources. The result of Descriptive statistics (mean standard deviation, frequency) is useful in providing information and detecting normality of the

collected data. The researcher used multiple linear regression analysis to examine the relationship between dependent and independent variables and also Correlation analysis was used to measure linear association relationship between variables, their coefficient indicates the strength of linear association between two variables and SPSS version 21 was used to analyze the data.

3.7. Description of variables

Based on the conceptual framework of this study there are two main categories of variable i.e. dependent and independent variable.

Marketing efficiency is dependent variable because it might be affected by clearing and settlement system, regulation , trading system of commodity exchanges, marketing information, warehouse and quality grading system.

Clearing and settlement system; is independent variable because poor in clearing and settlement system can result in market inefficiency.

Regulation; is independent variable because poor market regulation system can result in market inefficiency.

Trading system of commodity exchanges; is independent variable because poor trading system of commodity exchanges can result in market inefficiency.

Marketing information; is independent variable because inadequate marketing information of commodity exchanges can result in market inefficiency.

Warehouse and quality grading system; is independent variable because poor warehouse management and quality grading system of commodity exchanges can result in market inefficiency.

3.8. Reliability and Validity Analysis

3.8.1. Reliability

Reliability is the degree to which the measure of a construct is consistent or dependable

(Bhattacherjeend, 2012, p.57). For this study Cronbach's alpha has used to assess the internal consistency of variables in the research instrument. It is a reliability coefficient that indicates how well the items in a set are positively related to one another. In addition to these structured questionnaires with likert-scale would be used to remove unstructured answers.

Moreover, Cronbach's alpha is a coefficient of reliability used to measure the internal consistency of the scale; it represented as a number between 0 and 1 and items which scored above the acceptable value were retained. Out of the 186 copies of questionnaires sent out 170 questionnaires were completed and returned. As per Tavakol & Dennick (2011) if a test has more than one concept or construct, it may not make sense to report alpha for the test as a whole as the larger number of questions will inevitable inflate the value of alpha. In principle therefore, alpha should be calculated for each of the concepts rather than for the entire test or scale. According to Zikmund et al., (2010) scales with coefficient alpha between 0.6 and 0.7 indicate fair reliability, a Cronbach's alpha score of .70 or higher are considered as adequate to determine reliability.

As indicated below table, the coefficients for all other variables are greater than or equal to 0.7 show higher are considered as adequate to determine reliability.

Table3. 1; Reliability result

Name of Variables		Cronbach‟s Alpha
Dependent variable	Marketing efficiency	0.84
Independent variables	Trading System of Commodity Exchanges	0.75
	clearing and settlement system	0.81
	Marketing information	0.79
	Warehouse and Quality Grading System	0.80
	Regulation	0.76

(Source: Researcher's survey, 2019)

3.8.2 Validity analysis

According to Saunders, et al. (2009), Validity is soundness or rationality; whether the findings are really about what they appear to be or the degree to which results obtained from the analysis of the data actually represents the phenomena under study. The validity of data gathering instrument is confirmed by the ability & willingness of the respondents to provide the information requested.

In order to make the questionnaire valid, relevant & objective to problem, It was properly commented by the advisor, and it also tested on available respondents, and based on the issues which were not properly clear by the respondents were corrected and refined.

3.9 Ethical consideration

The study is free from bias as the researcher used data from respondent which was collected according to their willing. To keep the confidentiality of respondent they were not invited to write their name and address and to assure the confidentiality. According to Saunders et al., (2001, p.130) “Ethics refers to the appropriateness of your behavior in relation to the

rights of those who become the subject of your work, or are affected by it". In this study, the researcher has followed all the ethical procedures. The participants in the study were selected with full consent and informed to respond for questionnaires with confidence and understanding the purpose of the thesis and the researcher has reassured that the collected information will be kept confidential.

Chapter four; Data analysis and discussion

4.1. Data Analysis and interpretation

4.1.1 Rates of response

The study had initially targeted 186 respondents, 170 respondents filled and returned their questionnaires thus constituting 91.39% response rate, while 16 of the respondents didn't respond and never returned the questionnaires and constituted 8.6% non-response rate. This collaborate Zikmund (2003) assertion that a response rate of 50% is adequate, while a response rate greater than 70% is very good. This implies that based on this assertion; the response rate in this case of 91.39% was very good and facilitated collection of data on variability perspective of the different respondents of the Ethiopian Commodity Exchange members.

This chapter presents the data analysis and discussions on findings to test stated hypotheses. Data were collected from the ECX. The collected data are statistically treated in order to discover the relationship of the variables involved in the study.

4.1.2 Demographic profiles of respondents;

The first part of the questionnaire consists of the demographic characteristics of respondents. This part of the questionnaire requested a limited amount of information related to personal and demographic status of the respondents.

Accordingly, the following variables about the respondents were summarized and described in the subsequent table. These variables include; gender, education level, age and occupation.

Gender of the Respondents

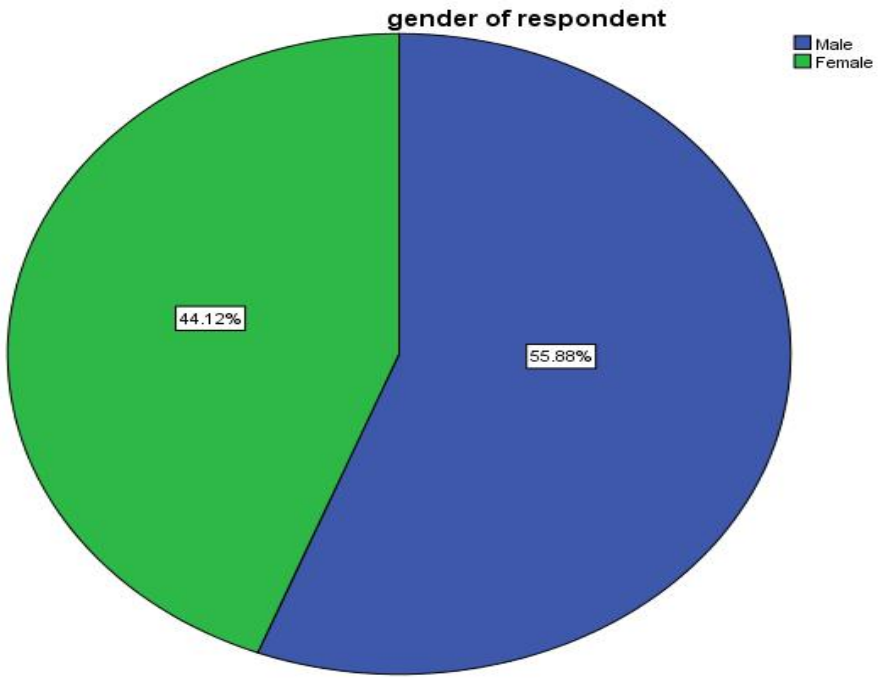


Fig.3 Gender of the Respondents

Source: Researcher's survey data (2019)

Out of the 170 respondents, 55.9% were male and 44.1% were female. This shows the number of male respondents in the ECX greater than female respondents.

Table4.1; Age of the respondent

age	Frequency	Percent	Valid Percent	Cumulative Percent
18-30	103	60.6	60.6	60.6
31-59	67	39.4	39.4	100.0
Total	170	100.0	100.0	

Source: Researcher's survey data (2019)

Most of the respondents that are 60.6% age 18-30 and 39.4 % of the respondents

Age 31-59. This survey indicates that most of ECX respondents are young.

Table 4.2; Academic Qualification of the respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
1-8th grade	6	3.5	3.5	3.5
9-12th grade	16	9.4	9.4	12.9
diploma	44	25.9	25.9	38.8
degree	98	57.6	57.6	96.5
Postgraduate and above	6	3.5	3.5	100.0
Total	170	100.0	100.0	

Source: Researcher's survey data (2019)

The above table portrays with regard to educational level of respondents, the highest number are the one who finished first degree which comprising 57.6% of the respondent, followed by 25.9% of the respondents who have diploma, less than high school which constitute 3.5% and master degree and above who have 3.5%. This survey indicate that most of respondent in the ECX who have degree and diploma respectively.

Table 4.3; **Occupation of respondent**

	Frequency	Percent	Valid Percent	Cumulative Percent
Government employee	5	2.9	2.9	2.9
private sector	151	88.8	88.8	91.8
merchant	14	8.2	8.2	100.0
Total	170	100.0	100.0	

Source: Researcher's survey data (2019)

The highest percentage of respondents 88.8% were from private sector employee and followed 8.2% from merchant and 2.9% from government employee. This survey indicates that most of respondent were from private sector.

4.1.3. Data analysis related with Descriptive statistics of frequency

Table 4.4; ECX member's responses on market information affect the marketing efficiency of ECX.

	access to market related information (MI)		Quickly understand and interpret the information displayed by ECX(MI2)		satisfied with the accuracy of market information provided by ECX (MI3)		Satisfied with the accessibility of market information provided by ECX. (MI4)	
	Fr	%	Fr	%	Fr	%	Fr	%
Strongly disagree	10	5.9	8	4.7	7	4.1	13	7.6
Disagree	6	3.5	11	6.5	13	7.6	22	12.9
Neutral	45	26.5	39	22.9	34	20	50	29.4
Agree	59	34.7	63	37.1	67	39.4	53	31.2
Strongly agree	50	29.4	49	28.8	49	28.8	32	18.8
Total	170	100	170	100	170	100	170	100

Source; Researcher's survey data (2019)

Table5; ECX member's responses on market information affect the marketing efficiency of ECX.

The ECX member's response tables indicate that from the entire 170 (100%) respondent, 50(29.4%) of them strongly agreed, 59 (34.7%) agreed, 45 (26.5%) of them became neutral that in ECX's, 6 (3.5%) disagreed and10 (5.9%) strongly disagree that their company access to market related information affect the marketing efficiency.

In terms of degree of agreement show that for all 680 (100%) times aspect of market information affect marketing efficiency quantity asked, aspect of 180 (26.47%) times strongly agreed , 242(35.59%) times agreed, 168 (24.7%) times neutral, 52(7.65%) times disagree, 38 (5.59%) times strongly disagree. Though degrees of agreement differ of all 680 (100%) times asked 422 (62.06%) agreed in market information affect the marketing efficiency and 258 (37.94%) times never agreed in its presence.

Table4.5; ECX member's responses on warehousing affect the marketing efficiency of ECX

	ECX warehouses are adequate enough to accommodate all the requests from members. (WH1)		The quality of the warehouse service provided by ECX are satisfactory (WH2)		The ECX warehouse storage cost fair and affordable (WH3)		The ECX warehouse provides timely service (WH4)		The ECX warehouse is secured from risky casualties like theft and fire (WH5)		Satisfied with the grading and sampling system of the ECX. (WH6)	
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
Strongly disagree	31	18.2	46	27.1	15	8.8	20	11.8	20	11.8	44	25.9
Disagree	47	27.6	35	20.6	41	24.1	34	20	26	15.3	47	27.6
Neutral	49	28.8	53	31.2	54	31.8	49	28.8	58	34.1	45	26.5
Agree	38	22.4	30	17.6	50	29.4	56	32.9	46	27.1	31	18.2
Strongly agree	5	2.9	6	3.5	10	5.9	11	6.5	20	11.8	3	1.8
Total	170	100	170	100	170	100	170	100	170	100	170	100

Source; **Researcher's survey data (2019)**

The ECX member's response tables indicate that from the entire 170 (100%) respondent, 5(2.9%) of them strongly agreed, 38 (22.4%) agreed, 49 (28.8%) of them became neutral that in

ECX's and 47 (27.6%) disagreed that their company warehouses are adequate enough to accommodate all the requests from members affect the marketing efficiency.

In terms of degree of agreement for all 1020 (100%) times aspect of warehousing and grading affect marketing efficiency quantity asked, aspect of 55 (5.4%) times strongly agreed , 251(24.6%) times agreed, 308 (30.2%) times neutral, 230 (22.54%) times disagree, 176 (17.25%) times strongly disagree. Though degrees of agreement differ of all 1020 (100%) times asked 306 (30%) agreed in warehousing system the marketing efficiency and 714 (70%) times never agreed in its presence.

Table4.6; ECX member's responses on trading system affect the marketing efficiency of ECX

	Trading system of ECX use standardized specification in efficient way (TS1).		The ECX trading system provide performance guarantee if any default occurs (TS2).		The ECX trading system fulfills to client's need (TS3).		ECX applies well designed technology for proper trading system (TS4).		Satisfied with trading system of ECX (TS5).		The transaction cost of the ECX trading system is expensive (TS6).	
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
Strongly disagree	18	10.6	28	16.5	18	10.6	6	3.5	14	8.2	25	14.7
Disagree	32	18.8	38	22.4	41	24.1	14	8.2	34	20	39	22.9
Neutral	46	27.1	52	30.6	43	25.3	22	12.9	34	20	41	24.1
Agree	47	27.6	44	25.9	57	33.5	73	42.9	66	38.8	38	22.4
Strongly agree	27	15.9	8	4.7	11	6.5	55	32.4	22	12.9	27	15.9
Total	170	100	170	100	170	100	170	100	170	100	170	100

Source; **Researcher's survey data (2019)**

The ECX member's response tables indicate that from the entire 170 (100%) respondent, 27(15.9%) of the them strongly agreed, 47 (27.6%) agreed, 46 (27.1%) of them became neutral that in ECX's and 32 (18.8%) disagreed and18 (10.6%) times strongly disagree that their

company trading system of ECX use standardized specification for grade, lot size, delivery, payment in efficient way affect the marketing efficiency.

In terms of degree of agreement for all 1020 (100%) times aspect of trading system affect marketing efficiency quantity asked, aspect of 150 (14.7%) times strongly agreed , 325(32%) times agreed, 238 (23.30%) times neutral, 198 (19.41%) times disagree, 109 (10.69%) times strongly disagree. Though degrees of agreement differ of all 1020 (100%) times asked 475 (46.57%) agreed in trading system affect the marketing efficiency and 545 (53.43%) times never agreed in its presence.

Table4.7; ECX member's responses on regulation system affect the marketing efficiency of ECX.

	The ECX regulation to reduce risk for default (REG1)		The ECX regulation helps to enforce contract performance (REG2)		The ECX regulation helps to ensures that clearing and settlement are made on time (REG3)	
	Fr	%	Fr	%	Fr	%
Strongly disagree	16	9.4	6	3.5	5	2.9
Disagree	29	17.1	20	11.8	5	2.9
Neutral	41	24.1	22	12.9	29	17.1
Agree	59	34.7	81	47.6	74	43.5
Strongly agree	25	14.7	41	24.1	57	33.5
Total	170	100	170	100	170	100

Source; **Researcher's survey data (2019)**

The ECX member's response tables indicate that from the entire 170 (100%) respondent, 25(14.7%) of them strongly agreed, 59 (34.7%) agreed, 41(24.1%) of them became neutral that in ECX's and 29 (17.1%) disagreed and16 (9.4%) strongly disagree that their company ECX regulation system to reduce risk for default affect the marketing efficiency.

In terms of degree of agreement for all 510 (100%) times aspect of regulation system affect marketing efficiency quantity asked, aspect of 123 (24.11%) times strongly agreed , 214(41.96%) times agreed, 92 (30.2%) times neutral, 54 (10.59%) times disagree, 27 (5.29%) times strongly disagree. Though degrees of agreement differ of all 510 (100%) times asked 337 (66.07%) agreed in regulation system affect the marketing efficiency and 173 (5.58%) times never agreed in its presence.

Table4.8; ECX member's responses on clearing and settlement system affect the marketing efficiency**.**

	The ECX clearing and settlement system provides satisfactory service (CSS1)		ECX assure payment to seller (CSS2)		The clearing and settlement system is equipped with adequate infrastructure. (CSS3)		The ECX clearing and settlement system provides timely service. (CSS4)		The ECX clearing system efficiently matches up buy and sell order. (CSS5)	
	Fr	%	Fr	%	Fr	%	Fr	%	Fr	%
Strongly disagree	8	4.7	9	5.3	3	1.8	8	4.7	7	4.1
Disagree	14	8.2	13	7.6	18	10.6	23	13.5	13	7.6
Neutral	43	25.3	46	27.1	39	22.9	38	22.4	38	22.4
Agree	68	40	59	34.7	71	41.8	66	38.8	85	50
Strongly agree	37	21.8	43	25.3	39	22.9	35	20.6	27	15.9
Total	170	100	170	100	170	100	170	100	170	100

Source; **Researcher's survey data (2019)**

The ECX member's response tables indicate that from the entire 170 (100%) respondent, 37(21.8%) of them strongly agreed, 68 (40%) agreed, 43 (25.3%) of them became neutral that in ECX's and 14 (8.2%) disagreed that their company ECX clearing and settlement system provides satisfactory service affect the marketing efficiency.

In terms of degree of agreement for all 850 (100%) times aspect of the ECX clearing and settlement system affect marketing efficiency quantity asked, aspect of 181(21.29%) times strongly agreed , 349(41.05%) times agreed, 204 (24%) times neutral, 81 (9.52%) times disagree, 35 (4.11%) times strongly disagree. Though degrees of agreement differ of all 850 (100%) times asked 530 (41.27%) agreed in clearing and settlement system affect the marketing efficiency and 320 (37.64%) times never agreed in its presence.

Table4.9. Summary descriptive statistics by mean and std.Devation

	Mean	Std. Deviation	N
MI	12.2338	2.74955	170
WHG	14.6804	4.22647	170
TS	16.7147	4.25222	170
ME	16.3588	2.75078	170
REG	8.3922	2.19717	170
CSS	18.9376	4.33547	170

Source; Researcher's survey data (2019)

The clearing and settlement indicated the highest mean of =18.9376 which indicate that clearing and settlement has greater effect on the marketing efficiency, followed by trading system=16.7147, Warehouse system =14.6804, marketing information= 12.2338 and regulation =8.3922 the least value the mean which indicate that less effect on the marketing efficiency. With this mean result of analysis, each independent variables impact on the marketing efficiency of dependent variable.

The clearing and settlement indicated the highest Std. Deviation of =4.33 which indicate that clearing and settlement has greater effect on the marketing efficiency, followed by trading system=4.25, Warehouse system =4.2, marketing information= 2.7 and regulation =2.19 the least value of the Std. Deviation which indicate that less effect on the marketing efficiency. With this Std. Deviation of result analysis, each independent variables impact on the marketing efficiency of dependent variable.

4.2. Inferential Statistics

4.2.1 Correlation Analysis

This study employs correlation analysis, which investigates the strength of the relationships between the studied variables.

Correlations are perhaps the most basic and most useful measure of association between two or more variables (Marczyk, Dematteo and Festinger, 2005).

General guidelines of correlations of .01 to .03 are considered small, correlations of 0.3 to 0.7 are considered moderate, correlations of 0.7 to 0.9 are considered large and correlations of 0.9 to1.00 are considered to be very large (Marczyk, Dematteo and Festinger, 2005).

Depending on these assumptions, all basic constructs were included into the correlation analysis and a bivariate two tailed correlation analysis was done.

The table below shows the Pearsons correlation coefficient between the five independent variable and dependent variable which are found using the SPSS 21.

Table4.10: **Correlation between dependent and independent variables**

		MI	WHG	TS	ME	REG	CSS
MI	Pearson Correlation	1	.440**	.641**	.353**	.490**	.604**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	170	170	170	170	170	170
WHG	Pearson Correlation	.440**	1	.580**	.128	.415**	.379**
	Sig. (2-tailed)	.000		.000	.096	.000	.000
	N	170	170	170	170	170	170
TS	Pearson Correlation	.641**	.580**	1	.365**	.708**	.558**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	170	170	170	170	170	170
ME	Pearson Correlation	.353**	.128	.365**	1	.378**	.506**
	Sig. (2-tailed)	.000	.096	.000		.000	.000
	N	170	170	170	170	170	170
REG	Pearson Correlation	.490**	.415**	.708**	.378**	1	.638**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	170	170	170	170	170	170
CSS	Pearson Correlation	.604**	.379**	.558**	.506**	.638**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	170	170	170	170	170	170

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

(Source: Researcher's survey, 2019)

As per **table** 4.10 above, the coefficients show that the four factors that affect marketing efficiency were all positively correlated all were significant at P= 0.01 level. The independent variable Warehouse system is not significant at the 0.01 level because sig. (2-tailed) is equal to (.096) > 5%

Out of the five independent variables, market information showed a moderate positive relation (.353**) with marketing efficiency while Warehouse system showed a small level of positive relation (.128) with the marketing efficiency, trading system of commodity exchange showed a moderate level of positive relation (.365**) with the marketing efficiency. The rest two variables namely regulation, clearing and settlement system show moderate level of positive relation of .378**and .506**respectively.

Table 4.10 also shows the correlation of the independent variables within themselves. It can be noted that all variables are positively correlated with each other where the moderate correlation goes to the one between clearing and settlement system and regulation (p= .638**) while the correlation is moderate between regulation and trading system (p= .708**).

Warehouse and quality grading system also has a moderate with market information (p= .440**).

4.2.2 Test for Linear Regression Model Assumptions

4.2.2.1 Test of normality of the Data

Among the others, one of the assumptions was normality of the data should be tested before running the analysis of the data using Skewness and Kurtosis.

According to Fieled (2005), normally distributed data assumed that the data are from one or more normally distributed populations.

The rationale behind hypothesis testing relies on having normally distributed populations and so if these assumptions are not met then the logic behind hypothesis testing is flawed. Therefore, value of S (Skewness) and K (Kurtosis) and their respective standard errors were computed. An absolute value between -2 and +2 score for Skewness and Kurtosis is expected to be significant at $p < 0.05$. Large sample will give rise to small standard errors and so when sample sizes are big, significant values arise from even small deviations from normality for both skewness and Kurtosis (Fieled, 2005)

Table 4.11 Skewness and Kutosis for normality of data

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
MI	170	-.475	.186	.030	.370
WHG	170	-.217	.186	-.354	.370
TS	170	-.462	.186	-.188	.370
ME	170	-.558	.186	.972	.370
REG	170	-.566	.186	-.025	.370
CSS	170	-.360	.186	-.051	.370
Valid N (listwise)	170				

(Source: Researcher's Survey, 2019)

As we can see from table4.11 above all the absolute values of Skwness and the kurtosis are between -2 and +2.

4.2.2.2 Normality Assumption

Normality of a data should be tested before running the regression analysis because multiple regressions require that the independent variables in the analysis be normally distributed.

From the Histogram figure below it can be noted that the distribution is normal curve, demonstrating that data witnesses to the normality assumption. As the assumption holds as the histogram was a bell- shaped and the residuals were normally distributed around its mean of zero which indicates that the data were normally distributed, and the inferences made about the population parameters from the sample statistics tend to be valid.

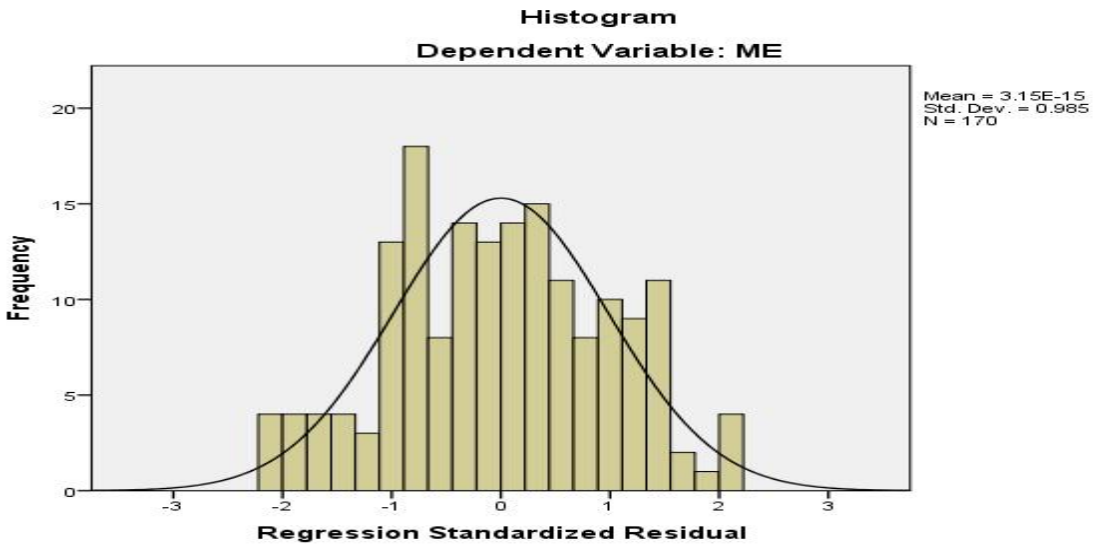


Fig4. Histogram for Normality Test of the Data

(Source: Researcher's Survey, 2019)

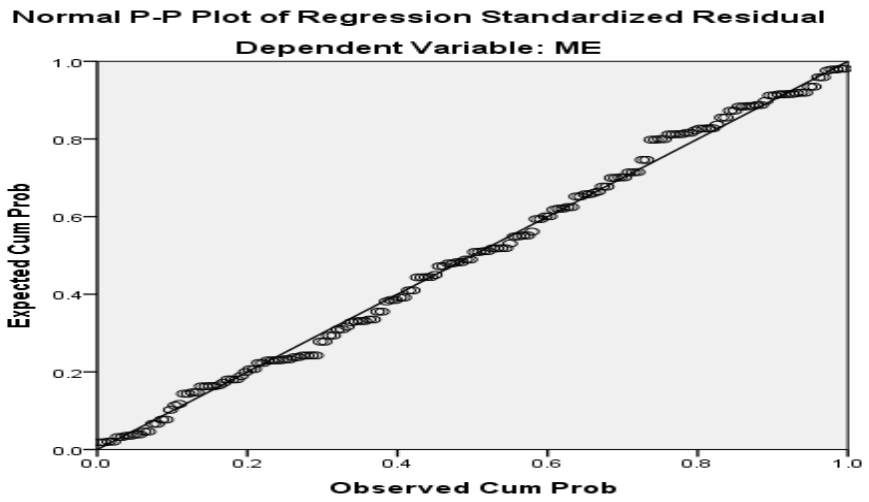


Fig. 5 Normal P-P plot for normality

(Source: Researcher's Survey, 2019)

Now scroll all the way down to the normal P-P plot. When see a diagonal line and a bunch of little circles. Ideally, the plot becomes look like the figures above. If the data is not normal, the little circles will not follow the normality line. Due to this reason the researcher data become normal.

4.2.2.3 Multicollnearity Test Assumption

In regression, multicollinearity occurs when independent variables in the regression model are more highly correlated with each other than with the dependent variable. When the independent variables the regression model is highly correlated with one another; they are basically measuring the same thing. In other words, when two variables are highly correlated, they both communicate essentially similar information. One way to assess multicollinearity is to examine correlations among the independent variables.

Hair et al. (2006) argued that correlation coefficient below 0.90 may not cause serious multicollinearity problem, cited by Muhammed (2012).

Multicollinearity can be detected using tolerance value and variance inflator factor (VIF) value.

Multicollinearity does not exist among all the independent variables provided that the tolerance value of all the independent variables was greater than 0.1 and the VIF values of all the independent variables are also less than 10.

As you can see from **table 4.12** below all independent variables are greater than 0.1 tolerance value and the VIF value of all the independent variables are also less than 10 due to this Multicollinearity does not exist.

Table 4.12 Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
1	MI	.491	2.036
	WHG	.654	1.529
	TS	.334	2.995
	REG	.407	2.455
	CSS	.480	2.085

(**Source: Researcher's survey, 2019**)

4.2.2.4 Homoscedasticity assumption

Means that the variance around the regression line is the same for all variables. This is also known as homogeneity of variance. The assumption could be checked using scatter plot between residual and predicted or independent variable.

Below graph show that the assumption that the variation in the residuals (or amount of error in the model) is similar at each point of the model. As the predicted values increase (along the X-axis), the variation in the residuals should be roughly similar.

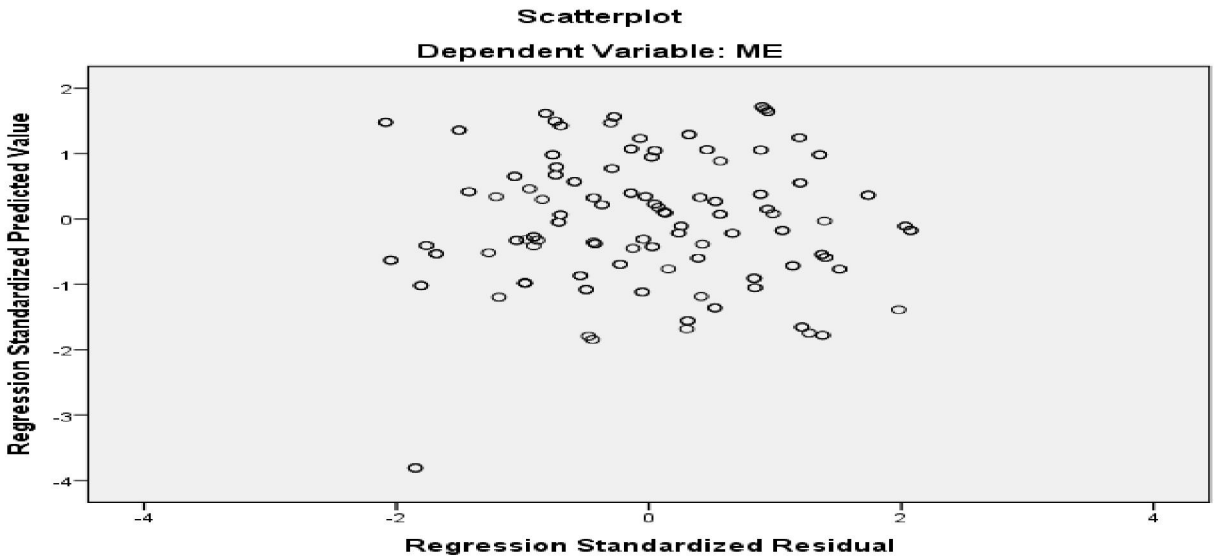


Fig .6 Scatter plots of the residuals for homoscedasticity

Source: Researcher's survey, (2019)

The assumption to check is homoscedasticity.

The scatter plot of the residuals above fig.5 was appear right below the normal scatter plot in data output. Ideally, it was get a plot that looks something like the plot above. The data looks like shot it out of a shotgun it does not have an obvious pattern, there are points equally distributed above and below zero on the X axis, and to the left and right of zero on the Y axis.

These indicate that the data become homoscedasticity because it looks somewhat like a shotgun blast of randomly distributed data.

4.2.2.5 Linearity assumption

The linearity of the relationship between the dependent and independent variable represent the degree to which the change in the dependent variable is associated with the independent variable (Hair et al., 1998). In a simple sense, linear models predict values falling in a straight line by having a constant unit change (slope) of the dependent variable for a constant unit change of the independent variable (Hair et al., 1998). The linearity assumption can easily be checked using scatterplots or residual plots: plots of the residuals vs. either the predicted values of the dependent variable or against (one of) the independent variable(s) (Hoekstra et al., 2014). The scatter plots of standardized residuals versus the fitted values for the regression models were visually inspected from figure 6.

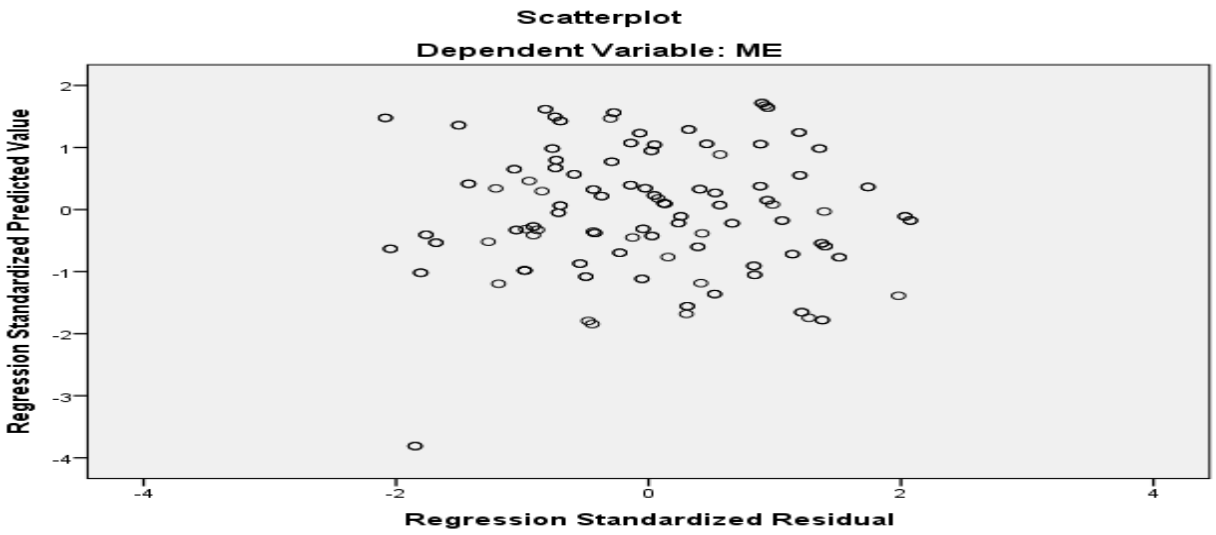


Fig.7 Scatter plots of the residuals for linearity

Source: Researcher's survey, (2019)

4.3 Regression Analysis

Table4.14 Regression analysis of marketing efficiency

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.097	.955		10.574	.000
	MI	.043	.094	.043	.452	.652
	WHG	-.108	.053	-.165	-2.023	.045
	TS	.112	.074	.173	1.512	.133
	REG	.040	.130	.032	.308	.759
	CSS	.270	.061	.426	4.465	.000

(Source: Researcher's survey, 2019)

According to **Table** 4.14, the standardized coefficients for the five independent variables marketing information , warehousing and grading system, trading system, regulation, clearing and settlement, .043, -.165, .173, .032 and .426 and their significance levels are sig .652, sig.045, sig.133, sig.759 and sig.000 respectively.

The two independent variable such as warehousing and grading system, clearing and settlement system standardized coefficients .045 and .000 which is less than 0.05 respectively. This, indicates that a significant relationship between the independent variables and the dependent variable.

The three independent variable such as marketing information, trading system and regulation standardized coefficients, .652, .133, and .759 are insignificant to dependent variable due to the result greater than5%.

Since, coefficients of the predictor variables were accepted statistically significant at less than5% the hypotheses related to two variables and the other three predictor variables were greater than 5%.

The highest predictor attributes clearing and settlement system (.426) while the smallest predictor is warehousing and grading (-.165).

The most contributing independent variable in the prediction of the dependent variable. Thus, the strength of each predictor (independent variable) contributing the criterion (dependent variable) can be investigated via standardized Beta coefficient.

The regression coefficient explains the average amount of change in the dependent variable that is caused by a unit change in the independent variable.

The larger value of Beta coefficient an independent variable has, brings the more support to the independent variable as the more important determinant in predicting the dependent variable.

From the above table we can have the following general formula for the study. The regression equation was

OME =α+β1x1+β2x2+β3x3+β4x4+ β5x5 Σ..... (1)

OME =α+β1MI+ β2TS +β3CSS+ β4WHS+ β45REG…….. (2)

OME=10+0.452MI+1.512TS+4.465CSS-2.023WHS+0.308REG+ Σ ……. (3)

Where:

OME – over all marketing efficiency

MI- marketing efficiency

TS – Trading system

CSS – clearing and settlement

WHS- warehouse system

RGS- regulation

The regression model from table 4.14 above result shows that keeping other variables constant

0.452unit increase in Market Information will bring a unit increase in the market Efficiency of Ethiopian Commodity Exchange.

1.512 unit increases in trading system will have a unit increase impact on market Efficiency of Ethiopian Commodity Exchange.

0.308 unit increase of regulation will have a unit increase impact on market Efficiency of Ethiopian Commodity Exchange.

0.308 unit increase of Clearing & Settlement will have a unit increase of market Efficiency of Ethiopian Commodity Exchange.

-2.023 unit increase of warehouse system will have a unit decrease of market Efficiency of Ethiopian Commodity Exchange.

Table 4.15: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	363.567	5	72.713	13.030	.000[b]
	Residual	915.225	164	5.581		
	Total	1278.792	169			

(Source: Researcher's survey, 2019)

a. Dependent Variable: ME

b. Predictors: (Constant), CSS, WHG, MI, REG, TS

The ANOVA test is a way to find out if survey results are significant. In other words the ANOVA test helps us to figure out if we need to reject the null hypothesis or accept the alternative hypothesis. As can be seen from the table above it can be said that the entire alternative hypothesis were accepted.

The ANOVA must be considered to assess the statistical significance of the results. If the test equals 0 it means there is no relationship between the dependent and independent variables. As can be seen from the ANOVA table, the independent variable significantly predicts the dependent variables, 13.03.

Table 4.16 provides the results of the regression analysis.

Table4.16. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533[a]	.284	.262	2.36234

a. Predictors: (Constant), CSS, WHG, MI, REG, TS)

(Source: Researcher's survey, 2019)

We observed in the model summary from the analysis in the above **table4.16** the correlation between the five independent attributes and the dependent variables indicated that there is moderate relationship (.533) and the weighted combination of the predictor variables explained or affect approximately 28.4% (R square) variation level of marketing efficiency dependent variable is explained by the independent variable (marketing information , warehousing and grading system, clearing and settlement, regulation , trading system) the remaining 71.6% is by extraneous variables that can affect dependent variable.

4.4. Hypothesis Testing and Interpretation of Results

Based on the result of found under regression analysis table can be made whether the independent variables are significant or not on marketing efficiency of ECX.

Table 4.17. Summary of the overall outcome of the Research Hypotheses

Hypotheses	Independent Variable	Dependent Variable	Sig.	Significant or insignificant	H accepted or rejected
H1; Trading System of Commodity exchanges has a positive & significant effect on market efficiency of ECX.	Trading System	Mareket efficency	.133	**insignificant**	**Rejected**
H2; A clearing and settlement system has a positive & significant effect on market efficiency of ECX.	clearing and settlement system	Mareket efficency	.000	**Significant**	**supported**
H3; Marketing information has a positive & significant effect on market efficiency of ECX.	Marketing information	Mareket efficency	.652	**insignificant**	**Rejected**
H4; Warehouse System have a positive & significant effect on market efficiency of ECX.	Warehouse System	Mareket efficency	.045	**significant**	**supported**
H5; **Regulation** has a positive & significant effect on market efficiency of ECX.	Regulation	Mareket efficency	.759	**insignificant**	**Rejected**

Source: Researcher's survey data (201

Chapter five

Summery , Conclusion and Recomendation

This chapter winds up the study undertaken so far by giving insights about summary, conclusions, recommendations and highlighting future research areas.

5. Summary of the major findings

In this chapter of the study, summary of the major findings and conclusion of the study is presented.

5.1 Summary

The primary objective of this study was to assess the core factors affect marketing efficiency in the ECX. In order to do this, five determinants of marketing efficiency are used. These are markating information, clearing and settlement, Trading system of commodity exchanges, Warehouse system and regulation . Hence, this study has attempted to identify which determinant has the highest contribution on the marketing efficiency in the ECX. In addition, this study has also tried to answer the research questions stated on the introduction part.

- ✓ As stated above, in order to measure the marketing efficiency in the ECX, the study considered five determinants namely markating information, clearing and settlement, Trading system of commodity exchanges, Warehouse system and regulation.
- ✓ A sample size was selected using simple random technique. Based on the theoretical framework and objectives of the study.
- ✓ Twenty nine items were provided in a 5 point Likert scale to the respondents. The gathered data were analyzed by means of descriptive and inferential statistics using SPSS version 21 software.
- ✓ The findings of the descriptive analysis indicate that majority of the ECX respondent are males and they are on the age group of 18-30.
- ✓ Out of the total respondents, employees at private organizations dominate in number.
- o Out of the total respondents, employees at private or government organizations dominate in number.

In the inferential statistics part the following results were achieved:

The results indicate that although all four variables of beta value marketing information, clearing and settlement system, regulation, trading system had a positive value and one variable such as Warehouse system had negative value.

This indicates that positive value show positive correlated and negative value show negatively correlated.

Based on Pearson Correlation result of the clearing settlement system, Marketing information, regulation, trading system four of them significant effect on the marketing efficiency of ECX. Warehouse is not significant effect.

The first hypothesis which states that trading system system has a positive & significant effect on market efficiency of ECX was rejected.

The second hypothesis which states that clearing and settlement system has a positive & significant and the most contributing effect on market efficiency of ECX was supported.

The third hypothesis which states that Marketing information has a positive & significant effect on market efficiency of ECX was rejected.

The fourth hypothesis which states that Warehouse system has a positive & significant effect on market efficiency of ECX was supported.

The fifth hypothesis which states that regulation has a positive & significant effect on market efficiency of ECX was rejected.

Finally, market efficiency was found to be positively explained by the sum of the five independent variables affect approximately 28.4% (R square) variation level of marketing efficiency dependent variable is explained by the independent variable the remaining 71.6% is by extraneous variables that can affect dependent variable.

5.2 Conclusions

The findings support factors affect market efficiency. Thus, the initially proposed market efficiency sources are market Information, regulation and trading system show not significant a warehouse and clearing& Settlement system is significant and positive influence on the market efficiency of ECX.

One of the objectives of this study was to find out which dimension has the most significant impact in determining the market efficiency in Ethiopian Commodity Exchange and the results revealed that clearing and settlement system was the most significant variable affecting market efficiency. However, the other dimensions also have influenced market efficiency their intensity of warehouse was fewer dimensions.

The study Pearson's correlation coefficient of the study signifies that there is strong positive relationship between the four independent variables (marketing information, trading system, clearing and settlement, regulation) and the one variable small correlated (warehouse) with marketing efficiency of the ECX .

The independent variables in this study have positive and significant correlation with the overall Market efficiency, which implies that the independent variables had effect on Market efficiency.

At the beginning of the study it was hypothesized that all the five determinants of Market efficiency had a positive and significant impact on the overall market efficiency of Ethiopian Commodity Exchange. After the analysis was done, the findings showed that the two dimensions such as clearing and settlement system, warehouse which affects the market efficiency of ECX was significant. Even though the other three variables did not strongly influence the overall market efficiency as that of clearing and settlement. The hypotheses drawn were support for clearing and settlement system,wearehouse because they had a significant and positive effect on the market efficiency of ECX the other three of them not significant this cause rejected.

5.3. Recommendation

For Governments:

- ECX is a non-profit autonomous commercial enterprise (company) established by its own law, that can only reinvest its profits in its scaling up and innovation (no dividends to investors). Thus, government should allocate some amount of fund for the organization to be more in market efficiency it also helps to collect more foreign currency in the presence of exporting trade system for those policy makers of the country.
- Developing elements of physical infrastructure that support commodity exchange and market development including information and communications technology, electricity, storage and logistics to develop good market efficiency.
- Aligning other elements of commodity policy to support the extension of the positive benefits arising from commodity exchanges across agricultural sectors, including to small-scale farmers, for example by integrating an understanding of market functions into smallholder commercialization and corporatization programs;

For ECX

- As researcher analyzed it form the major finding and conclusion the impact of variable to increase market efficiency of the strategy and policy in concerning about the strong and lesser performance of each factors of market efficiency and also including others variable which is not in this study.
- Market actors also have a great impact on market efficiency; ECX advised that to give them a chance to be active participants in the trading system in the presents of challenging was happened. Especially, Exporters may have determined some factors of market efficiency due to experience sharing with abroad business interaction.
- The researcher strongly believe that this study determine some of the factors that affecting the market efficiency as observed form the survey analysis, even if there are some challenging to confronting the issue of warehouse, market information , trading system , regulation and slightly clearing and settlement difficulties. As trading participants increase from time to time so, allotted finance for warehousing should also increase to establishing new warehousing systems and rental too. In the case of

information and transportation infrastructures ECX recommended that in revised and developed system to have a good culture of working together with other governmental organization to enhance the market efficiency and make synergy effect. Through, use of information technology to automate the End-to-End system from warehousing to trading to clearing and settlement of payments to delivery of commodity.

- The information communication technology (ICT) facility of the ECX was not providing satisfactory service. Therefore, ECX should to expand their ICT facility in modern way and reaches/address to their member participants.

5.4 For Future Study

The sample size of 186 respondents is small to assess factor affect marketing efficiency of ECX. Another study may be designed with a larger sample size that can better generalize the sample. Further research should be conducted to determine the other factors that actually contribute to factor affect marketing efficiency.

APPENDIX 1

1 Questionner (English version)

Dear participants:

General introduction: My name is Sisay Endashaw. I am MA student at Addis Ababa university school of commerce and I am doing my thesis research entitled, "Factor affect marketing efficiency in Ethiopia commodity exchange". This Questionner is designed to gather data from ECX. The aim of this survey is to identify and measure factors affect marketing efficiency of ECX. Your genuine, frank, timely response is vital for the success of my study. I want assure you that your privacy for responding to this questionnaire is completely kept in secret. I know that your time is valuable, and I hope that you will take the time to complete the questionnaire.

Please attempt to answer all the questions and click one in appropriate box that best suits your perspective for each statement.

Thank you for your kind cooperation and precious.

A. Demographic information

Please, provide your responses by putting '√' mark in the space provided.

1. Gender: Male ☐ Female ☐

2. Age: 18-30 years ☐ 31-59 years ☐ 60 years and above ☐

3. Education qualification: Primary (≤ Grade 8) ☐ Secondary (9 – 12th Grade) ☐

Diploma ☐ Degree ☐ Post-graduate or above ☐

4. Occupation: Government employee ☐ Private sector ☐ Merchant☐ others……

	Questionnaire item	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
Market information						
M1	I have access to market related information	1	2	3	4	5

M2	I quickly understand and interpret the information displayed by ECX.	1	2	3	4	5
M3	I am satisfied with the accuracy of market information provided by ECX	1	2	3	4	5
M4	I am satisfied with the accessibility of market information provided by ECX.	1	2	3	4	5
Warehousing and Grading						
WHG1	ECX warehouses are adequate enough to accommodate all the requests from members	1	2	3	4	5
WHG2	The quality of the warehouse service provided by ECX are satisfactory	1	2	3	4	5
WHG3	The ECX warehouse storage cost fair and affordable	1	2	3	4	5
WHG4	The ECX warehouse provides timely service.	1	2	3	4	5
WHG5	The ECX warehouse is secured from risky casualties like theft and fire.	1	2	3	4	5
WHG6	I am satisfied with the ware house system of the ECX.	1	2	3	4	5
Trading system						
TS1	Trading system of ECX use standardized specification in efficient way	1	2	3	4	5

TS2	The ECX trading system provide performance guarantee if any default occurs.	1	2	3	4	5
TS3	The ECX trading system fulfills to client's need.	1	2	3	4	5
TS4	ECX applies well designed technology for proper trading system	1	2	3	4	5
TS5	I am satisfied with trading system of ECX.	1	2	3	4	5
TS6	The transaction cost of the ECX trading system is expensive.	1	2	3	4	5
Regulation						
REG1	The ECX regulation help to ensure that the ECX price truly reflect the market information.	1	2	3	4	5
REG2	The ECX regulation to reduce risk for default.	1	2	3	4	5
REG3	The ECX regulation helps to enforce contract performance.	1	2	3	4	5
REG4	The ECX regulation helps to ensures that clearing and settlement are made on time.	1	2	3	4	5
Clearing and settlement system						
CSS1	The ECX clearing and settlement system provides satisfactory service	1	2	3	4	5
CSS2	ECX assure payment to seller	1	2	3	4	5
CSS3	The clearing and settlement system	1	2	3	4	5

	is equipped with adequate infrastructure.					
CSS4	The ECX clearing and settlement system provides timely service.	1	2	3	4	5
CSS5	The ECX clearing system efficiently matches up buy and sell order.	1	2	3	4	5
Market Efficiency						
ME1	The ECX market information system has a positive contribution to the market efficiency of exchange.	1	2	3	4	5
ME2	The ECX warehouse and grading system has a positive contribution to the market efficiency of exchange.	1	2	3	4	5
ME3	The ECX trading system has a positive contribution to the market efficiency of exchange.	1	2	3	4	5
ME4	The ECX regulation system has a positive contribution to the market efficiency of exchange.	1	2	3	4	5
ME5	The ECX clearing and settlement system has a positive contribution to the market efficiency of exchange.	1	2	3	4	5

Appendix B Questionners (Amharic version)

ለኢትዩጵያ ምርት ገበያ አባላት የተዘጋጀ መጠየቅ

ውድ የኢትዩጵያ ምርት ገበያ አባላት

መግቢያ ፤ስሜ ሲሳይ እንዳሸው በአዲስ አበባ ዩኒቨርሲቲ የንግድ ስራ ኮሌጅ የማስተርስ ተማሪ በመሆኔ የመመረቂያ ፅሑፍ በኢትዩጵያ ምርት ገበያ የገበያ ብቃት ተግዳሮት 'Factors affect marketing efficiency the case of Ethiopia commodity exchange' በሚል ርዕስ እየሰራሁ እገኛለሁ።።

የዚህ መጠይቅ ዋና አላማ የተቃኘው የኢትዩጵያ ምርት ገበያ ብቃት ተግዳሮት የተመለከቱ መረጃ ከዋና አባላት ማግኘት ነው።።

በመሆኑም የምትሰጡት መረጃ ለትምህረት ተግባር ብቻ የሚውልና ሚስጥሩም የተጠበቀ መሆኑን ላረጋግጥላቹ እወዳለሁ።።

የእርስዎ መልስ በጣም አስፈላጊ በመሆኑ ለመልካም ትብብርዎና ውድ ሰዓትዎ ሰጥተው ስለተባበሩኝ አመሰግናለው።።

ከዚህ በታች በተሰጠው ሰንጠረዠ እያንዳንዱ ጥያቄ አምስት አማራጮች አሉት እነሱም

በጣም አልስማማም ከሆነ 1 ቁጥር

አልስማማም ከሆነ 2 ቀጥር

ከመስማማትና አለመስማማት ከሁለቱም የለሁበትም ከሆነ 3 ቀጥር

እስማማለሁ ከሆነ 4 ቁጥር

በጣም እስማማለሁ ከሆነ 5 ቀጥር

እባክዎን ትክክለኛውን መልስ በመምረጥ ሳጥን ውስጥ ቁጥሩን ያክብቡ።።

	መጠይቅ	በጣም አልስማማም	አልስማማም	ከመስማማትናአ ለመስማማት የለሁበትም	እስማማለሁ	በጣም እስማማለሁ
1. የገበያ መረጃን በተመለከተ						
1.	ገበያን የተመለከቱ መረጃዎች በደንብ ያገኛሉ	1	2	3	4	5

2.	በኢትዩጵያ ምርት ገበያ የሚሰራጨው የገበያ መረጃዎች በቀላሉ ተረድቼ መተንተን መገንዘብ እችላለሁ	1	2	3	4	5
3.	በኢትዩጵያ ምርት ገበያ የሚሰራጨው የገበያ መረጃ ትክክል ነዉ ብለዉ ያምናሉ	1	2	3	4	5
4.	በኢትዩጵያ ምርት ገበያ በሚያቀርበው የገበያ መረጃ ረክተዋል	1	2	3	4	5
2. መጋዘንና በተመለከተ						
1	በኢትዩጵያ ምርት ገበያ ያሉት መጋዘኖች ከተሳታፊዎች የሚቀርቡ ጥያቄዎችን ለማስተናገድ በቂ ናቸው፡፡	1	2	3	4	5
2.	በኢትዩጵያ ምርት ገበያ ያሉት መጋዘኖች ጥራት አርኪ ነዉ፡፡	1	2	3	4	5
3.	በኢትዩጵያ ምርት ገበያ ያሉት መጋዘኖች የማከማቻ ወጪ ተመጣጣኝ እና አቅምን ያገናዘበ ነው፡፡	1	2	3	4	5
4.	በኢትዩጵያ ምርት ገበያ ምርት ማከማቸት እና ማስተላለፍ በሰዓቱ ይከናወናል	1	2	3	4	5
5.	በኢትዩጵያ ምርት ገበያ ያሉት መጋዘኖች ከስርቆት እና እሳት ቃጠሎ ስጋቶች የተጠበቁ ናቸዉ	1	2	3	4	5
6.	በኢትዩጵያ ምርት ገበያ የማከማቸ አገልግሎት ረክተዋል	1	2	3	4	5
3. የግብይት አሰራር በተመለከተ						
1.	የኢትዩጵያ ምርት ገበያ የግብይት አሰራር እቃ ማስረከብ ፣ክፍያ መክፈል በብቃት ይሰራል	1	2	3	4	5

2.	የኢትዩጵያ ምርት ገበያ የግብይት አሰራር ችግር ቢፈጠር ዋስትና ይሰጣል	1	2	3	4	5
3.	የኢትዩጵያ ምርት ገበያ የግብይት አሰራር የደንበኛው ፍላጎት ይጠብቃል	1	2	3	4	5
4.	የኢትዩጵያ ምርት ገበያ ዘመናዊ ቴክኖሎጂ የግብይት አሰራር ይጠቀማል	1	2	3	4	5
5.	የኢትዩጵያ ምርት ገበያ የግብይት አሰራር ረክተዋል	1	2	3	4	5
6.	የኢትዩጵያ ምርት ገበያ የግብይት አሰራር ለግብይት የሚከፈለው ወጪ ውድ ነው ብለው ያምናሉ	1	2	3	4	5
4. ቁጥጥር በተመለከተ						
1.	የኢትዩጵያ ምርት ገበያ ችግር እንዳይፈጠር ቁጥጥር ያደርጋል	1	2	3	4	5
2.	የኢትዩጵያ ምርት ገበያ ውል እንዲከበር ቁጥጥር ያደርጋል	1	2	3	4	5
3.	የኢትዩጵያ ምርት ገበያ የምርት ርክክብ እና ክፍያ በጊዜው መሰረት እንዲከናወን ይቆጣጠራል	1	2	3	4	5
5. የኢትዩጵያ ምርት ገበያ የምርት ርክክብ እና ክፍያ አገልግሎት በተመለከተ						
1	በኢትዩጵያ ምርት ገበያ የምርት ርክክብ እና ክፍያ አገልግሎት ረክተዋል	1	2	3	4	5
2	የኢትዩጵያ ምርት ገበያ ለሻጩ የክፍያ ዋስትና ይሰጣል	1	2	3	4	5
3	የኢትዩጵያ ምርት ገበያ የምርት ርክክብ እና ክፍያ አገልግሎት በሰለጠነ የሰዉ ሐይል እና ቴክኖሎጂ የተማላ ነዉ	1	2	3	4	5

4	የኢትዩጵያ ምርት ገበያ የምርት ርክክብ እና ክፍያ አገልግሎት ሰአቱ ጠብቆ ይከናውናል	1	2	3	4	5
5	የኢትዩጵያ ምርት ገበያ ያለው የምርት ርክክብ ሁኔታ ገዢ እና ሻጭ ቅደም ተከተል በብቃት ያገናኛሉ	1	2	3	4	5
የገበያ ብቃት በተመለከተ						
1	የኢትዩጵያ ምርት ገበያ ያለው የገበያ መረጃን የመስጠት ብቃት በርግጠኝነት የገበያ ብቃት ይጨምራል	1	2	3	4	5
2	የኢትዩጵያ ምርት ገበያ ያለው መጋዘን እና የጥራት ደረጃ ብቃት በርግጠኝነት የገበያ ብቃት ይጨምራል	1	2	3	4	5
3	የኢትዩጵያ ምርት ገበያ ያለው የግብይት አሰራር ብቃት በርግጠኝነት የገበያ ብቃት ይጨምራል	1	2	3	4	5
4	የኢትዩጵያ ምርት ገበያ ያለው የቁጥጥር ብቃት በርግጠኝነት የገበያ ብቃት ይጨምራል	1	2	3	4	5
5	የኢትዩጵያ ምርት ገበያ ያለው የምርት ርክክብ እና የክፍያ አገልግሎት ብቃት በርግጠኝነት የገበያ ብቃት ይጨምራል	1	2	3	4	5

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