THE ROLE OF ETHIOPIAN COMMODITY EXCHANGE (ECX) TO ENHANCE AGRICULTURAL COMMODITIES EXPORT PERFORMANCE

(THE CASE OF EXPORT OF SESAME SEED)

A thesis submitted to the department of marketing management in partial fulfillment of the requirement for masters of Art in Marketing Management

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The Role of Ethiopian Commodity Exchange (Ecx) To Enhance Agricultural Commodities Export Performance: The Case of Export of Sesame Seed

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Declaration

I, Marta Belayneh, declare that the study entitled “the role of ECX to enhance agricultural commodities export performance.” is the result of my own effort in research undertaking. It is submitted to the partial fulfillment of the requirement of the Masters of Arts in Marketing Management.

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Statement of Certification

This is to certify that Marta Belayneh has carried out her research work on the topic entitled "The Role of ECX to enhance Agricultural Commodities Export performance: The case of Export sesame seed" is her original work and is suitable for submission for the award of Master's Degree in Marketing Management.

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Abstract

Commodity exchanges have crucial roles in the economic development of a nation at large and in the financial and non-financial developments of their market actors. Exporters of commodities as market actors of commodity exchanges are expected to benefit from agricultural commodity exchanges. The purpose of this paper was to examine the role of ECX to enhance agricultural commodity exports with the case of export sesame seed. A structured questionnaire was prepared to measure ECX's role in this regard from its sesame seed exporting members' perspective. A quantitative research approach was implemented, and the hypotheses were also tested on a sample of 215sesame seed exporting members and non-member direct traders of ECX. Out of the 215 distributed questionnaires, valid response was collected from 203 respondents resulting with a 94.42% percent response rate. The data were analyzed using descriptive statistics, correlation & regression. The findings of descriptive statistics of the independent variables showed that facilitation of physical commodity trade dimension scored the highest rating with a mean value of 3.83 while the remaining variables also scored mean value above 3.00 this shows that, functions of ECX were perceived to be satisfactory to the members. The correlation analysis result indicated that market information provision had significant correlation with the export performance with 95% confidence interval & at 0.05 p-values, by scoring a Pearson Correlation Coefficient "R value" of 0.515 and the remaining variables result indicated that they were moderately correlated with export performance. In addition to correlation analysis, further regression analysis was also conducted, and the result indicated that storage and grading, market information provision, enabling competition, price discovery and market development dimensions of ECX"s roles had a significant positive influence on export performance of sesame seed exporters.

Key words: *commodity exchange, price discovery, market development, enabling competition export performance, facilitation of physical commodity trade, market information provision.*

Acronyms and Abbreviations

EC-enabling competition

ECX- Ethiopian commodity exchange

EP-export performance

FPT-facilitation of physical trade

GDP-growth domestic product

GTP-growth and transformation plan

MD-market development

MIP-market information provision

MOT-ministry of trade

PD-rice discovery

SG-storage and grading

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CHAPTER ONE

INTRODUCTION

This chapter presents an overview of the study. It includes background of the study, statement of the problem, research questions, and research objectives, significance of the study scope of the study, definition of terms and organization of the study .each part is presented below

1.1 Background of the Study

Agriculture has been the single most important economic sector for a long period in Ethiopia employing more than 70% of the country‘s population. As per the World Bank report (2018), agriculture contributed 34.12% of Ethiopia‘s GDP being the second next to the industry sector which shared 36.92% to the country‘s GDP in 2018.

The economy of Ethiopia has experienced growth in the past few decades and trade played a moderate role in the country’s economy, the value of import & export equal at 36% some of the top export include coffee, oilseeds ,gold, cut flower and other commodities.

Before the establishment of ECX, commodity market in Ethiopia has been characterized by the presence of high transaction costs, evidenced by the 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 (Gabra-Madhin and Goggin, 2005).

Gabre-Madhin and Goggin (2005) argued that the fundamental market problem that faced Ethiopia during that time was the rather universal problem of achieving economic order and indicated that a commodity exchange can address this critical need through a system that itself generates market information, that enhances the transparency of product grades, qualities, and marketed volumes in addition to the market-clearing price, that promotes

self-regulation through a structure that enhances the incentives for preserving order and integrity of the system. So, ECX was established in 2008 with the main objective of providing a fair and equitable market place for agricultural commodities by the Ethiopia Commodity Exchange Proclamation No. 550/2007.

The ECX, a government owned exchange, initially focused on trading maize, wheat and beans, but was unable to attract significant volume of these commodities. The ECX turned its focus to export crops with the support of policies discouraging export of oil seed products through other outlets (Rashid, Nelson, and Garcia, 2010). Since its establishment in 2008, ECX has received much attention in the international media and community.

It has been visited by visitors from around the world including heads of states and different UN officials. Hernandez et.al (2015) identified two reasons why ECX has received such a high level attention. The first reason is that ECX is the only functioning commodity exchange in Least Developed Countries. The other reason is that ECX has been effective in communicating its early success stories.

Several early ECX success stories especially the ones about linking smallholders to markets, increasing sesame seed exports, and having zero defaults appealing to the media, policymakers, and development partners. To measure the role of ECX enhancing sesame seed export the level of influence of ECX‘s core functions are : price discovery, facilitation of physical trade, storage and grading, market development, enabling competition and market information provision on sesame seed exporters‘ export performance.

Sesame seed is an oil seed grown mainly Ethiopia, it is among the oldest cultivated crop in the world and it is a plant that grows up to 50 cm -100 cm tall with opposite leaves 4 cm-14 cm the sesame seed occur in different color depending on the cultivar .the most traded one is white color. The Ethiopian sesame seed varieties that grown is around fourteen, but the most common varieties are hummera and wolega type.

This study focused only on sesame seed exporters as they have relatively experienced ECX since 2008. The researcher believes that different commodity traders at Ecx may have different feeling to the contribution it has to them. The topic was “The role of Ethiopian

commodity exchange to enhance agricultural commodities export performance the case of export of sesame seed".

1.2 Statement of the Problem

The main part of this study was to measure the role of ECX to enhance agricultural commodities export. Commodity exchanges have different roles in the economy. Gabre-Madhin and Goggin, (2005) have listed different benefits of commodity exchanges. The exchange reduces transaction costs by facilitating contact between buyers and sellers, enabling centralized grading of products, ensuring that contracts are enforceable, providing mechanism for price discover, simplifying transactions with standard contracts and by transmitting information about prices and volumes. It can provide valuable public information such as prices and volumes of trade. In many indirect ways, they can encourage the financial sector to invest in agricultural value chain development, improve farmers' access to markets, reduce marketing margins, and encourage agricultural productivity growth.

According to a study by Easwarana and Ramasundaram, 2008 and Duraipandian, 2014 (cited by Andersson et al, 2016), a well-functioning agricultural exchange platform that disseminates relevant information to all decision makers and provides storage facilities as well as a legal framework for negotiating contracts has the potential to reduce such transaction costs, and thereby to improve resource allocation and to make the price discovery process more efficient. Commodity exchanges can stimulate export of commodities by providing the benefits and services listed by the researchers to the exporters of commodities being traded at the exchanges.

There are different opinions regarding ECX's contribution to its market participants. Hernandez et al (2015) found out that ECX has brought about strict regulations to the Ethiopian agriculture markets: it has eliminated direct trading relationships between exporters and small agriculture producers, requiring them to sell in specific locations with a pool of licensed traders, who in turn have to go through a certification process to sell their products. A study by Rashid (2015) also indicated that commodity exchanges can

contribute to market development by reducing transactions costs, improving price discovery, and reducing price risks.

1.3 Research question

A .Main Research Question

The main research question that this thesis tried to answer was:

What is the role of Ecx in enhancing sesame seed export?

B. Specific research question

The study tried to answer the following questions

- How ECX influence sesame seed exporters' export performance through its price discovery?
- To what extent has ECX influence sesame seed export performance through facilitating physical commodity trade?
- What is the relationship between storage and grading role of ECX with sesame seed exporters' performance?
- What is the effect of ECX's market development role on sesame seed exporters' export performance?
- How competitive is ECX's sesame seed market?
- What is the relationship between ECX's market information provision role and sesame seed exporters' performance?

1.4 Research objective

1.4.1 General Objective

The general objective of this thesis was to measure the role of ECX to enhance sesame seed export.

1.4.2 Specific Objectives

The following were the specific objectives of this thesis:

• to identify the influence of ECX‘s price discovery role on sesame seed export performance.

• To investigate the influence of ECX‘s physical trade on sesame seed export performance.

• To assess the effect of market development function of ECX on sesame seed export performance.

• To know the relationship between storage and grading role of ECX on sesame seed export performance.

• To identify the degree of competitiveness of ECX‘s sesame seed market.

• To investigate the relationship between market information provisions role of ECX and export performance of sesame seed exporters.

1.5 Significance of the Study

This study were evaluated the role of ECX to enhance sesame seed export, this study will enable ECX know the strengths and weaknesses of its services from sesame seed exporters perspective and to strategically plan actions to improve its service offerings. This study will also have significant contribution to the further researches that will be conducted in ECX and the sesame seed export sector and to the academia specially the commodity marketing and agricultural economic area.

1.6 Scope of the Study

The research was done in Addis Ababa where the members and non-member direct traders of ECX who have sesame seed export license were found the respondents in this research. The recently launched regional trade center of Hawassa, Hummera, Nekemet, Adama and Gonder were not covered in the research. The research defined to the role of ECX on enhancement of sesame seed export and analyzed from sesame seed exporters' perspective. There are exporters of coffee, pea beans, green mung bean, and soya been, who trade at ECX in addition to sesame seed. However, exporters of other commodities were not the focus of this study. Other factors like transport, telecommunications, government policies, and other factors that may be promoting or challenging sesame seed

exporters were not the concern of this study. Methodologically, the research used the quantitative approach and cross-sectional survey design.

1.7 Definition of terms

Commodity exchange: is simply a central place where sellers and buyers meet to transact in an organized fashion, with certain clearly specified transparent rule of game (Gabre-Madhin, z,, Eleni and I. Goggin ,2005).

Export performance: is defined as the result of a firm's actions in export markets.

Agricultural commodity: is like soya been, wheat, corn, oranges, peanuts, sesame seed, etc...

Sesame seed: is a flowering plant in the genus sesamum also called benne. Numerous wild relatively occur in Africa and a smaller number in India. It's widely naturalized in tropical region around the world and is cultivated for its edible seed.

Member: Any person recognized as an Exchange Actor by the Ethiopian Commodity Exchange Authority that fulfills the requirements of the Exchange.(Rule of ECX, revised 2017).

Non-member direct trader: any person recognized by the Authority as a trader that fulfills the requirements of the Exchange to trade at the Exchange for himself without being a member or a client of an Intermediary Member of the Exchange (Rule of ECX, revised 2017).

Small holder Farmer: a person who is engaged in harvesting on own farm on a livelihood (non-commercial) basis rules (Rule of ECX, revised 2017).

1.8 organization of the study

The final paper contain five main chapters, chapter one provides the general back ground of the study; chapter two summarizes the related literature review, chapter three presents methodology of the study chapter four also presents the analysis and interpretation of the study; and the last chapter provides summary of findings, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

This chapter, review of literature, has three major parts: theoretical literature review, the empirical review and conceptual frame work &hypothesis. The theoretical review has an introduction followed by the discussion of definition of commodity exchanges, why commodity exchanges and global and domestic sesame seed market review. The second part of the chapter is the empirical literature review which discusses the benefits of commodity exchanges and review the previous studies *conducted on ECX. The conceptual framework and hypotheses were discussed in the third part of the review of literature.*

2.1Theoretical Literature Review

2.1.1 Introduction

According to the African Development Bank Report (2017) agriculture accounts for about 15 percent of Africa‘s GDP, with a wide variation in the share of GDP among countries. The agriculture sector is also the main source of income for about 90% of Africa‘s rural population; it accounts for approximately 20% of the total export value and provides employment for an estimated 57%of the labor force. Africa is importer of agricultural products, with patterns of agricultural exports largely characterized by a small number of primary commodities and dependency on preferential access to a few markets in developed countries. Only about 20-25 percent of local agricultural production is marketed and intra-African agricultural exports account for 19 percent of total intra-African exports. Similarly, Agriculture is still one of the most important economic sectors in Ethiopia. It employs more than 70% of the country‘s population.

As per the World Bank report (2018), agriculture contributed 34.12% of Ethiopia‘s GDP following the industry sector which shared 36.92% to the country‘s GDP in 2018. In Ethiopia, the export sector is the main source of foreign currency, with which Ethiopia buys

essential foreign products. Export, thus, plays a pivotal role not only in advancing the domestic economy, but also in enabling the country to import. As per the Ministry of Trade public report, the economy of Ethiopia grew 6.1 percent in the 2019/2020 fiscal year, the weakest expansion since a contraction was observed in 2002, mainly due to the impact of the Covid-19 pandemic. It compares with an earlier estimate of a 10.8 percent growth before Ethiopia's first reported case of the new corona virus.

Sesame seed is one of the commodities being traded at the Ethiopia Commodity Exchange (ECX); export of sesame seed to china currently constitute close to 70% of east African country total export of the product to the global market. and it is claimed to be the most commodity since ECX started trading sesame seed in 2008.The first five successful commodity exchanges in the world traded in cotton futures contracts and were connected by cable; this was in New York, Liverpool, Alexandria, La Havre and New Orleans (Baffes, 2011 cited in Kawuma, 2015).With regards to history, Rashid (2015) argued that commodity exchanges are confined to industrialized countries until the onset of structural adjustment programs in the 1980s and 1990s; the exceptions to this were Brazil and Argentina, which established organized commodity exchanges long before their economies began growing and Malaysia, whose exchange was established for the sole purpose of trading crude palm oil. Rashid (2015) mentioned that commodity exchanges operate under a wide range of ownership, political economy conditions, and farming systems. There are exchanges in both open and restrictive political and economic systems, smallholder dominated agriculture (e.g. Ethiopia and China), a mixture of large and smallholders (e.g., South Africa and Thailand), and large-scale farming (North America and Europe).

2.1.2 Defining Commodity Exchanges

Commodity exchange has been defined by different authors and scholars. Gabre- Madhin (2006) defines commodity exchange as a way of organizing trade between buyers and sellers on the basis of formalized rules and procedures known and agreed upon by all market participants and self-enforced by the members of the exchange themselves who defend the integrity of the market. Another definition by Ngmenipuo and Issah (2015) states that a commodity exchange is an organized marketplace where buyers and sellers come together to trade commodity related contracts following rules set by the exchange. In

its wider sense, a commodity exchange is an organized market place where trade, with or without the physical commodities, is funneled through a single mechanism, allowing for maximum effective competition among buyers and sellers.

The fact of having a single market mechanism to bring together the buyer and sellers at any point in time effectively results in the greatest concentration of trading for a given good. Rashid (2015) also defines commodity exchange as a centralized location where buyer and sellers carry out transactions, with or without physical commodities, under a set of clearly defined rules and regulations.

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 to rot 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 cited in Gabre-Madhin and Goggin, 2005).

In emerging markets, however, commodity exchanges can play a useful role for physical trade, including in the financing of commodity inventories. By providing a transparent, disciplined marketplace they can reduce the discovery costs of physical trade and the counterparty risks in commodity transactions.

2.1.3 Why commodity exchanges?

Different Agricultural commodity exchanges will greatly enhance the performance of Africa's agricultural sectors and contribute to overall economic development (Jayne et al, 2014).

Commodity exchanges can reduce the costs and risks of transacting. They can provide valuable public information such as prices and volumes of trade. In many indirect ways,

they can encourage the financial sector to invest in agricultural value chain development, improve farmers' access to markets, reduce marketing margins, and encourage agricultural productivity growth (Jayne et al, 2014).

There is consensus that the most important marketing-related constraints facing Africa's farmers revolve around the following five points: (1) high production and marketing costs, leading to low profitability and a disincentive to produce for the market; (2) constrained access to credit, especially for small-scale farmers; (3) limited availability of profitable new farm technologies to adopt and use sustainably; (4) price volatility; and (5) poor market access and competitiveness conditions (Jayne et al, 2014).

The core objective of a commodity exchange is to create a fair, orderly and efficient system for matching supply and demand in order to enable what is called "price discovery" or the true market price based on the alignment of supply and demand. To achieve this alignment, a commodity exchange can and must regulate market conduct through certain risk management instruments designed to ensure that market conduct follows the principles of a fair, orderly, and efficient marketing system. These instruments involve setting limits on trading positions, adjusting margin and other deposit requirements, and setting price circuit filters to limit price movements, among others (Gabre-Madhin and Goggin, 2005).

According to Gabre-Madhin and Goggin (2008), coming to the case of Ethiopia, the decision taken several years ago to start a national commodity exchange had absolutely nothing to do with the current price inflation. Rather, the overriding objective then and now is to ensure a fair, orderly, and efficient marketing system, to encourage smallholder farmers to produce more for the market, to benefit domestic agro-industry through a more efficient and reliable supply chain, and to enhance Ethiopia's export competitiveness through getting the domestic market in order.

Ahmed (2017) identified three categories of problems facing the commodity market. The first category is the absence of integrated commodity marketing policy that addresses all the processes that involve transport, grading, storage and information facilities for the producer as well as for consumer (Meijerink, 2010, cited in Ahmed, 2017). The second category is the absence of well-equipped institutional establishment which can provide all

marketing services to all market actors. The third category is the absence of private and public partnership in the commodity market (UNCTAD, 2006, cited in Ahmed, 2017). Commodity exchanges are established mainly as a response to the above problems. Thus, commodity exchanges are established among other reasons, mainly to respond to the above and related challenges.

Worku (2014) also indicated that the purpose of a commodity exchange is to provide an organized marketplace in which members can freely buy and sell various commodities in which they have an interest/sake. The exchange itself does not operate for profit. It is just provides the facilities and ground rules for its members to trade in commodity futures and spots and for non-members also to trade by dealing through a member broker and paying a brokerage commission.

The purposes served by a commodities exchange depend in part on the nature of the specific contracts that are traded (UNCTAD, 2009; Worku, 2014). Just by centralizing trade in a commodity an exchange can facilitate title transfer, price discovery and market transparency. Transaction costs are decreased because coordination through a centralized exchange can decrease costs associated with identifying the market outlets, physically inspecting of the product quality, and finding purchaser or sellers. By decreasing transactions costs and enhancing information flows an exchange can improve returns to market agents while reducing short term price variability and spatial price dispersion. Such contracts command little capacity to address inter annual price uncertainty. More sophisticated contracts allowing exchange in futures can enable further risk management, but such contracts require a well-developed exchange and cannot address maintain spot prices in bounds that might be desired (Worku, 2014).

2.1.4 Benefits of Commodity Exchanges

According to UNCTAD (2009), the usefulness of a commodity exchange lies in its institutional capacity to remove or reduce the high transaction costs often faced by entities along commodity supply chains in developing countries. A commodity exchange reduces transaction costs by offering services at lower cost than that which participants in the commodity sectors. These can include but are not limited to the costs associated with

finding a suitable buyer or seller, negotiating the terms and conditions of a contract, securing finance to fund the transaction, managing credit, cash and product transfers, and arbitrating disputes between contractual counterparties. Therefore, by reducing the costs incurred by the parties to a potential transaction, a commodity exchange can stimulate trade. For exchanges that offer spot trade or supporting activities, the institutional function is to facilitate trade bringing together buyers and sellers of commodities, and then imposing a framework of rules that provides the confidence to transact. According to Paul I, 2011 (cited in Worku, 2014) Commodity Exchange is fundamentally designed to provide service and add value to all market players. It adds value to the market by addressing two types of risk namely contract performance risk and the risk of contract default on physical delivery or payment. Market risk is the risk of adverse unforeseen price movements or changes in supply and demand in the future. Gabra-Mahdhin (2001) suggested that establishing market institutions such as grain exchanges reduces transaction costs (costs related to market search time, search labor and cost of holding working capital during market search).

Commodity derivatives have a crucial role to play in managing price risk especially in agriculture dominated economies (Sahadevan, 2002). Properly functioning commodity exchanges can promote more efficient production, storage, marketing and agro-processing operations, and improved overall agriculture sector performance. It is precisely because of these benefits that transition and developing economies with large agricultural sectors have embraced commodity exchanges in recent years (Seeger, 2004; cited in Worku, 2014). UNCTAD (2009) in its case study conducted on China, Sudan, Nigeria ,Tanzania and Ethiopia has identified different impacts of commodity exchanges on farmers and other entities that are categorized under the below main impacts:

1. Price discovery: Three impacts under these functions are discussed: price dissemination, reduced information asymmetries and improved farmer returns; improved farmer returns and reduced cash market volatility, and more efficient price formation and effective signaling for production, purchasing and investment decisions.

2. Price-risk management: The increased certainty allows market participants to better manage, budget and plan investments in their businesses. Exchange-traded price-risk management instruments may be used by a farmer or other commodity sector participant directly – either through direct membership of an exchange, or more likely through an exchange-accredited broker.

3. Venue for investment: Improved investment environment brings a liquid environment to effectively hedge and speculation may lift price and farmer return.

4. Facilitation of physical commodity trade: a commodity exchange generates accurate & transparent spot reference price; reinforces cash market transactions, enhances storage and logistics infrastructure, and upgrades quality standards.

5. Facilitation of financing to the agricultural sector: enables bank lending and other methods.

6. Market development: through education and capacity-building, international trade facilitation, information and communications technology (ICT), industry growth and new product and service development. UNCTAD (2009) however, mainly focuses on the future markets and the case study was conducted in emerging economies.

IFC's (2017) report summarized the functions of commodity exchanges to emerging markets based on the UNCTAD (2009) study summarized into seven: price discovery, facilitate physical commodity trade, channeling finance to agro sector, market development, market efficiency, price risk management, and venue for investment. Mukesh (2014) has also discussed the following benefits of commodity future markets from Indian context: price Discovery, price Risk Management, import-Export competitiveness, and predictable pricing.

In general, the roles and impacts of commodity exchanges in a country's economic development are different based on the nature of the Exchange and the area they operate. Specifically, a commodity exchange can perform one or more of a range of potential functions – exactly which functions will depend on the nature of the exchange and the local context in which it operates. For exchanges that offer spot trade or supporting activities,

the institutional function is to facilitate trade together buyers and sellers of commodities, and then imposing a framework of rules that provides the confidence to transact (UNCTAD, 2009, pp:17).

2.1.5 Global and Domestic sesame seed Market

2.1.5.1 Global sesame seed Pro Table

Figure 2.1Top sesame seed producing countries

Order no.	Country(2019)	Share in production (2019)	Production quantity(2018/19)
1	Sudan	18.5%	1.12M
2	Myanmar	11.4%	744.5K
3	India	10.5%	698.3K
4	Tanzania	10.4%	680.00K
5	Nigeria	7.3%	480.00K
6	China	7.1%	467.00K
7	Burkina Faso	5.7%	374.70K
8	Ethiopia	4.0%	262.65K
9	South Sudan	3.2%	208.11K
10	Chad	2.6%	170.00K
11	Uganda	2.2%	144.00K
12	Brazil	2.0%	128.00K
13	Niger	1.5%	97.00K
14	Mozambique	1.5%	95.00K
15	Cameroon	1.1%	70.00K

Source: UN FAO :(FOOD AND GRICULTURE ORGANIZATION)

In terms of sesame seed export, Sudan is the biggest producer of sesame seed followed by Myanmar, India and Colombia. Ethiopia is the 8th largest producer of sesame seed in 2018/19 production year although Ethiopia and Sudan occupies the second from major exporting countries their average export share is 16% during 2019.

In terms of sesame seed global demand, it is being argued as at that this time more of the world turns to sesame seed; demand will increase by nearly 25% over the coming five years, according to the International sesame seed Organization (ISSO, 2018). According to the ISSO, there was a negative supply/demand balance in the years 2014/15 and 2015/16. That means demand was greater than supply of sesame seed globally. These indicate that

the demand for sesame seed will grow tremendously which calls for the need to greater production and new entrants in to the sesame seed business.

2.1.5.2 Sesame seed Market in Ethiopia

A. sesame seed Production in Ethiopian

The main marketing season of Ethiopian sesame is from late November to early February. The production and marketing of sesame is concentrated in selected areas in Ethiopia following the production potential and tradition. The major sesame growing areas are located in the Northwest; in Hummera area in Tigray near the border with Sudan and Eritrea; in Metema in North Gondar and in Wollo area of Amhara region, Chanka area in Wollega of Oromiya, and in Pawi area in BenshangulGumuz region. In general, farmers produce different varieties of sesame with white seed color especially in Hummera and Gonder areas. In terms of price linked with demand, the Hummera type is much more demanded, followed by Wollega type. Commonly, sesame is threshed starting from early October to Mid-November and the major marketing season starts from late November and end early February each year. The major actors in the Ethiopian sesame market are exporters, wholesalers, brokers/agents, local traders (Assemblers), primary cooperatives and their unions, commercial farms and small scale farmers. A recent study conducted in Metema area revealed that about 34% of the production is directly purchased by wholesalers from the farmers, followed by assemblers (22%) and cooperatives (18%), which shows the important role of wholesalers, assemblers and cooperatives in the sesame market chain. Because of the scattered and small-scale nature of the Ethiopian production system, the role of aggregation in improving the agricultural marketing system is emphasized in the national agricultural marketing strategy. Cooperatives and their respective unions are expected to play an important role in this. The two most important cooperative unions for sesame marketing are the Setit-Humera agricultural marketing union in Hummera areas and Metema agricultural Marketing union. The Amhara bureau of agriculture and rural development through its cooperative promotion office has been providing market information, taking into consideration the time of harvest of the Indian sesame and its impact on the international sesame market sesame markets in Ethiopia

sometimes show highly diverging prices, reflecting the fact that the sesame market cannot be assumed to be perfectly competitive.

Ethiopia is enjoying the status of largest supplier of sesame seed to china (the world's top importer of sesame) Ethiopia export 250,817 tons of export in 2018/19 fiscal year the demand of sesame is increase by year and it maintain and further grow in the market (EPOSEA a report, 2019).and different reports explained the sesame has become the leading export commodities in Ethiopia.

Figure 2.2 Ethiopian sesame seed export destinations

Order no.	Destination country	Value in metric tone	Volume share
1	China	250,817	71
2	Israel	62,801	10
3	Turkey	13,452	3
4	Jordan	12,742	2
5	Saudi Arabia	7,944	2
6	Singapore	7,409	2
7	Yemen	6,749	1
8	UAE	4,908	1
9	Japan	5,167	1
10	Greece	4,228	1
11	Korea, republic of Korea	5,618	1
12	Vietnam	3,487	1
13	Hong Kong	3,584	1
14	United states	2,486	1
15	Others	9,288	2

Source ;(EPOSEPA a report of, 2019)

B. Policy Reforms Relevant to sesame seed Trade in Ethiopia

Policy reforms have been made in Ethiopia that affected the value chain and structure of sesame seed market in Ethiopia. The first major change has happened especially upon the establishment of the Exchange back in December 2008. Since then, sesame seed had to mandatorily pass through the Exchange ECX). This involvement of the government has been much criticized for being against free market system and its tendency to make ECX monopoly (Tesfaye, 2017).

ECX trades standard sesame seed contracts, based on a warehouse receipt system, with standard parameters for sesame seed grades, transaction size, payment, and delivery. The government made major reforms in the economy sector one of which was the reform to improve the sesame seed marketing and trading systems. This reform has made a change in the sesame seed value chain. On July 7, 2017, the Parliament approved two proclamations that were designed to reform the entire pulse market value chain. The two proclamations are oil seed and pulse Quality Control & Marketing and Establishment Proclamation of Ethiopian Commodity Exchange (ECX). Both amended proclamations are meant to improve the market from farms to its export destinations (Tadesse, 2017). The proclamation prohibited buying or selling commodity outside ECX or a transaction center established by the Ministry of Trade (MoT) or the appropriate regional body. The Rule of the Exchange has also been amended following the revised proclamation. The revised Rule has given the right for the small holder farmers to directly trade/ sell their commodities at the

Exchange‘s trade platform with no need of any intermediary member. The exchange has also introduced another membership category called the Non-Member Direct Traders (NMDTs).

2.2 Empirical Literature Review

ECX offers an end-to-end operation that includes warehousing, trading, clearing and settlement of payment, and delivery of commodity. ECX claims that its warehouse use state-of-the art grading and weighing equipment to sample, grade and weight commodities that it receives. The warehouse then issues an Electronic Good Received Note. These notes become negotiable, transferable or represent legal entitlement of the deposited commodity only when the Central Depository issues the bearer an Electronic Warehouse Receipt. ECX operates 25 large warehouse branches that are situated in major surplus regions of the country. These warehouses are presumed to have the maximum reasonable insurance coverage and use an inventory management system that meets global standards. Its inventory management system is believed to secure the quantity and quality of the commodities throughout the storage period.

ECX uses the might of modern information and communication technologies to create access to market information to all its actors including the general public. The Exchange uses rural based on Market Information Tickers, mobile phone Short Messaging Service (SMS), Interactive Voice Response (IVR) service, Mass media (TV, Radio, and Newspaper) and Website to disseminate market information. Market information on commodity prices in different markets and commodity offer to sell and bids to buy, and others are collected, processed, updated and disseminated to market actors. Price information on Electronic Tickers is updated in less than 5 seconds and market information through mass media is disseminated on daily basis (Abdurezak, 2010).

2.2.1 Studies on Ethiopia Commodity Exchange (ECX)

The sesame seed export sector in Ethiopia has been hindered by different problems. Boansi and Crentsil (2013) in their quantitative research based on secondary data on sesame seed production and export of Ethiopia, concluded that the growth in the country‘s export performance has been hindered by challenges in management of price risk, problems with quality control, high transaction cost due to the extensive supply-chain and the numerous actors and processes therein, smuggling and unhealthy competition in both primary and auction markets, and by low productivity of growers‘ fields. As a solution they recommended that to enhance its competitiveness in the sesame seed market amidst the anticipated increase in supply-side competition in the near future, measures should be put in place to address current inefficiencies in the supply chain most importantly with management of price risk, quality control, smuggling, and transaction costs.

The Ethiopian commodity exchange assures all commodity market players the security they need in the market through providing a secure and reliable end-to-end system for handling, grading, and storing commodities, matching offers and bids for commodity transactions, and a risk-free payment and goods delivery system to settle transactions, while serving all fairly and efficiently (Ahmed, 2017). Gashaw and Kibret (2018) indicated that before the establishment of ECX, agricultural markets in Ethiopia had been characterized by high costs and high risks of transaction forcing much of Ethiopia in to global isolation. With only one third of output reaching the market, only buyers and sellers tended to trade only with those they knew, to avoid the risk of being cheated. They

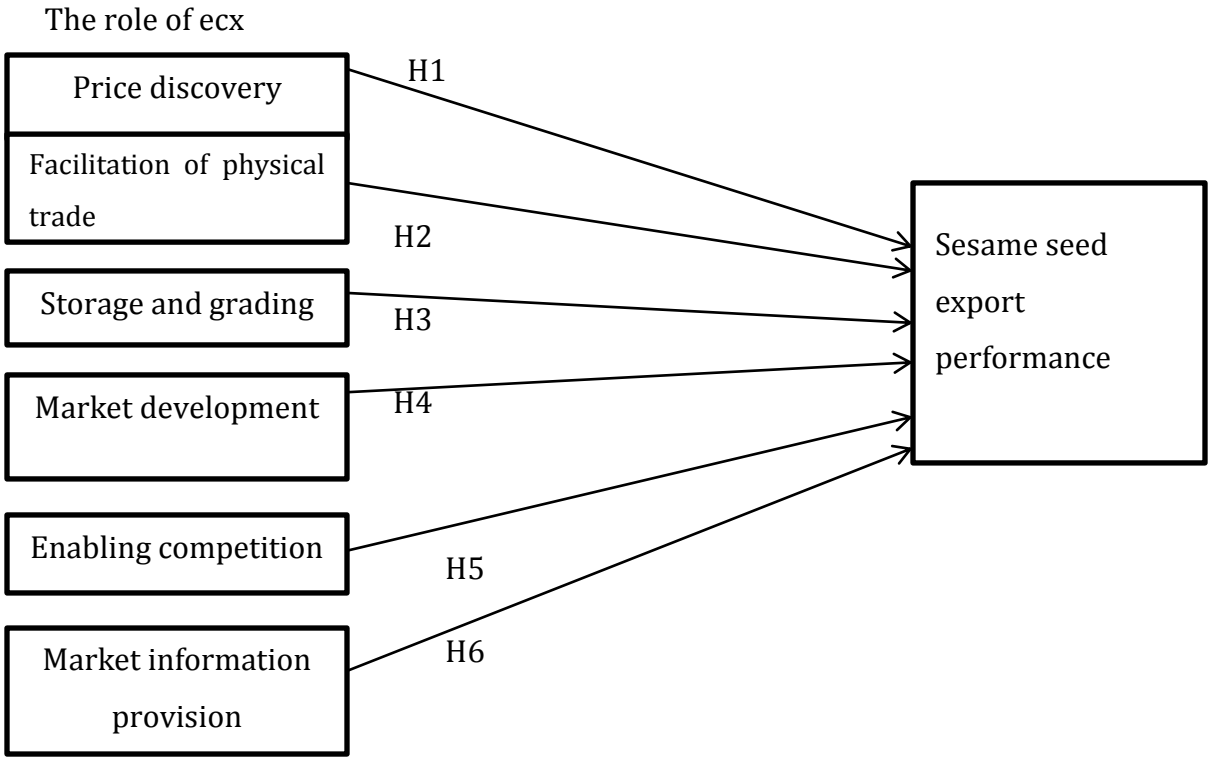
mentioned that ECX developed a new method of exchange; a marketing system that coordinates better, links faster, and protects of both side of the trade. The study will find that while ECX has contributed to improving some aspects of the markets for exportable commodities.

A similar study conducted by Worku et al (2016) on the contribution of ECX to exporters of agricultural commodities indicated that the grading and sampling system of the company has a problem of bias, lack of knowledge and equipment; there is distrust between the seller, buyer and the exchange; there is high penalty cost imposed by ECX for delaying of withdrawing the commodities on time; problem of fee for membership seat and also there is a problem of dispute resolution mechanism. The study also was found out that warehouse quality problem occurs as a result of inefficient infrastructure and inadequate physical infrastructure caused higher transaction costs which directly affect the profitability of exporters.

2.3 Conceptual Framework and Hypotheses

The conceptual framework for this thesis was be based on UNCTAD (2009) and Tamirat (2013) work. From the literatures reviewed the researcher has identified six core functions that commodity exchanges are intend to perform: price discovery, price-risk management (hedging), venue for investment (speculation), facilitation of the physical (or cash) commodity trade, facilitation of financing to market actors, and a role in market development. The researcher presumes that ECX is currently not performing the price risk management (hedging), facilitation of financing and venue for investment (speculation) functions to the sesame seed exporters out of the six functions. Hedging and speculation functions are not available in a spot market like ECX since they are features of mainly future markets. Therefore, in the Ethiopian context, in which trade and storage (grading) functions are being served by the commodity exchange, the researcher identify and added the storage and grading, enabling competition and market information provision as core functions of ECX in addition to the price discovery, facilitation of physical trade and the market development roles shared by other commodity exchanges discussed in the literatures.

Figure 2.3: Conceptual Framework



Source –researcher own concept

As shown in the figure above, export performance is a dependent variable which is affected by other independent variables. The framework is composed of six components of independent variables which are price discovery, facilitation of physical trade, storage & grading, market development, enabling competition, and market information provision. The model has the potential of enhancing agricultural commodities. The choice of this framework is due to the fact that it is strongly information based approach which is good for problem identification & using that as an input for mapping against the impact indicators. The questionnaire will derive from this framework.

Price discovery (PD): refers to the mechanism through which prices come to reflect known information about the market (UNCTAD 2009).The price level established on the open market can therefore represent an accurate depiction of the prevailing supply and demand situation in the underlying commodity markets. This in return provides important indications that market participants can use to make informed production, purchasing and investment decisions. By performing this function, it is hypothesized that **ECX's price discovery function has a significant positive influence on sesame seed exporters' export performance (H1)**.A series of four questions were asked in the questionnaire to measure the impact of price discovery on sesame seed export performance.

Facilitation of Physical Trade (FPT): usually is performed providing cash market transactions, reducing default risk and easy access to remote markets. Thus, it is hypothesized that **by facilitating the physical trade, ECX brings a significant positive influence on sesame seed exporters' export performance (H2).**

Storage and Grading (SG): This role is performed by providing warehouse storage service and grading and standardization service by the Exchange itself. It is hypothesized that **ECX has a significant positive influence on sesame seed export performance by providing storage and grading service (H3).**

Market Development (MD): is also one of the functions identified in literatures that commodity exchanges will perform. This will measure using capacity building and training, international trade facilitation, improving information and communication technology level and introducing new products and service to meet evolving needs. Export will be enhanced as commodity exchanges will increase the capacity of traders and facilitate international trade to the traders. Based on the above arguments, itis hypothesized that **ECX's market development function has a significant positive influence on sesame seed exporters' export performance (H4).**

Enabling Competition (EC): Since commodity exchanges bring multiple buyers and sellers in one location, the market will be competitive and with low concentration. It will hypothesize that **ECX has a significant positive influence on sesame seed exporters' performance by creating a competitive market (H5).** This construct will measure

through different questions using the questionnaire. In addition, secondary data was used to measure concentration ratio and competitiveness of the ECX sesame seed market.

Market Information (MI): Providing transparent and reliable market information to its actors is one core function of ECX. It is hypothesized that **ECX has a significant positive influence on sesame seed export performance by providing reliable and timely market information. (H6).**

Export Performance (EP): Export performance is defined as the result of a firm's actions in export markets. This variable can consider as an important road map for any company who wishes to review its level of success in terms of export market. Export performance measures can be classified into objective and subjective measures. Objective measures are mainly based on the absolute values, while subjective measures are based on perceptual or attitudinal performance. Since it is difficult to clearly segregate export results from corporate results, it has been deemed advisable to use subjective measures (Leonidou et al., 2002). In this study, export performance measured by using both objective and subjective measures (self-evaluation by respondents).Subjective export performance indicators to be measure by the respondents 'opinion based on export sales volume. In addition to the subjective measure (export volume), concentration of the market and competitiveness of the market were measure objectively through secondary data source.

CHAPTER THREE

METHODOLOGY

The description of the study area, research approach, research design, population and sample, data collection procedure, data analysis, validity, reliability test, and at the last ethical consideration parts are included in this chapter.

3.1 Description of the Study Area

This study was carried out in Addis Ababa, Ethiopia. Ethiopia is the famous and largest exporter of sesame seed in Africa. All the information was collected in Addis Ababa and it is geographically found at a latitude of 8°58'N and longitude of 38°47'E. Addis Ababa is an important administrative center not only for Ethiopia but also for the whole of Africa. The headquarters of the African Union and the United Nations Economic Commission for Africa are both found in the city.

3.2 Research Approach

Quantitative and qualitative research approach was used in this study. Quantitative methods involve the process of collecting, analyzing, interpreting, and writing the results of a study and qualitative one is collecting and analyzing numerical data for statistical analysis (Creswell, 2009).questionnaire was used to measure the role of ECX to enhancing sesame seed export from sesame seed exporters' perspective and opinion quantitatively. Quantitative approach provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population (Babbie, 1990, cited in Creswell, 2009). A structured self- complete questionnaire was prepared and distributed to the respondents (Phellas et al, 2011).

3.3 Research Design

"A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in

procedure" (Kothari, 2004, p.31).The research design that was used in this paper is explanatory which explains the cause and effect relationship. Unlike the previous studies that are discussed above on the first chapter, that used descriptive research design, this thesis goes beyond description and attempts to explain the reasons for the phenomenon that the descriptive study only observe.

3.4 Population and Sample design

3.4.1 Target Population

The target population of this study was sesame seed exporters who are member and non-member direct traders of ECX. As per data collected from membership division ECX has a total of 406 oil seed and pulses exporters.

3.4.2 Sample size determination

Sample size determination was made using a "sample size calculator "developed by public service of creative research system survey software found in the internet (https://www.surveysystem.com/sscalc.htm).

Assumptions made to determine a rational sample size were:

- Population size is known
- Confidence level use at 95% is acceptable
- Confidence interval (margin of error) at 5% is acceptable

The proportion of the two strata was determined using the formula: (nxpi/N)

Where,

n= required sample size of the oil seed and pulse exporters (buyers at ECX).

Pi= proportion in each stratum

N= total population of the actor

Proportion of members: 253/406=62%

Proportion of non-member direct traders: 153/406=38%

- Members sample size: 253x62%=157
- Non-member direct traders sample size= 153x38%= 58

Therefore, the sample size (n) of total population will be 215 which is the sum of members' sample size (157) and non -member direct traders' sample size (58).

3.4.3 Sample selection technique

Stratified sampling technique was used to draw two strata; the sampling technique enables the researcher to maintain balance between the number of sample to be selected and size of each member's category. Sample drawn randomly on the respondents availability and interest to participate in the research.

3.5 Source of data and data Collection method

The data were collected from both primary and secondary sources. Primary data was collected through questionnaires. The question was prepared based on the benefits of commodity exchanges discussed in the background. The five point Likert scale wereuse for the statements of the questionnaire ranging from 1 for "strongly disagree", 2 for "disagree", 3 for "no opinion", 4 for "agree", and 5 for "strongly agree". Secondary data was collected from ECX regarding its operation and performance. Additionally, a one year trade data of sesame seed at ECX was used to measure competitiveness and concentration of the market to validate with the findings of the questionnaire.

3.6 Method of data Analysis

The data was collected using structured questionnaire, were coded and analyze with great care. That means, the possible responses are pre-coded in a five point scale (1=strongly disagree, 2=disagree, 3=no opinion, 4=agree, 5=strongly agree) to facilitate quick answering of the questions and to simplify data entry into computer software for analysis. All the data collected using the questionnaires code and enter in to Statistical Package for Social Sciences (SPSS). There after descriptive analysis (percentages and mean) was carried out by using SPSS and was presented in tables. Since five point Liker scale was used, mean score of 3.0 was considered as mid-point (indifferent), while mean scores of greater than 3.0 were assumed as agreement, strong & positive role on sesame seed exporters and less than 3.0and disagreement. Correlation and regression analyses were

also made. Expected impacts under each function of commodity exchanges were rated by the respondents, sesame seed exporters, in this case.

3.7 Validity and Reliability test

3.7.1 Validity Test

According to Cook and Campbell (1979), validity is defined as the best available approximation to the truth or falsity of a given inference, proposition or conclusion. Sounders et al. (2003) also defined validity as the extent to which data collection method or methods accurately measure what they are intended to measure. If the measurement items in the survey adequately cover the content domains or aspects of the concept being measured, an instrument has content validity (Ahire et al, 1996).

Construct validity refers to the degree to which a measure actually assesses the theoretical construct it is meant to assess (Fornell et al., 1981). In the assessment of construct validity, the establishment of discriminate and convergent validation is important.

In this research the following activities were performed:

•The questionnaires were subjected to peer review from colleagues and the supervisor. This was aimed to red flag any potential errors in the research instruments thus ensuring the result‘s validity.

• Data was collected from the reliable sources and

• Survey questions were prepared based on previous empirical review and literature review to ensure result validity.

3.7.2 Reliability Test

Reliability measures the internal consistency of the items in a scale to check the measuring tool was employed on the study free from error so that the measurement instrument yields a reliable outcome. It also indicates that the extent to which the items in a questionnaire are related to each other and whether a scale is one dimensional or multidimensional. One of the most commonly will use is called Cronbach‘s alpha. The normal range of Cronbach‘s alpha coefficient value ranges between 0- 1 and the higher values reflects a higher degree

of internal consistency. Different authors accept different values of this test in order to achieve internal reliability, but the most commonly accepted value is equal or greater than 0.70 to reach internal reliability (Hair et al., 2003). Hinton et al., (2014) have also suggested four different points of reliability: excellent reliability ranges (0.90 and above), high reliability (0.70- 0.90), high moderate reliability (0.50- 0.70) and low reliability (0.50 and below).

3.8 Ethical Considerations

Maximum care was taken in order to make sure that:

- All research participants are given adequate explanation about the research and its purpose;
- The privacy of the respondents' has been respected;
- Confidentiality of the information provided by the respondents has been respected;
- The works of other scholars, related to the area and being used in the study have been properly acknowledged.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS & INTERPRETATION

This chapter is divided into five sections with the first section covers findings from the survey, Correlation and regression analysis are discussed in the second and third section the fourth one is hypothesis testing the remaining section contains discussion of the results.

4.1 Findings from the Survey

This section presented the sample and response rate, data screening and validation, general profile of the respondents and descriptive analysis of the variables.

4.1.1 Sample and Response Rate

A total of 215 questionnaires were distributed for the respondents (157for members and 58 for nonmember direct traders). Excluding eight (12) questionnaires that were not completely filled out by the respondents, 203 questionnaires (149from members and 54from non-member direct traders) were fully answered and returned which is 94.42% of the total distributed questionnaires.

a. Data Screening

Data screening is important because it ensures the validity of research findings. It is also important to check for any errors that occurred during data collection and data entry before further analysis. In this study, IBM SPSS 20 was used to process data and frequency distributions were used to check the accuracy of data entry, examine missing data, validity and reliability were also tested.

b. Data Accuracy

This first step in the data screen was conducted by comparing each response in the questionnaire with what were entered in the SPSS. This process of proof-reading enabled the researcher to identify some errors and immediately correct them. Also, the descriptive statistics was conducted to enable further data accuracy assessment and no problem was found. The proof-reading helped in screening some of errors which bring problem in data analysis in later stages as it indicates that all measures were in a possible range of 1 to 5.

c. Missing Data Assessment

As indicated by Hair et al (2010), data set may have missing values due to different reasons, including failure of some respondent to answer some questions, errors during data entry or some respondent refuse to fill in sensitive data. Some missing data were identified in three (3) questionnaires. So, these questionnaires were excluded from the analysis.

d. Reliability Test

Reliability measures the internal consistency of the items in a scale to check the measuring tool employed on the study was free from error so that the measurement instrument yields a reliable outcome.

The Cronbach‘s alpha coefficient values for all constructs in the study were greater than the 0.70 so that it can be concluded that the measurements can be applied for further analysis with acceptable reliability test result as shown in table 4.1 below

Table 4.1 measurement of reliability

Variables	Sample size	Number of items	Cronbach's alpha	Level of reliability
Price discovery	203	4	.767	High reliable
Facilitation of	203	3	.813	High reliable
Storage and grading	203	4	.755	High reliable
Market development	203	4	.765	High reliable
Market information provision	203	2	.813	High reliable
Export performance	203	3	.765	High reliable
	203	6	.759	High reliable

Source: survey result, 2021

The Cronbach's alpha coefficient values constructs in this study were greater than the 0.70 so that it can be concluded that the measurements can be applied for further analysis with acceptable reliability test result.

4.1.2 Basic Profile of the Respondents

Table 4.2membership year at Ecx

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 2 years	52	25.6	25.6	25.6
	2-5 years	90	44.3	44.3	70.0
	above 5 years	61	30.0	30.0	100.0
	Total	203	100.0	100.0	

Source: survey result, 2021

In terms of respondents' membership year at ECX, the majority (44.3%) of them have worked from two to five years with ECX, the remaining 30.0% and 25.6% have worked above 5 and below 2 years at Ecx respectively.

Table 4.3 membership type at Ecx

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	full membership	149	73.4	73.4	73.4
	nonmember direct traders	54	26.6	26.6	100.0
	Total	203	100.0	100.0	

Source: survey result, 2021

Membership type at ECX, period of work relation with ECX and experience of sesame seed export were part of the general information questions included in the questionnaire. From the total 203 respondents,149 (73.4%) were members a ECX while the remaining 54 respondents (26.6%)were non-member direct traders in terms of their membership type at ECX.

Table 4.4sesame seed export experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 5 years	94	46.3	46.3	46.3
	5-10 years	77	37.9	37.9	84.2
	above 10 years	32	15.8	15.8	100.0
	Total	203	100.0	100.0	

Source: survey result, 2021

As shown in table 4.4above, the majorities (46.3%) of the respondents were engaged in the sesame seed export business below 5 years; while the least number of them,32 respondents with a share of 15.8%, have above 10 years export experience.

4.1.3 Descriptive Analysis of Variables

Descriptive statistics was employed to examine the percentage and mean of the responses of respondents with regards to the roles of ECX (through its price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition, and market information provision functions) on sesame seed export performance. Descriptive Statistics was used to present quantitative descriptions in a

manageable form; each descriptive statistic reduces lots of data into a simple summary (Gelman, 2006). The respondents were asked to rate their perception on a five-point Likert type scale ranging from 1 being strongly disagree to 5 strongly agree. For simplicity of analysis rates of "strongly disagree is 1" & "disagree is 2" were categorized as "disagree" and ratings of "strongly agree is 5"& "agree is 4" were categorized as "agree". The mean scores have been computed for all the variables by equally weighting the mean scores of all the items under each dimension. The mean value provides the idea about the central tendency of the values of a variable. Standard deviation is to give the idea about the dispersion of the values of a variable from its mean value. The results of the descriptive analysis are shown in the table below.

Table 4.5 Descriptive Statistics of variables

	N	Mean	St. dev
price discovery	203	3.4766	0.835
facilitation of physical commodity trade	203	3.8325	0.887
storage and grading	203	3.8103	0.774
market development	203	3.6392	0.845
enabling competition	203	3.6182	0.388
market information provision	203	3.8309	0.860
export performance	203	3.6215	
Valid N (listwise)	203		

Source: survey result, 2021

As it can be seen from table 4.5 above, the role dimensions were taken as independent variables that were assumed to be impacting the export performance of ECX members. The mean score values of ECX's roles/functions ranged between 3.83and 3.47 (mean score value of facilitation of physical commodity trade and price discovery) with standard deviation of 0.887 and 0.835. These scores were also the maximum and minimum mean score values of the ECX's role dimensions. A mean score above 3 (three) showed agreement whereas a value below three represented disagreement with the associated issues. Thus,

by considering table 4.5 above there is no scored value below 3.00. This implies that, functions of ECX were perceived to be satisfactory to the members. On the other hand, the facilitation of physical commodity trade as a dimension appeared to be having a mean score of above average (mean=3.83 and std. dev. = 0.887) and ranked first in order to impact respondents' perceived export performance role of ECX. The dimension of market information provision, as rated by members, also appeared to be with above average score (mean=3.83 and std. dev. = 0.860), which was ranked second to role of export performance as perceived by the respondents. The dimension of storage and grading was rated by the sample respondents with a mean score of 3.81 with std. dev. =0.774. Market development dimension scored with a(mean value of 3.63std. dev. =0.845). Enabling competition (mean= 3.61, std. dev. =0.388) and price discovery (mean= 3.47, std. dev. =0.835) this means all function dimensions scored a mean value of above 3.00 which implies that sesame seed exporting members were happy with these all core functions of the Exchange (ECX). The overall rate of export performance (which is 3.62) the descriptive analyses of the items under each variable have been discussed below.

4.1.3.1 Price Discovery Role of ECX

Price discovery is one of the core functions of any commodity exchange. ECX's price discovery role to the exporters of sesame seed has scored mean (3.47).

Table 4.6 descriptive statistics of price discovery

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx's price reflects the fundamentals of the local and international sesame seed industry	3.6502	4.9	12.8	19.2	38.4	24.6	100.0
I get wider supply of sesame seed at Ecx	3.6611	10.8	23.2	13.3	34.5	18.2	100.0
Ecx avoids shortage and other price distortion by creating better price signals	4.2611	5.4	14.8	21.7	40.9	17.2	100.0
Inter-seasonal price variation is reduced by Ecx	3.9979	6.9	11.8	24.6	37.9	18.7	100.0

Source: survey result, 2021

From the above table 4.6 The majority (63%) of the respondents were think that ECX's price reflects the fundamentals of the local and international sesame seed industry which means that supply and demand is the sole driver of price movement at ECX. shortages and inter–seasonal price variation are not the problems of the market as implied by the respondents. This implies that ECX done a lot of things in order to improve its role in this regard.

4.1.3.2 The Role of ECX in Facilitating Physical Commodity

Table 4.7 descriptive statistics of facilitation of physical commodity trade

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx has helped me and getting type of sesame seed I want easily	3.5320	7.4	16.3	17.2	34.0	25.1	100.0
Ecx has reduced	4..0443	3.4	6.9	9.9	41.4	38.4	100.0

default risk because of its cash market							
Ecx has helped us access remote market easily	3.9212	3.9	8.9	10.8	43.8	32.5	100.0

Source: survey result, 2021

The majority (79.8%) of the respondents categorically agreed with the idea that ECX has reduced default risk because of its cash market, whereas, only 10.3% of the respondents disagreed with this idea. From this result, it is more convincing to support the popular claim that ECX has reduced default risks to its members because of its cash market. On the other hand, 76.3% of the respondents agreed that ECX has helped them access remote markets easily, whereas 12.8% of them disagreed on this role of ECX. With regard to the role of ECX in helping sesame seed exporter members in getting the type of sesame seed they want easily, still the majority (71.7%) of the respondents was satisfied and 15.6% of them indicated dissatisfaction with this function. This showed as a core function of an exchange, facilitation of physical commodity trade has been delivered by the Exchange to the satisfaction of the members. This was supported by the highest rating given to this function by the respondents.

4.1.3.3 The Role of ECX in Storage and Grading of sesame seed

The storage and grading function has rating with a mean score of 3.81.

Table 4.8 descriptive statistics of storage and grading

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx avoids sesame seed wastage because of better storage facilities	3.8571	5.4	14.8	21.7	40.9	17.2	100.0
Ecx introduces better and scientific storage hard ware and practices	3.6847	1.5	11.8	14.8	43.3	28.6	100.0
I'm confident on	3.8475	3.4	6.9	23.6	33.0	33.0	100.0

the grade and quality of the sesame seed I buy through ecx							
Sesame seed quality has improved because of ecx	3.4975	3.0	10.8	16.3	38.4	31.5	100.0

Source: survey result, 2021

The table above indicated that 66% of the respondents were confident with the Exchange's grading and quality of sesame seed they buy. A significant share of (10.3%) did not agree that sesame seed quality has improved because of ECX. However, measures of storage have scored above average. The results of this analysis indicated that the grading service of the Exchange is good.

4.1.3.4 Market Development Function of ECX

Table 4.9 descriptive statistics of market development function

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx gives traders continuous capacity building and training	3.4483	3.0	24.1	17.7	35.5	19.5	100.0
Ecx gives international trade facilitation service	3.6255	5.4	16.3	12.3	42.4	23.6	100.0
Ecx has improved my information and communication technology level	3.6650	3.9	16.3	14.3	40.3	25.1	100.0
Ecx introduces new products and service to meet evolving need	3.8177	1.5	11.3	16.7	44.8	25.6	100.0

Source: survey result, 2021

As indicated in table 4.9 above, the market development dimension was measured in four items: capacity building and training, international trade facilitation, improve in ICT level

and introduction of new products and services. From among these items, the highest rating was given to introduction of new services and products followed by Ecx gives international trade facilitation service with 70.4% and 66% of respondents' agreement level respectively. The least score from others level was given to Ecx gives traders continuous capacity building and training was got 55% of the respondents' agreement.

4.1.3.5 The Role of ECX in Enabling Competition

As one function of ECX to its sesame seed exporter members, enabling competition was measured in two items and has scored an average mean value of 3.61.

Table 4.10descriptive statistics of Ecx's enabling competition

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx's sesame seed market is not dominated by a few sesame seed traders	3.3695	8.4	20.7	19.7	28.1	23.2	100.0
Ecx's sesame seed market is competitive	3.8670	2.0	10.3	14.8	44.8	28.1	100.0

Source: survey result, 2021

As shown in the above table, the respondents (51.3% in category) agreed that ECX's sesame seed market is not dominated by a few sesame seed traders. It's the least agreed number than other variables This implies that ECX's market based on sesame seed exporters' perspective is slightly concentrated market and Ecx should improve on this regard although the rating is still above 3.00. On the other hand, 72.9% of the respondents agreed that ECX's sesame seed market is competitive while 12.3% of them did not agree. On this item as indicated in the table above.

4.1.3.6 Market Information Provision Role of ECX

In terms of the market information provision dimension, ECX has got the second highest score by the respondents next to the facilitation of physical commodity trade with a mean score of 3.83.

Table 4.11 descriptive statistics on market information provision

Dimensions	Mean score	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)	Total
Ecx enables sesame seed buyers to make marketing decision based on market data	3.7241	6.4	9.9	10.8	50.7	22.2	100.0
Ecx makes me informed about the real price information at its market	3.8374	4.9	12.3	8.4	42.9.	31.5	100.0
I get reliable and timely domestic and international sesame seed market information	3.9310	2.5	11.8	7.4	46.8.	21.5	100.0

Source: survey result, 2021

This dimension was measured by using three question items. From among the three items used to measure this dimension, real price information dissemination has got the highest ranking with the respondents with 74.4% of agreement that ECX makes them informed about the real price information of the market. Only 16.3% of the respondents did not agree on this dimension. Similarly, 72.9% of the respondents agreed that Ecx enables sesame seed buyers to make marketing decision based on market data; and 68.3% of them agreed that they got reliable and timely domestic and international sesame seed market information. However, 14.8% of them did not agree on this. The results of this data indicated that ECX‘s market information provision role has satisfied sesame seed exporter members (table 4.11 above).

4.2 Correlation Analysis

The correlation between independent and dependent variables was analyzed using Statistical Package for Social Science (SPSS) using a Pearson Correlation coefficient. The results of the relationships among the variables used in the questionnaires are indicated in the table below.

Table 4.12 Pearson correlation matrix

Correlations

		price discovery	facilitation of physical trade	storage and grading	market development	enabling competition	market information provision	export performance
price discovery	Pearson Correlation	1						
	Sig. (2-tailed)							
	N	203	203	203	203	203	203	203
facilitation of physical trade	Pearson Correlation	.519**	1					
	Sig. (2-tailed)	.000						
	N	203	203	203	203	203	203	203
storage and grading	Pearson Correlation	.562**	.599**	1				
	Sig. (2-tailed)	.000	.000					
	N	203	203	203	203	203	203	203
market development	Pearson Correlation	.440**	.412**	.516**	1			
	Sig. (2-tailed)	.000	.000	.000				
	N	203	203	203	203	203	203	203
enabling competition	Pearson Correlation	.291**	.343**	.386**	.401**	1		
	Sig. (2-tailed)	.000	.000	.000	.000			
	N	203	203	203	203	203	203	203
market information provision	Pearson Correlation	.455**	.515**	.554**	.443**	.263**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000		

	N	203	203	203	203	203	203	203
export performance	Pearson Correlation	.473**	.411**	.447**	.466**	.465**	.515**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	203	203	203	203	203	203	203

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

Source: survey result, 2021

Bivariate Correlation

Tests whether the relationship between two variables is linear (as one variable increases, the other also increases or as one variable increases, the other variable decreases). In addition to this the Pearson product moment correlation coefficient is a measure of the linear correlation between two variables X and Y, giving a value between +1 and −1 inclusive, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation (Pedhazur, 1982). When Pearson‘s r is close to 1, this means that there is a strong relationship between the two variables. This means that changes in one variable are strongly correlated with changes in the second variable. When Pearson‘s r is close to 0, this means that there is a weak relationship between the two variables. This means that changes in one variable are not correlated with changes in the second variable (Malhotra and Briks, 2007).

According to Field (2009), the classification of the correlation coefficient (r) is as follows: 0.1 – 0.29 is weak; 0.3 – 0.49 is moderate; and > 0.5 is strong. On the other hand, when Pearson‘s r is positive (+), this means that as one variable increases in value, the second variable also increases in value. Similarly, as one variable decreases in value, the second variable also decreases in value. This is called a positive correlation. When Pearson‘s r is negative (-), this means that as one variable increases in value, the second variable decreases in value. This is called a negative correlation.

Sig (2-Tailed) value: According to Pedhazur (1982), this value tells that whether there is a statistically significant correlation between two variables or not.

If the Sig (2-Tailed) value is less than or equal to .05, the researcher can conclude that there is a statistically significant correlation between two variables. That means, increases or decreases in one variable do significantly relate to increases or decreases in the second variable. As indicated in the above correlation matrix, the six independent variables were positively (either moderately or strongly) correlated with export performance; the strongest correlation coefficient being between export performance and market information provision ($r=.51$, $p \leq 0.01$). Export performance is moderately correlated with the remaining independent variables ranging from $r=.411$, $p \leq 0.01$ for facilitation of physical commodity trade to $r=.473$, $p \leq 0.01$ of price discovery Hence, there is a moderate positive relationship between these variables and export performance.

4.3 Regression Analysis

Regression is a technique used to predict the value of a dependent variable using one or more independent variables (Albaum, 1997). Regression analysis is a statistical tool for the investigation of relationships between variables. Linear regression estimates the coefficients of the linear equation, involving one or more independent variables that best predict the value of the dependent variable (Field, 2009).

4.3.1 Assumption Tests of Regression Analysis

As recommended by Hair et al (2010) meeting the assumptions of regression analysis is necessary to confirm that the obtained data truly represented the sample and that researcher has obtained the best results (Hair et al., 2010). Accordingly, multi-collinearity, independent errors and linearity assumptions were tested below.

a. Multi-collinearity

Collinearity (or multi-collinearity) is the undesirable situation when one independent variable is a linear function of other independent variables (Gelman, 2006). In this research multi collinearity was checked with tolerance and variance inflation factor (VIF) statistics. Andy (2006) suggested that a tolerance value less than 0.1 almost certainly indicates a serious collinearity problem. Burns and Burns (2008) also state that a VIF value greater than 10 is also a concern. In this study, all of the independent variables were found to have a tolerance of greater than 0.1 and a VIF value of less than 10 which indicate that multi-

collinearity was not an issue in this study (see table 4.13 below). Therefore, regression analysis was appropriate for this particular study.

Table 4.13 Multi Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	price discovery	.604	1.656
	facilitation of physical commodity trade	.552	1.813
	storage and grading	.468	2.137
	market development	.638	1.566
	enabling competition	.784	1.275
	market information provision	.609	1.641

a. Dependent Variable: export performance

Source: survey result, 2021

b. Linearity

The linearity of the relationship between the dependent and independent variable represents the degree to which the change in the dependent variable is associated with the independent variable (Hair et al., 2010). Conventional regression analysis would underestimate the relationship when nonlinear relationships are present,i.e., R2 underestimates the variance explained overall and the betas underestimate the importance of the variables involved in the non-linear relationship (Malhotra and Briks, 2007). The mean values of the outcome variable for each increment of the predictorslie along a straight line. This means that it is assumed that the relationship the researcher is modeling is a linear one. If the researcher models anon-linear relationship using a linear model then this obviously limits the generalizability of the findings (Field, 2007). In the correlation analysis, the correlation matrix shows that all independent variables are positively and either moderately or strongly correlated with the dependent variable. Therefore, there were linearity of the relationship between the dependent and independent.

4.3.2 Multiple Linear Regression Analysis

Multiple linear regressions was conducted in order to determine the explanatory power of the independent variables (price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision)to identify the relationship and to determine the most dominant variables that influenced dependent variable (export performance). The significance level of 0.05 with 95% confidence interval was used. The reason for using multiple regression analysis was to assess the role/impact of the role variables of ECX on the export performance of exporters. The model summary of the regression analysis is presented in the below table4.14.

Table 4.14 model summery

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin- Watson
1	.661[a]	.437	.419	.57811	1.690

a. Predictors: (Constant), market information provision, enabling competition, price discovery, market development, facilitation of physical commodity trade, storage and grading

Source: survey result, 2021

The above regression model presented how much of the variance in the measure of export performance is explained by the underlying ECX's role variables.

R – Indicates the value of the multiple correlation coefficient between the predictors and the outcome, with a range from 0 to 1, a larger value indicating a larger correlation and 1 representing an equation that perfectly predict the observed value (Pedhazur, 1982). From the model summery (R = 0.661) indicates that the linear combination of the six independent variables strongly predicted the dependent variable.

R Square (R2) – indicates the proportion of variance that can be explained in the dependent variable by the linear combination of the independent variables. In another word R2 is a measure of how much of the variability in the outcome is accounted for by the

predictors. The values of R2 also range from 0 to 1 (Pedhazur, 1982). The linear combination of the predictor variables i.e. price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision explain 43.7% of the variance in export performance and the remaining 56.3 % is explained by extraneous variables, which have not been included in this regression model.

Adjusted R Square (R2) – The adjusted R2 gives some idea of how well the model generalizes and its value to be the same, or very close to the value of R2. That means it adjusts the value of R2 to more accurately represent the population under study (Pedhazur, 1982). The difference for the final model is small (in fact the difference between R2 and Adjusted R2 which is =.436 − .419 = 0.017) which is about 1.7%. This means that if the model were derived from the population rather than a sample it would account for approximately 1.7% less variance in the outcome.

Durbin-Watson- the Durbin–Watson statistic expresses that whether the assumption of independent errors is acceptable or not. As the conservative rule suggested that, values less than 1 or greater than 3 should definitely raise alarm bells (Field, 2009). So that the desirable result is when the value is closer to 2, and for this data the value is 1.690, which is so close to 2 that the assumption has almost certainly been met.

Independent errors

For any two observations the residual terms should be uncorrelated (or independent). This eventuality is sometimes described as a lack of auto correlation. This assumption can be tested with the Durbin–Watson test, which tests for serial correlations between errors. Specifically, it tests whether adjacent residuals are correlated. The test statistic can vary between 0 and 4 with a value of 2 meaning that the residuals are uncorrelated (Field, 2009). Durbin–Watson test of model summary was scored a value of 1.690 (table 4.15above) which is very close 2; therefore, the residual terms were uncorrelated or independent.

4.3.3 ANOVA Analysis

The next part of the SPSS output reports an analysis of variance (ANOVA).

Table 4.15 ANOVA of Export Performance

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	50.776	6	8.463	25.321	.000[b]
	Residual	65.505	196	.334		
	Total	116.281	202			

a. Dependent Variable: export performance

b. Predictors: (Constant), market information provision, enabling competition, price discovery, market development, facilitation of physical commodity trade, storage and grading

Source: survey result, 2021

The ANOVA table shows the overall significance/ acceptability of the model from a statistical perspective (Pedhazur, 1982). The summary table shows the various sum of squares described in the table above and the degrees of freedom associated with each. From these two values, the average sums of squares (the mean squares) can be calculated by dividing the sums of squares by the associated degrees of freedom. The most important part of the table is the F-ratio, which is a test of the null hypothesis that the regression coefficients are all equal to zero. Put in another way, this F statistics tests weather the R2 proportion of variance in the dependent variables accounted for by the predictors is zero and the table also shows the associated significance value of that F-ratio (Field, 2009). For this data, F is 25.32, which is significant at P<.001(because the value in the column labeled Sig. is less than 0.000). This result tells us that there is less than a 0.1% chance that an F-ratio. This large would happen if the null hypothesis proposed about F- ratio were true. Therefore, it can be concluded that the regression model resulted in significantly better prediction of export performance and that the regression model overall predicted export performance significantly well.

4.3.4 The Regression Coefficient

This study intended to identify the most contributing independent variable in the prediction of the dependent variable. Thus, the strength of each predictor (independent variable) influencing the criterion (dependent variable) was 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.

Table 4.16 summary of coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	-.708	.247		-2.863	.005	-.220	1.197
	price discovery	.182	.063	.200	2.899	.004	.058	.305
	facilitation of physical commodity trade	.011	.062	.012	.173	.863	-.111	.132
	storage and grading	.012	.077	-.012	-.155	.877	-.163	.140
	market development	.127	.060	.142	2.109	.036	.008	.246
	enabling competition	.236	.052	.274	4.531	.000	.133	.338
	market information provision	.253	.060	.289	4.212	.000	.135	.372

a. Dependent Variable: export performance

Source: survey result, 2021

The marked column B is the value for the intercept (a) in the regression equation on the first row, labeled (constant). The constant beta value is negative which means that if all independent variables are zero, the dependent variable would be equal to that negative value (-.708).

The numbers below the column 'βeta' are the values for the regression coefficients for price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision. Pedhazur (1982) recommended that in the multiple regression, this standardized regression coefficient Beta (β) is useful, because it allows us

to compare the relative strength of each independent variable's relationship with the dependent variable.

The above coefficient table shows the constant beta value (β) and p-value of the variables to examine the significance of the hypothesis. The significance level of each variable (P-value) is: .004, .863, .877, .036, .000 and .000 and their standardized coefficients (β) are .020, -.012, .012, .142, .274 and .289 respectively.

The table above also provides the results of the model predicting export performance through the variables of price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision. According to the results in confirmation with the correlation analysis explained above export performance had a positive and significant relationship with market information provision and enabling competition the remaining four variables have a positive and moderate relationship. But in regression analysis market information provision (p=.000), enabling completion (p=.000),price discovery (p=0.004) and market development (p=0.036) are significant other variables were found insignificant which means storage&grading and facilitation of physical commodity trade because p-value of two variables is not <0, 05.

Based on these results, the regression equation that predicts the role of ECX on export performance based on the linear combination of Price Discovery, Facilitation of Physical Commodity Trade, Storage and Grading, Market Development, Enabling Competition and Market Information Provision is as follows:

EP = -.708 + 0.182 PD +0.127MD+ 0.236 EC +0.253 MIP+ E

Where: EP=Export Performance

PD = Price Discovery

MD = Market Development

EC=Enabling Competition

MIP= Market Information Provision

E = sampling error

From the above equation, it is indicated that market information provision was the most important determinant of export performance (β=0.253, sig=0.000). The next significant correlation was with the dimension of enabling competition (β=0.236, sig=0.00) followed by price discovery (β=0.182, sig=.004) and market development (β=0.127, sig=0.036).

4.4 Hypotheses Testing

In determining what role ECX to have on the export performance of sesame seed exporter members, six hypotheses were developed which were later tested empirically to measure their statistical significant in study context. These hypotheses are mentioned below:

H1: ECX's price discovery has a significant and positive effect on sesame seed export performance.

H2: facilitating the physical commodity trade has a significant and positive effect on sesame seed export performance.

H3: storage and grading service has a significant and positive effect on sesame seed export performance.

H4: ECX's market development function has a significant and positive effect on sesame seed export performance.

H5: competitive market has a significant and positive effect on sesame seed export performance.

H6: market information has a significant and positive effect on sesame seed export performance.

Table 4.16 above indicated that the four variables: market information and provision, enabling competition, price discovery and market development influence export performance of sesame seed exporters significantly at 95% confidence interval with a sig. value of 0.000 , 0.000, 0.004 and 0.036 (sig at ≤0.05) respectively. Based on these statistical results, the hypothesis tests results are summarized below.

Table 4.17Hypothesis test result

S.N	Hypothesis	Reason beta and p value	Result
1	H1: ECX's price discovery has a significant and positive effect on sesame seed export performance.	ß=.182,p<.05	Supported
2	H2: facilitating the physical commodity trade has a significant and positive effect on sesame seed export performance.	ß=.011,p>.05	Not supported
3	H3: Ecx's storage and grading service has a significant and positive effect on sesame seed export performance.	ß=.012,p>.05	Not supported
4	H4: ECX's market development function has a significant and positive effect on sesame seed export performance.	ß=.127,p<.05	Supported
5	H5: Ecx's competitive market has a significant and positive effect on sesame seed export performance.	ß=.236,p<.05	Supported
6	H6: Ecx's market information has a significant and positive effect on sesame seed export performance.	ß=.253,p<.05	Supported

4.5 Discussions of the Results

The objective of this study was to examine the role of ECX to enhance sesame seed export by measuring the level of influence of ECX's core functions on sesame seed exporters' export performance by analyzing ECX's price discovery, facilitation of physical trade, storage and grading, market development, enabling competition and market information provision roles' influence on sesame seed exporters' performance. Factors such as membership types, membership year at ECX, and years of experience in the sesame seed export were taken into account to learn the general profiles/characteristics of the respondents. From among the 203 total respondents, 62% were members while the remaining 38% were non-member direct traders. However, there were no basic characteristics difference found between these two strata in terms of service they get from the Exchange and no significant variation was found in their responses to the questions. In terms of length of membership year at ECX, the majority (44.3%) of the respondents have worked 2-5 years with ECX. Regarding their experience in sesame seed exporting, 46.3% of them have below five years' experience in the sesame seed export business. From the results of the descriptive analysis, it was indicated that the mean score of the independent variables was above the mid-point (3.00) for

all variables. The research finding showed that ECX's overall impact on the export performance of sesame seed exporting members as perceived by the members has scored 3.68 which show that there was a positive and significant relationship between ECX's core functions and exporters' performance. From the regression analysis result, it was indicated that there was significant and positive relationship between market information provision, price discovery, enabling competition, and market development service of Ecx and export performance of its sesame seed exporting members. This finding is consistent with the result of the study conducted by Tamirat (2013) which indicated that ECX has a high concentration and, the findings of the regression analysis support that ECX's competitive market has significant and positive influence on exporters' performance.

Similarly, this correlation analysis result indicated that there is a positive relationship between ECX's price discovery role and exporters' export performance. With regard to the relationship between export performance with facilitation of physical commodity trade and storage & grading, the regression result indicated that there was no a significant positive relationship between these variables which did not same with the findings of Tamirat (2013) who argued that this was one of the roles of commodity exchanges to their market actors. In this research, it was show that insignificant relationship between facilitation of physical commodity trade and storage & grading service of ECX and export performance of sesame seed exporters with a (correlation coefficient of 0.011 and the p value 0.863),and(correlation coefficient of 0.012 and the p value 0.877) respectively and which was greater than 0.05. This indicated that the facilitation of physical trade and grading and storage system of ECX had a problem of bias. This shows that a lot should be done by the Exchange to improve the satisfaction of its members on this service.

The relationship between market information provision of ECX and sesame seed exporters' performance were found to be strongly correlated with a correlation coefficient of 0.253 and the p value of 0.000. This finding was inconsistent with the findings of Ahmed (2017) which concluded that ECX failed to provide accurate and reliable market information to the traders.

The market development and export performance were found to be significantly correlated with a correlation coefficient value of 0.127 and p value of 0.036.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter presents summary of findings, conclusion and recommendations. Moreover, implications and contributions of the findings are also explained in this chapter. Lastly, the chapter describes the recommended area for further research direction.

5.1 Summary of Major Findings

This thesis examined the role of ECX to enhance sesame seed export by measuring the level of influence of ECX's core functions: price discovery, facilitation of physical trade, storage and grading, market development, enabling competition and market information provision on sesame seed exporters' export performance. Accordingly, the overall findings of the research are summarized as follows: -

- The average descriptive statistics for ECX's role on export performance of sesame seed exporters (dependent variable) result showed that, the mean score was above the midpoint (3.00) of the Likert scale which was 3.699. This respondents' overall rating came from ECX's role variables namely: price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision.
- The results of the descriptive statistics of the independent variables showed that, the mean score of market information provision were 3.83 which were the highest rating. The mean score of all variables was also above the mid-point rating with values of 3.47, 3.83, 3.81, 3.63, 3.61, and 3.83 respectively.
- The correlation matrix indicates that the six independent variables were positively correlated with export performance; the strongest correlation coefficient being between export performance and market information provision ($r=.51$, $p\leq0.01$).Export performance is moderately correlated with the remaining independent variables ranging from $r=.411$, $p\leq 0.01$ for facilitation of physical commodity trade to $r=.473$, $p \leq 0.01$ of

price discovery. Hence, there is a moderate positive relationship between these variables and export performance.

- The regression model summary (R = 0.661) indicated that the linear combination of the six independent variables (price discovery, facilitation of physical commodity trade, storage and grading, enabling competition and market information provision) strongly predict the dependent variable (export performance). The linear combination of the dependent variables also explained 43.7% of the variance in export performance and the remaining 56.3 % are explained by extraneous variables, which were not included in this regression model.
- The other major finding of the regression analysis result was that the four independent variables (market information provision, price discovery, enabling competition and market development) influenced export performance of sesame seed exporters significantly at 95% confidence interval with a sig. value of 0.000, 0.004, 0.000 and 0.036 respectively. Still, the other variables have a positive influence on sesame seed export performance which is indicted with a positive correlation coefficient. Accordingly, the study model fit regression equation became = -.708 + 0.182 PD +0.127MD+ 0.236 EC +0.253 MIP+ E.

5.2 Conclusion

The main purpose of the study was to examine the role of ECX to enhance sesame seed export by measuring the level of influence of ECX's core functions: price discovery, facilitation of physical trade, storage and grading, market development and enabling competition on sesame seed exporters' export performance from members' perspective. In order to meet the general objective, survey was made. Questionnaire on dimensions of ECX's roles were developed and distributed to sesame seed exporting members and non-member direct traders of ECX.

Objectives of the research have been attained. The general objective of this study was to measure the role of ECX to enhance sesame seed export. Regression analysis was conducted to verify if the independent variables have influence on export performance. According to the findings, market information provision, price discovery, market development and enabling competition were found to have significant impact on export performance. Overall, it can be concluded that ECX has a significant role to rein the performance of its sesame seed exporter

members through its price discovery, enabling competition, market development and market information provision.

5.3 Recommendations

The researcher forwarded the following recommendations based on the research findings and the conclusion drawn in the previous sections.

- ECX should achieve and maintain effective and transparent grading and storage services in order to improve members' confidence on this regard.
- ECX should focus on building or renting better and scientific storage hardware and introduce better warehouse management practices in order to avoid sesame seed wastage and quality deterioration during storage of sesame seed.
- Regulators of sesame seed marketing and export should control those market actors who create artificial shortages, gluts, and other unnecessary price distortions that do not reflect the realities of the market domestically and internationally.

5.4 limitation and direction for Future Research

The study was conducted only on sesame seed exporting members of ECX. This study was also cross-sectional and explanatory in nature. Future researchers could undertake more in depth longitudinal study on other commodities exporter members of ECX.

This study revealed that export performance of sesame seed exporting members of ECX is affected by other variables than the variables under study (price discovery, facilitation of physical commodity trade, storage and grading, market development, enabling competition and market information provision). Therefore, other variables which could affect export performance of ECX members are potential areas for further study.

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Appendix

Survey -Questionnaire

ST. MARY'S UNIVERSITY

DEPARTMENT OF MARKETING MANAGEMENT

Dear respondents

The main purpose of this questionnaire is to gather information in order to assess on ***"The Role of ECX to enhance agricultural commodities export performance."*** *Y*our genuine information is highly valuable as it determines the success of this study. Therefore, the researcher is very much grateful for the sacrifice you pay to this end and the information gathered will be highly confidential and purely for academic purpose.

Direction

- No need to write your name

Thank you in advance for your time to fill this questionnaire.

Part I: General information of the respondents

Direction: Please put a tick (√) mark on the appropriate box of your answer.

1. Gender

Female ☐ Male ☐

2. How long have you been a member or Non-member direct trader at ECX?

Below 2 years ☐ 2-5 years ☐ above 5 years ☐

3. Your membership type at ECX?

Full member ☐ Nonmember direct trader ☐

4. How long have you been in the sesame seed export business?

Below 5 years ☐ 5-10 years ☐ above 10 years ☐

Part II: <u>Role of Ethiopian Commodity Exchange (ECX)</u>

<u>Direction:</u> Please rate the following statements related to each construct encircling the appropriate number against each question. Where SDA=1, DA=Disagree, N=Neutral; A=Agree; SA=Strongly Agree.

		SDA (1)	DA (2)	N (3)	A (4)	SA (5)
	Price discovery					
1.	ECX's price reflects the fundamentals of the local and international sesame seed industry.	1	2	3	4	5
2.	I get wider supply of sesame seed at ECX.	1	2	3	4	5
3.	ECX avoids shortage, and others pricing distortions by creating better price signals.	1	2	3	4	5
4.	Inter-seasonal price variation is reduced by Ecx.	1	2	3	4	5
	Facilitation of physical commodity trade (FPT)					
5.	ECX has helped me and getting type of sesame seed I want easily.	1	2	3	4	5
6.	ECX has reduced default risk because of its cash market.	1	2	3	4	5
7.	ECX has helped us access remote markets easily.	1	2	3	4	5
	Storage and Grading (SG)					
8.	ECX avoids sesame seed wastage because of better storage facilities.	1	2	3	4	5
9.	ECX introduces better and scientific storage hardware and practices.	1	2	3	4	5

10.	I am confident on the grade and quality of the sesame seed I buy through ECX.	1	2	3	4	5
11.	Sesame seed quality has improved because of ECX.	1	2	3	4	5
	Market Development (MD)					
12.	ECX gives traders continuous capacity building and training.	1	2	3	4	5
13.	ECX gives international trade facilitation service.	1	2	3	4	5
14.	ECX has improved my information and communication technology level.	1	2	3	4	5
15.	ECX introduces new products and services to meet evolving needs.	1	2	3	4	5
	Enabling competition (EC)					
16.	ECX's sesame seed market is not dominated by a few sesame seed traders					
17.	ECX's sesame seed market is competitive					
	Market information provision					
18.	ECX enables sesame seed buyers to make marketing decision based on market data.	1	2	3	4	5
19.	ECX makes me informed about the real price information at its market.	1	2	3	4	5
20.	I get reliable and timely domestic and international (reference price) sesame seed market information.	1	2	3	4	5

Part -III: Export Performance

Direction: Please rate the following statements related to export performance by encircling the appropriate number against each question. Where SDA=1, DA=Disagree, N=Neutral; A=Agree; SA=Strongly Agree.

S. No	Export performance (EC)	SDA	DA	N	A	SA
21.	ECX helps me increase export sale because of its price discovery functions.	1	2	3	4	5
22.	ECX helps me increase export sale by facilitating physical trade.	1	2	3	4	5
23.	The storage and grading service of ECX has improved my export performance.	1	2	3	4	5
24.	ECX helps increase export sale through its market development roles.	1	2	3	4	5
25.	The competitive sesame seed market created by ECX increased my export sales.	1	2	3	4	5
26.	ECX helps me increase export by providing reliable market information.	1	2	3	4	5

Thank you!!