WHEAT SOURCING PRACTICES AND CHALLENGES OF MILLS INDUSTRY IN ETHIOPIA

A Thesis Submitted to the Addis Ababa University, College of Business and Economics, School of Commerce for the partial fulfillment of the requirement of the Degree of Masters of Arts in Logistics and Supply Chain Management

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DECLARATION

Samuel Gizaw endorse that submitted to Addis Ababa University Scholl of commerce for examination for the award of Masters of Logistics and Supply Management. It is completely my own work and has not been taken from the work of others and to the extent that such work has been cited and acknowledged within the text of my work. This thesis has been prepared according to the regulations of postgraduate study of the Addis Ababa University and has not been submitted in whole or in part for an award in any other University or Institute. The work reported in this thesis also conforms to the principles and requirements of ethics in research.

By: Samuel Gizaw

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CERTIFICATE

This is to certify that the work embodied in the accompanying thesis entitled "On Wheat Sourcing Practice and Challenges of Mills Industry in Ethiopia" has been carried out entirely by the candidate under my direct supervision and guidance and that the candidate has fulfilled the requirements of the regulations laid down for the partial fulfillment of the requirement of the Degree of Masters of Arts in Logistics and Supply Chain Management examination of the Addis Ababa University College of Business and Economics School of Commerce.

Advisor: Dr. Shiferaw Mitiku

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Date _____

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The researcher

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ACRONYMS AND ABRIVATION

ANOVA:	Analysis of Variance
BA:	Bachelor of Art
BSC:	Bachelor of Science
CIF:	Cost, Insurance and Fright
EDI:	Electronic Data Interchange
EPR:	Enterprise Resource Planning
ETB:	Ethiopian Birr
ETBCGCT :	Ethiopian Trading Businesses Corporation Grain & Coffee Trading
BU:	Business Unit
FAO:	Food and Agriculture Organization
FAOSTATA:	Food and Agriculture Organization statistics
GAO:	Government Accountability Office of California
ICT:	Information Communication Technology
IFPRI:	International Food Policy Research Institute
IJBED:	International Journal of Economics Development
IJPM:	International Journal of Purchasing Management
IS:	Information System
IT:	Information Technology
ITQM:	Institute Total Quality Management
KG:	kilogram
MA:	Master of Art
MAS:	Master of Science
MOT:	Ministry of Trade
MT:	Metric tone
NPD:	New product Development
PHD:	Doctor of Philosophy
RFID:	Radio Frequency Identification
SCM:	Supply Chain Management
SME:	Small and Medium Enterprises
SNNR:	Southern Nationals Nation Region
SPSS:	Statistical Package for Social Science
UN:	United Nation
US$:	United States Dollar
GDP:	Growth Domestic Production

WHEAT SOURCING PRACTICE AND CHALLENGES OF MILLS INDUSTRY IN ETHIOPIA

ABSTRACT

Mills firms in Ethiopia couldn`t utilize their milling capacity due to lack of enough wheat. This research assessed the sourcing practice and challenges of mills industries in Ethiopia. To this end, the percentage of the milling industry capacity utilized in this sub sector was assessed, and investigated the purchasing and procurement capacities and capabilities of firms. Qualitative and quantitative research approaches were used. Primary and secondary sources were employed. Under this study 80 mills firms located in five regions (Addis Ababa, Amhara, Oromia, Tigray, and Southern Nation Nationality Region) covered with both stratified and random sampling techniques. Firm's administrators were formally interviewed. The researcher used z-statistics and Analysis of Variance and other relevant tests in order to estimate the population mean. And the research finding recognized that mills firms in Ethiopia utilized as below 22 percent of their milling capacity due to lack of enough wheat. And unable to establish and implement capacity and capillarity on their purchasing function. It lastly affected the firms` expansion on their product line, unable to maintain their employer, and unable to compete in the domestic and international market (especially penetrate in neighbors country market). In order to strengthen the industry competitive capacity in the long run government should facilitate commercial wheat farming to increase production and supply sufficient wheat. But for the short run government should allow import of wheat in clustered mills association. Furthermore, millers should establish and implement capacity and capability of purchasing and procurement functionality.

KEY WORDS: - Sourcing, Purchasing Capacity, Purchasing Capability, Connectivity, Coordination, Integrity

CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Companies` competitive environment is the dynamic external system in which a business competes and functions. With the trend toward vertical disintegration and the focus on core competencies, sourcing activities play a critical role in helping firms develop sustained competitive advantage. Leading organizations view the sourcing function as a key strategic contributor to success. Sourcing strategy is therefore an integral part of a firm's business strategy. Both the practitioner and the academic literature provide a multitude of examples and evidence for the strategic importance of the sourcing function. As organizations strive to develop and implement a sustainable sourcing strategy, they are faced with a multiple sourcing practices from which to choose. Often simultaneous efforts along multiple dimensions are warranted.

Over the last decade a number of purchasing practices have gained popularity, including global sourcing, e-procurement, supplier development, supplier involvement in new product development (NPD), and green sourcing. In addition, as organizations have become more integrated with their suppliers, issues related to security of product, information, intellectual property, and knowledge have gained prominence. In the pursuit of developing a sustainable sourcing strategy it is critical to understand the current state of industry-wide sourcing practices. The researcher is enthusiastic in how mills firms in Ethiopia develop capacity and capability on purchase and procurement based on their business strategy.

Beside this as it is however, millers suggest that due to wheat shortages, most of the mills have to be operating at half capacity for the past two years (2014 and 2015 fiscal year). Therefore, why mills firms blame the shortage of wheat supply for their operating at half capacity? Is it may be due to inefficiency of their purchasing and procurement staff?

The researcher felt that this presented a formidable opportunity to understand the current state of established and emerging purchase and procurement practices through an in depth data collection and analysis effort. As such, the study was undertaken with the following

objective in mind: To frame how they develop capacity and capability of the purchasing and procurement staff in relation to competency and develop sustainable sourcing to their business.

This research will follow deductive approach to test the validity of assumptions and theories of modern purchase and procurement management applied in competitive environments. This proposal has the following structure.

1.2 Statement of the problem

Mills firms in Ethiopia do not get enough wheat to operate at their full capacity due to different reasons. The Ethiopian Milling industry manufacturers are producing very much below their machine capacity which ranges between 20 to 25 % of their machine. The major reason is less supply of wheat which meets the specification requirements for flour, pasta, macaroni, and other related wheat products. (Addis Ababa chamber of commerce, 2017). Since lack of enough wheat affected the millers milling capacity which in turn affects their growth, expansion and competency ability? So that they couldn`t suck the unemployment and maintain employer, produce and supply quality product at fair price, and unable to contribute for import substitution. Finally they couldn`t compete domestically and internationally. The shortage of wheat may come from different reasons such as: low volume of wheat production, government laws and directives under the value chain, lack of effective wheat sourcing strategies in the firm, unfair profit margins among wheat suppliers and millers, unable to build trust worth on wheat supplier, the level of professionalism in the purchasing function of mills firms, or the mills firms organizational structure, strategies, inefficient internal process and system of sourcing.

In order to identify the true reason of wheat shortage in mills firms in Ethiopia , Mills firms Strategic sourcing has been extensively researched using empirical studies as well as review work, such as strategic sourcing importance, issues, challenges, processes, and sourcing framework. In addition to these, it needs to determine the relationship between millers and wheat suppliers, and also define millers sourcing practices, and challenges of wheat purchasing.

Based on these, there is no research that integrates mills` firm's critical success factors with strategic sourcing factors. Additionally, there is no analysis of strategic sourcing practices across mills firms in Ethiopia. Therefore, this research aims to understand the current state of strategic sourcing in mills` firms. This research wanted to address that in what extent strategic sourcing is being adopted within the firms, which success factors are critical to mills firms for enhancing business performance and competitive advantage, How strong is millers supplier relationship in order to get sufficient wheat, What are millers demand and supply uncertainties, How strong is their firms purchasing & procurement function and is there any alignment between the organizations' sourcing strategies and execution, What are their global sourcing practices and main challenges of purchase of wheat?

1.3 Research Question

1. To what extent milling industry in Ethiopia utilized their capacity?
2. How mills industry in Ethiopia practices wheat sourcing?
3. What are the causes of demand and supply uncertainty for mills industry in Ethiopia in sourcing of wheat?
4. How mill firms' organizational strategy assimilate with their purchasing function?
5. What kind of supplier relationship is exhibited among wheat suppliers and the mills industry operating in Ethiopia?
6. How mill industries operating in Ethiopia practiced global sourcing approach?
7. What kind of information communication gaps is exhibited among wheat suppliers?
8. What are major challenges of wheat supply for mills industry operating in Ethiopia?

1.4 Research objectives

This research intended to look at how much percent of the mills capacity is utilized and to assess the mills firms` capacity and capability to source enough amount of wheat in relation to their capacity and business strategy.

Sub objectives

- To assess milling capacity of mills industry operating in Ethiopia
- To explore the wheat sourcing practices of mills industry operating in Ethiopia
- To determine the demand and supply uncertainty for mills industry in sourcing wheat.
- To ascertain the relationship of purchasing function with organizational strategy.
- To assess the gap of mills firms` supplier relationship.
- To assess firm`s global sourcing practices.
- To measure firm`s information communication gap
- To identify the major challenges of wheat supply in the mills industry sourcing management.

1.5 Scope of the study

This piece of work would like to address mills firms established and operated in Addis Ababa, SNNR, and Oromia regions started from 2012_{GC} up to 2017_{GC}. Based on the concept of input issues about wheat purchase and procurement management challenges and their impact on the coming competitive position of mills industries in Ethiopia. Therefore, this research is limited only to wheat supply management to mills companies and how firms develop the capacity and capability of purchase and procurement staffs and how much percent they utilized their milling capacity?

1.6 Significance of the study

First and foremost this study will gives necessary information about the reason why mills companies should have align their business strategies with purchasing and procurement. And they will structure and organized their purchasing and procurement staff as it is well aligned with the firm` business strategies and that can coordinated with key wheat

suppliers. Secondly, it will serve as an input for government to drive policies and directives on subsidized wheat supplies. Thirdly, it will help investors, as a new entrance to the sector by giving necessary information about how they develop capacity and capability of purchasing and procurement .Fourthly it will serve as an input for further studies on purchasing and procurement functionalities in the sector.

1.7 Limitation of the study

Even if small scale grain mills mill high percentage of wheat which is produced in the country the study was not include their capacity because they are used as a service giving for individual households for consumption purpose. Beside this the sampling method applied in this study was strata sampling.so that every member of the a population (mills firms) being studied and classify each of them into one, subpopulation, As a result, the researcher couldn`t confidentially classify every member of the population which were operated in Gambela, Harer, and Dredawa in to sub groups due to budget constraints,

1.8 Organization of the study

This thesis was organized into six chapters. Chapter one describe background of the study which specifies statement of the problem, the research objectives, the research scope and significance.

Chapter 2 describe literature reviews about strategic align of purchasing and procurement staff functionality to the firm competitive environment, and introduce the role and impact of sourcing management, and theories of supplier integration and collaboration, and the role of information communication in sourcing and supply chain, finally it elaborate the conceptual framework of the research and the literature gap. Chapter 3 provide the research design and methods which includes research methodology, population, and sample size methods. As well as data collection and analysis methods. In addition to this it will show the ethical issues that will be considered in this research.

Chapter 4. Clarify the result of the research, especially data processing, the respondent profile, and descriptive statistics and response rate,

Chapter 5 is summery of findings, conclusion and recommendation. Under the discussion it is discussion on the findings of the research, based on the findings there is conclusion and recommendation as well as directions of the future research.

CHAPTER TWO
RELATED LITERATURE REVIEW

Under this chapter it is presented the role of purchasing and procurement for the success of the business organization. And describe literature reviews about the fitness of organization strategic plan with the purchasing and procurement staff roles, in addition to this it emphasize resource based view theory in an effort to place the role of the purchasing function in the firm in a theoretical context. The resource based views emphasize the strategic importance of a firm's resources and capabilities. And the role of information communication in sourcing and supply chain. Finally it elaborate the conceptual framework of the research and the literature gap.

2.1 Theoretical Literature Review

2.1.1 Purchasing and Procurement theories

This paper is concerned with the decision process that Purchasing is involved in the purchasing activities that impact the firm's achievement of its goals. The activities of purchasing function should be used on strategies that are aligned with the firm's strategic plans. The strategies should be planed, evaluated, implemented and controlled in order to achieve the long-term goals of the firm's (Cousins, P.D. 2005).The goal of a strategic purchasing function is to support the firm's efforts to achieve its long-term goals. If purchasing has an integrative role in the firms` strategic planning process, then the purchasing function can be characterized as a strategic function (*Paulraj et al, 2006*).

The Purchasing function can vary in its contribution to the firm. The function can be described as non-strategic or strategic, a non-strategic purchasing function is clerical in nature, reactive to other function, and focus on short term issues. A purchasing function is strategic in nature when it is proactive with respect to the firm's goals, integrative and has a long term focus. If firm's purchasing function may be operating at a nonstrategic level or a strategic or somewhere in between (Reck and long, 1988)

A nonstrategic purchasing function's contribution to the long-term or strategic goals of the firm may be insignificant, for example, processing orders, or expediting purchase order requests from other departments. A nonstrategic function also implies that purchasing is not an important activity in the firm. When the firm has nonstrategic purchasing function, purchasing has a low status relative to other major functions in the firm and conducts routine activities that require no more than a reaction by the purchasing staff to the demands of other in the firm. Furthermore to management views purchasing activities as non-valued added, a non-strategic purchasing function has low visibility and low relevant purchasing skills with respect to strategic planning and managing the firms` suppliers. (*Paulraj et al, 2006*).

Therefore, purchasing personnel provide minimal input to the firm's decision making process. In general, purchasing is reactive rather than proactive in performing purchasing activities (Keough, 1994).

A strategic purchasing functions in contrast to a nonstrategic purchasing function, is viewed by top management as an important resource of the firm (Keough, 1994). The purchasing function is involved in the firm's strategic planning process. Also purchasing is treated as an equal to other major functions in the firm (Freeman and Cavinato, 1990) and purchasing proactively seeks opportunities to provide inputs that will have a significantly positive impact on the quality of a firm's product and future growth of the firm. In strategic purchasing function, purchasing professionals possess the knowledge and skills to perform at a strategic level. They receive professional development training to enhance their skill level. Purchasing performance evaluation measures are qualitative as well as quantitative, for example purchasing is evaluated on their knowledge of supplier markets, innovation in strategic planning, communication with other functions and general management skills (Reck and Long, 1988).

In addition to the purchasing function, must have access to vital information to make purchasing decisions that are aligned with the firm's strategic goals? In sum, a strategic purchasing function conducts activities that require more proportional limitation on the part of the purchasing staff as it interacts with others within and outside of the firms.

Firms may elevate the purchasing function to a strategic level due to the relatively critical and high dollar value of materials and/or services produced by the firm, in many industries, purchasing spends more than 50 percent of the sales dollars (Cousins, P.D., Lawson, B. and Squire, B. 2006). A firm may have unique capabilities in its purchasing functions. The purchasing professionals employed in a strategic purchasing function are considered resources of the firm from a theoretical perspective, a firm's resources can be used to support its capabilities so the firm can achieve a competitive advantage. The next section introduces the resource based view to highlight the importance of the firm's resource.

This section focuses on the resource based view theory in an effort to place the role of the purchasing function in the firm in a theoretical context. The resource based views emphasize the strategic importance of a firm's resources and capabilities. Such as:- Human resources employee skills the purchasing staff contributes to the firm through their involvement and by involving key suppliers in the firms` process. And also functional are capabilities purchasing develop and aligns purchasing strategies with the corporate strategy to meet the firms goals. In addition to this competitive advantages (profitability and growth of the firm) will be evidence of the firm's sustained competitiveness and success in the market place over a number of years. (Barney, Jay, .1991)

Capabilities- A firm can sustain its competitive advantage as long as it has unique capabilities that exceed its competitors unique purchasing activities, that are strategically oriented toward accomplishment of the firm's goals, help the firm to sustain its competitive advantage (Ramsey, 2001) under the heading competition advantage, measures of firm's financial performance, such as profitability and growth, are included because a competitive advantage can be sustained if it is successful over the long term.

A strategic purchasing function cab helps a firm to sustain its competitive advantage in a number of ways. First, it provides value in the area of cost management. Effective management of the cost of inputs to production saves the form dollars that go straight to the firm's bottom line profits. Second, it provides the firm's valuable information

concerning supply trends that will enable the firm to make better decisions and achieve its goals. Third it establishes close relationships where appropriate with supplicates to improve the efficient quality and delivery of materials (Barney, Jay, 1986). Thus a strategic purchasing function is on that fits the needs of the firm and strives for consistency between its capabilities and the competitive advantage being sought by the firm (Rajaagopal and Bernard, 1993).

2.1.2. Supply Chain Information Communication Theory

Proper Supply Chain Management (SCM) has proven essential for the competitiveness of organizations, since it ensures the effectiveness of supplies, and the proper coordination with suppliers, intermediaries and market needs. The use of Information and Communication Technology (ICT) in the SCM has proven to have a positive impact in companies that have implemented it, particularly in relation to procurement, since this enhances collaboration, improving the quality of information shared between suppliers and buyers. (Monica Colina, Raquel Galindob Octavio Hernándezc. Information Technology Quality Management, 2015).

Information and Communication Technology roles in Supply Chain Management.

Currently, the supply of material resources is influenced by different factors. One of them is the implementation of ICT strategies. Over the last years, companies such as manufacturing SMEs that have integrated the usage of computer systems in their business operating activities, have benefited greatly from information management and from the decision making that the businessman has to do constantly in order to improve organizational development, and these benefits are reflected mainly in relation to procurement, having better collaboration and specific support agreements with the purpose of avoiding delays in the delivery of material resources. For manufacturing SMEs, proper adoption of ICT will enable the SCM to have a reliable management information system so that the accuracy of the data gives confidence to the business relationship, especially in terms of procurement, plus an adequate inventory control, a good forecasts system and a better computer control status of material resources allow

these kinds of businesses to have competitive advantages and better performance. (Sweeney. E, 2005)

Clark *et al*, (2001) proposed a vertical differentiated hierarchy of inter organizational connectivity .It consists of seven levels. Physical data transfer, Technology supported document transmission, EDI, New information intensive process and data sharing, new policies and integrated operation, Joint optimization, Virtual channel integration.

2.2 Empirical Literature review

There are six key building blocks to bolster procurement capability and enabling procurement value within an organization. 1. Strategy 2. Governance 3. Organizational Interface 4. People 5. Processes 6. Technology. (Peter Morichoritis, 2012)

Globalization of market and operations, including outsourcing, lead to global purchasing and supplier development. This perspective indicates the importance of effective procurement and supply functions for organizational effectiveness and competitiveness. In addition, developments in IT/IS, such as enterprise resource planning and radio frequency identification, have a significant impact on procurement functions and supply management. IJPM addresses development of procurement resources, highlighting the im plications that purchasing and supply management functions have on organizational prod uctivity and competitiveness in the global market. (Mawuko Dza, 2015)

The source process is one of the important strategic areas for company success and further improvement activities. The main reason for this is due its position as starting activity for the flow of raw materials into final product within the company (Carter *et al*., 1998).

Purchasing consortium is formal or informal arrangement, where two or more organizations, who are separate legal entities, collaborate among themselves, or through a third party, to combine their individual needs for products from suppliers and to gain the

increased pricing, quality and service advantages associated with volume buying. (Hendrick, 1997).

The relationship that is established with critical items and services suppliers are very important for the success of every company. The number of suppliers to work with depends upon the technological sophistication of the items, characteristics of the supply market, supplier capabilities and philosophy of the buyer (Fawcett *et al*. 2007).

There has to be a supplier's performance measurement process that collect and provide information to measure, rate, or rank suppliers on a continuous basis. This measurement scheme would enable to separate critical few suppliers from trivial many (Trent, 2010).
Supplier IT integration is not found to be significantly related to procurement capability. Procurement capability is in turn found to be positively associated with firm performance. Positive relationships among customer collaboration, supplier collaboration, customer IT integration, and procurement capability all these variables emerge as best practices of firm's demonstrating high procurement capability.
(C Gimenez, 2012).

IJPM proposes development of procurement resources, with emphasis on the implications that purchasing and supply management functions have on organizational productivity and competitiveness in the global market. The globalization of market and operations, including outsourcing, lead to global purchasing and supplier development that are closely related to the success of a company. This perspective indicates the importance of effective procurement and supply functions for organizational effectiveness and competitiveness. In addition, developments in information technology (IT) and information systems (IS) such as enterprise resource planning (ERP) and radio frequency identification (RFID) have a significant impact on the procurement functions and supply management. (Samuel Pule, 2017).

The decision at procurement process would be a binding contract for the organization and it has a great impact on operations, inventory level and quality of product and services to be delivered to customers. The objective of procurement is basically attainment of what are commonly known as 5R's. These are the procurement of good quality product at a right quantity, from the right source at a right time with a right price. (Fawcett *et al*. 2007)

Right suppliers are those who can deliver high quality materials and services at every time. The relationship that is established with critical items and services suppliers is very important for the success of every company. The number of suppliers to work with depends upon the technological sophistication of the items, characteristics of the supply market, supplier capabilities and philosophy of the buyer (Fawcett *et al*. 2007).

Procurement maturity is viewed as a broad and aggregated concept of organization structures, strategies, supplier relationships, internal processes and systems (Van Weele, 2010).

Maturity of procurement is referred to "the level of professionalism in the purchasing function" (Rozemeijer *et al*., 2003).

Procurement functions to the six dimensions of procurement maturity, strategy, processes, control, organization, information and e-Technology are Procurement competitive capability maturity. (Pongpangn Ponsuan, 2016).

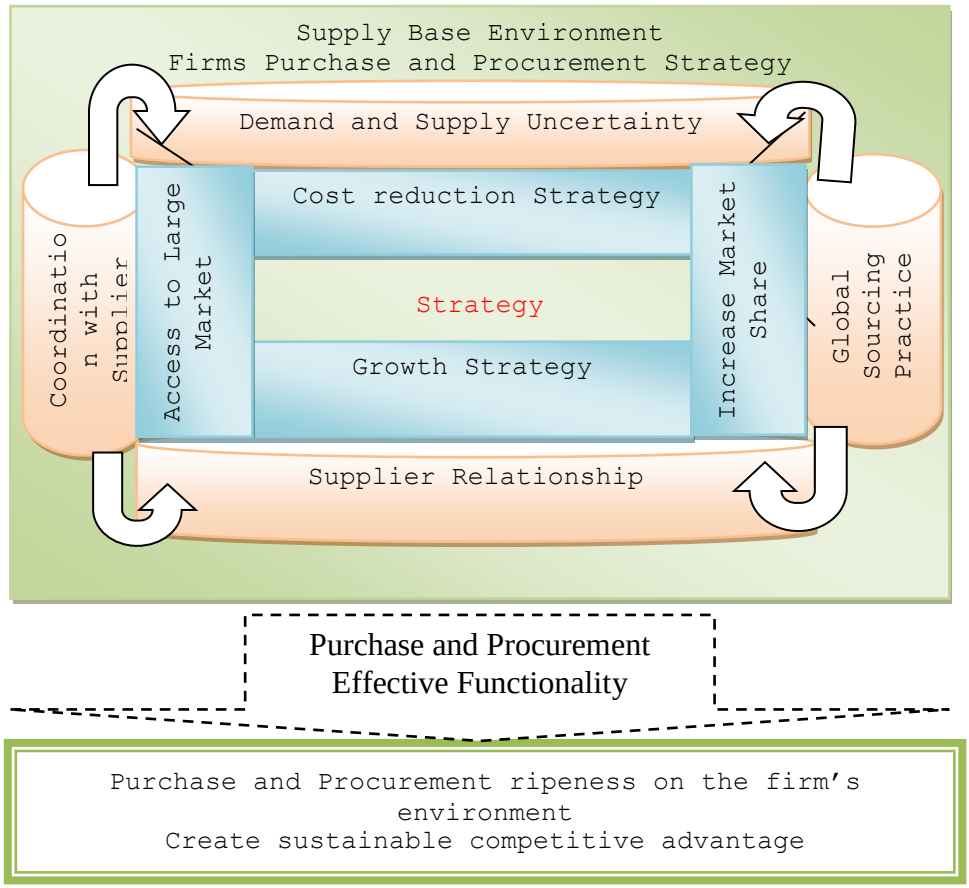
2.3 Conceptual framework of the study

The procurement competitive capability ripeness relayed on procurement functions to six maturity dimensions; strategy, processes, control, organization, information, e-Technology. Competitive capacity and capability on purchasing and procurement of mills firms that have an impact on the future competitiveness of mills firms in Ethiopia. Capabilities of purchasing develops and aligns purchasing strategies with the corporate strategy to meet the firm's goals such as cost reduction strategy, growth strategy, Access to large market strategy and Market growth strategy. Finally these strategies link with demand and supply uncertainty, partnership with input suppliers, coordination with suppliers, and global sourcing. These will contribute to minimize purchasing and procurement cost, increase

capacity utilization, profit and market share, these will lead to growth and sustain competitive advantages.

For this particular research, the researcher would identify the general supply base environment such as supply and demand uncertainty, suppliers` relationship, Purchase and procurement effective functionality, global sourcing practices and factors of purchasing and challenges of mills firms in Ethiopia.

Figure 1 Framework of identified features which characterize the supply base environment



Source: Researcher self-finding

2.4 Identified literature gap

As it is shown under the above empirical research review the researchers focuses on the firms internal factors those can strength firms` capacity and capability to have strengthen purchase and procurement functionality. However, they do not address the external factors those can contribute the effectiveness and inefficiency of purchasing and procurement staff.

Therefore, in this specific research the researcher want to address milling capacity utilization percentage, sourcing practices especially, and Supply base environments those affect purchase and procurement. And basic challenges which affect purchase of wheat.

CHAPTER THREE
METHODOLOGY OF THE STUDY

This chapter discusses the research methodologies, and design used in the study including strategies, instruments, and data collection and analysis methods, while explaining the stages and processes involved in the study.

3.1 Description of the study area

The study focus on mills firms in Ethiopia. Located in Addis Ababa city and surroundings, Oromia region (Sululta, Gelan, Burayu, Guder, Ambo, Adama, Asela, Ziway and Shashemene), Amhara region (Gonder, Bahirdar), Tigray region (Mekele,Shire). SNNR (WolayitaSodo, Silite, Welkite, Hadiya, Hosaena, Sidama, Kenibata and Butajira). This selected on stratified sampling on wheat surplus area and which are not wheat producer and surplus area. The selection of this places are considered the density of mills firms in the city.

Table 1 Distributon of population (large scale flour factories)

Region	*number of factories*	*% of flour mill*	*Average Capacity*	*Estimate total capacity*
Tigray	27	4%	11.7	316
Amhara	44	6%	10.4	458
Oromia	212	40%	10.7	2911
SNNR	94	14%	17.1	1607
Addis Ababa	183	27%	9	1647
DireDawa	38	6%	17.3	657
Harari	10	1%	0	133
Other	14	2%	0	186
Total	622	100%	76.2	7915

Source: Ministry of Industry (2017)

3.2 Research approach

In this specific research the researcher followed quantitative and qualitative research approaches. So that the methodology of this research was based on both inferential and descriptive study, the data which was gathered was analyzed in light of the literature review in the frame of reference. This method is used as to identify percentage of capacity utilization and purchase practice and challenges of mills firms.

3.3 Population and Sample Design

The population includes 622 modern big mills factories operating in Ethiopia. These firms were established in Ethiopia and involved in the production and distribution of flour and pasta and macaroni in the Ethiopian market. 80 samples mills factories was selected from all mills factories found and operating in Ethiopia. Under this research it was used strata sampling method to select 18 firms from Addis Ababa, 12 firms from Oromia, 24 firms from Amhara.12 firms from Tigray and 10 Firms from SNNR. And it was also used random sampling to select mills firms in each region .In this research there was total 80 respondents each was the representative of their company and mills firms had only one representative of the respected firms who was the respondent of the interview. He/she can be one of: - company`s executive manager, operational manager, marketing manager or information communication manager of the firms. The sample size was determined by adopting Carballo's Sample Size Determination method. Base on this method, if the population number is under the range of 501 up to 1200 he suggested that the sample size to be 80 as medium and 125 as high. As mills firms total population is 622, so It was enough to determine the medium one 80 sample because this is the most appropriate technique to use if a population is largely homogenous with no meaningful internal structure. Beside these in order to ensure exact proportional representation and statistically valid when carried out properly. For reference here is Carvalhos sample size determination table.

Table 2 Carvalho`s sample size determination table

Population Size	Sample Size		
	Low	Medium	High
51 – 90	5	13	20
91 – 150	8	20	32
151 – 280	13	32	50
281 – 500	20	50	80
501 – 1200	32	80	125
1201 – 3200	50	125	200
3201 – 10000	80	200	315
10001 – 35000	125	315	500
35001 – 50000	200	500	800
Source: J. Carvalho, (1984).			

3.4 Data Collection Procedure

After having well-structured questionnaires, Primary Data was collected using face to face interviews. And secondary historical data was collected from different level reports of milling companies, stakeholders and related websites in order to define the problem. The data collection aimed at getting credible validated information from the respected managers about how their firms practice sourcing, their sourcing strategies, their purchasing and procurement capacities and capabilities along with operations and their IT infrastructures.

3.5 Method of data analysis and presentation

Inferential and descriptive statistics was used in this research. Especially, to predict the population capacity utilization percentage the researcher used Z-statistics and ANOVA test. And asses the purchasing and procurement practice and challenges the researcher use a typical 5 point Likert Scale constitutes of five Items ranging from “Strongly disagree” to “Strongly agree”. Which is one of highly used scale in marketing research which focuses on degree of agreement or dis agreement. And use descriptive statistics in order to evaluate the mean and range of each item of the research tools. The respondents were presented with a series of statements about the stimulus objects and asked to provide views on agreement or disagreement with each of the statement. The data may be categorized and sorted into cases, as the primary basis for organizing and reporting the study findings.

The researcher uses computer software called Statistical Package for Social Science (SPSS) for entering, analyzing and making inferential decisions of the data.

3.6 Reliability and Validity test

The researcher used Cronbach`s alpha reliability test to assure assessment tool produces stable and consistent results. It was tell us if the item that was designed was accurately measures the degree of agreement whether modern sourcing practice applied or not in the mills industry of Ethiopian. And Cronbach`s alpha test result to be acceptable rate which was ($0.8>\alpha>=0.7$). The researcher also used Gamma, Somers`d, Kendall`s tau-b, Kendall`s tau-c tests .Especially Gamma test for a symmetric measure of association between two ordinal variables, and Kendall`s tau-b and tau-c for measure of correlation for ordinal variables to check the significance statistical value was between 0 and +1 it shoes positive relation among grouped items.

On the other hand the researcher used content validity test that assumes the target construct can be broken down into elements and that we can obtain a representative sample of those elements which show purpose of our test and define content domain based on relevant standard. The researcher also used criteria validity which is the degree to which test scores correlated with predict, or informed decisions regarding other measures.

3.7 Ethical Considerations

Before the researcher interviewed each respondent he asked the permission of the people who randomly selected to be the respondent of the research. And protected and ensured the dignity and welfare of all participant, for everyone those who may be affected by the result of the research project.

The researcher didn`t do anything that would cause physical or emotional harm to the research subjects. This could be something as simple as being careful how he worded sensitive or difficult questions during the interviews. In addition it was attempted to comply with state and federal laws and reputation.

Another big issue that the researcher balanced that Objectivity Vs subjectivity in this research; therefore, it was assured that the researcher personal biases and opinions did not get in the way of the research and avoid any fabricate or falsify data in the research.

It is obvious that the researcher did not publicized until it get Institutional approval by the university.

CHAPTER FOUR

RESULTS, DISCUSSION AND INTERPRETATION

This chapter deals with the presentation of data, its interpretation and analysis and presentation of findings will be addressed. To collect the data and extract findings, an interview question was prepared and interview was conducted with the Mills factories employers. The interviewer response is taken as the Company's response. Documents such as reports of the firm and collective agreement were also reviewed and relevant information was collected through various means. So the next section presents the data gathered from the Companies.

4.1 Demography

Response rate: - From the sample size 80 respondent all of them response to all item in the questionnaire:

Table 3 Respondent rate

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	80	100.0	100.0	100.0

4.1.1 Respondent level of education

There is no PhD holders in the respondent. There are 5 MA/MAS holders which constitute 6.3% of the respondent, 24 BA/BAs holders which constitute 30% of the respondent, 51 respondent who are below BA/BS holder in their educational level. Which constitute 63.7% of the respondent.

Table 4 Respondents level of education

Educational Level of respondent	Frequency	Percent	Cumulative Percent
MAs holders	5	6.3	6.3
BA/BAs holders	24	30	36.3
Below Degree holders	51	63.7	100
Total	80	100	

Source: own survey, 2018

4.1.2 Position of respondent in the firm

There are 60 (75%) exertive managers in the respondent which constitute of the respondent. 5 Operational managers which constitute 6.3% of the respondent, 14 information communication managers which constitute 17.5 % of the respondent, and 1 marketing manager 1.3 % of respondent.

Table 5 Position of respondent in the firm

Position of respondent in the firm	**Frequency**	**Percent**	**Cumulative Percent**
Executive Manager	60	75	75
Operational Manager	5	6.3	81.3
Information Communication Manager	14	17.5	98.8
Marketing Manager	1	1.3	100
Total	80	100	

Source: own survey, 2018

4.1.3 Respondent Experience in the milling Industry

There are 15 respondents who have 1-3 years which constitute 18.8 % the respondent, 26 respondent who have 4-6 years of work experience which constitute 32.5 %, 17 respondent who have 7-9 years work experience which constitute 21.3 %, and 22 respondent who have 10 and above years work experience which constitute 27.5 %.

Table 6 Respondents` experience in the milling firm

years of service in the industry	Frequency	Percent	Cumulative Percent
1-3 years	15	18.8	18.8
4-6 years	26	32.5	51.2
7-9 years	17	21.3	72.5
10 and above years	22	27.5	100
Total	80	100	

Source: own survey, 2018

4.1.4 Purchasing or Procurement staff member number

Among other things, organization need to develop functional specialization in the area of purchasing strategic parts. This specialization can of course be share among many duties running simultaneously, but it is a must for an effective structural design of the organization as a whole. In this sense, internal integration and external integration are key aspect to take in to account.

This expansion of the purchasing role is required to secure an adequate supply both in domestic and global supply. But, when we see the mills firms In Ethiopia from the sample survey 26 companies 32.5 % of the sample only have one purchaser ,28 companies 35 % of the sample have two purchaser, 22 companies 27.5 % of the sample have three purchaser, 2 companies 2.5% of the sample have four purchasers, 2 companies 2.5% of the sample have five purchasers. Totally there are 166 purchasers in the sampled 80 companies. As an average there are 2 purchasers in each company. This show purchasing functionality given the lowest place in the firm's strategy. So that they can`t create purchasing capacity and capability to the firm.

Table 7 Purchasing officers number in the firm

Purchaser officers number in the firm	Frequency	Percent	Cumulative Percent
Only one purchaser	26	32.5	32.5
Two purchaser	28	35	67.5
Three purchaser	22	27.5	95
Four purchaser	2	2.5	97.5
Five purchaser	2	2.5	100
Total	80	100	

Source: own survey, 2018

Reliability of items

The reliability of measurement scale are determined by analysis of internal consistency and Cronbach`s coefficient of alpha (α) test. The threshold value of coefficient alpha 0.70 or above is sufficient for a measure to be acceptable (Nunnaaly, J.C. 1978). In this study, Cronbach`s coefficient alpha (α) = 0.834 which exceeds the minimum threshold value.

Data collection is from soon line survey with the follow up interview of 80 companies consisting of 56 questions related to capability maturity of purchase and procurement. Fifty one question was scored on 5 point likert- scale with foundation Strongly Disagree=1, Disagree = 2, Neutral =3, Agree =4, Strongly Disagree =5, And Three questions figures about the company Four questions data that describe the respondent.

4.2. Company's` group

In this research companies are grouped according to the percentage of their utilization capacity in the 2009_{EC} fiscal year. This utilization capacity may show the company`s status in the market. They grouped recession, infant, growth, matured, and pioneer. This group again grouped based on their region. Addis Ababa, Oromia, Amhara, Tigray, and SNNR.

Addis Ababa has 22.5 percent representation in the sample from these 8.8%, recession, 3.8%, Infant, 5%, growth, 3.8% Matured and 1.3%, Pioneer. Oromia region has 20% representation in the sample and 3.8%, recession, 12.8%, Infant, 3.8%, Growth with no matured and pioneer company. Amhara region has 30% representation in the sample which has 15%, Recession, 10%, Infant, 2.5%, Growth, 2.5%, Matured and there is no pioneer. Tigray region represent 15% of the sample which has 2.5%, Recession, 3.8%, Infant, 3.8%, Growth, 5%, Matured, and has no pioneer company. SNNR has 12.5% representation in the sample which has 1.3%, Recession 2.5%, Infant, 2.5%, Growth 3.8%, Matured and 2.5%Pioneer.

4.2.1 Association of companies group test

As we can see from the chi-square test to determine whether the variable are independent, compare the p-value to the significance level. A significance level of 0.05 indicates a 5% risk of concluding that an association between the variable exists, when there is no actual association. Therefore the test showed that the significant level is 0.014 it is less than 0.05 indicates statistically significant to conclude that an association between the variable exists.

Table 8 Chi-square test for association of companies` group

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	30.910[a]	16	.014
Likelihood Ratio	30.785	16	.014
N of Valid Cases	80		

Source: own survey, 2018

4.2.2 Difference in company`s group mean test for capacity utilization Percentage

As it shows the one-way ANOVA test .To determine whether any of the differences between the means are statistically significant (we use harmonic mean because of the sample of all region is not equal), we compare the p-value to significance level (0.05) to assess Addis Ababa chamber of commerce estimate. That state all mills firms in the country capacity utilization means are all equal. Usually, a significance level (denoted as α or alpha) of 0.05 works well. A significance level of 0.05 indicates a 5% risk of concluding that a difference exists when there is no actual difference.

P-value (0.03) ≤ α (0.05): The differences between some of the means are statistically significant

The p-value is less than the significance level, therefore, we reject chamber of commerce estimate and conclude that not all of population means are equal. That means the mills company which located in different region utilize their capacity at different level.

Table 9 ANOVA test for mean difference in regional group milling capacity utilization

Group type	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30949.783	73	423.970	10.592	.003
Within Groups	240.167	6	40.028		
Total	31189.950	79			

Source: own survey, 2018

As it is depicted on the population mean estimate table Companies existed in Addis Ababa city didn`t utilized their capacity not more than 22.64%. Oromia utilized between 3.38% up to 10.68 %, Amhara utilized 6.1% up to 13.63%, Tigray 10.9% up to 23.6%, SNNR 12.54% up to 36.6 %. The reason of this variation of capacity utilization came from the endowments factor and factor and access of transport and market to source the wheat. Especially companies which situated in SNNR has big access to domestically produced wheat from Bale region and Silite zone which is wheat belt areas and geographically near to them.

Table 10 Mean of millers milling capacity utilization by region

Factory`s region	Std. Deviation	Harmonic Mean
Addis Ababa	33.932	6.98
Oromia	7.446	7.03
Amhara	8.658	10.17
Tigray	11.221	17.25
SNNR	19.626	24.70
Total	19.870	9.62

Source: own survey, 2018

Table 11 ANOVA test for regional group mean of milling capacity utilization

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13347.132	34	392.563	.990	.506
Within Groups	17842.818	45	396.507		
Total	31189.950	79			

Source: own survey, 2018

As we have seen the ANOVA TEST table 12. Within 17 capacity group level the level of significance is 0.799 which indicates greater than the p- value 0.05 and not statistically significant there is no difference in milling capacity among market share group.

Before it was concluded that it must be tested whether there was relationship or not between percentage capacity utilization percent within the milling capacity of the firm. As we have seen the ANOVA TEST within each capacity level the level of significance is 0.506 which indicates greater than the p- value 0.05 and not statistically significant there is no difference in milling capacity among regional group.

Table 12 Population mean estimate summery

	sample size (n)	√of n	sample mean (Ẋ)	standard deviation of sample (α)	5% significance level critical table value	s/√n		Lowest level of utilization percent	Highest level of utilization percent
Region	a	b	c	d	e	f=d/b	g=e*f	h=c-g	i= c+g
Addis Ababa	18	4.24	6.98	33.9	1.96	7.99	15.66	(8.68)	22.64
Oromia	16	4.00	7.03	7.44	1.96	1.86	3.65	3.38	10.68
Amhara	24	4.90	10.17	8.65	1.96	1.77	3.46	6.71	13.63
Tigray	12	3.46	17.25	11.22	1.96	3.24	6.35	10.90	23.60
SNNR	10	3.16	24.7	19.62	1.96	6.20	12.16	12.54	36.86

Source: own survey, 2018

From this result we can conclude that Mills company in Ethiopia didn`t utilized their capacity more than 22% which more related to the sample mean.

$\mu = \sum_i^n x1/n$

μ= (22.64+10.68+13.63+23.6+36.86)/5

μ= 21.49

Value chain study on wheat industry in Ethiopia by (Addis Ababa chamber of commerce, 2017) assures Ethiopian Milling Industry Manufacturers are producing very much below their machine capacity which ranges between 20 to 25 % of their machine. In addition, International Food Policy Research Institute (IFPRI Washington DC, 2015) assures that large-scale flour factories in Bale, Arsi, and North Gonder suggest that it is utilized around 25-35 percent. Therefore, it is clear that the milling capacity of miller utilized

below 22% .The main factors of this below milling capacity utilization was sourcing problem.

The main issue which can affect capacity utilization of mills firms in Ethiopia is lack of inputs which is raw wheat. Therefore the researcher wants to address the sourcing practice of mills industry and how they attain the procurement and purchase capacity and capability as well as the external factors those can affect the purchasing and procurement in eight categories as follows.

4.3 Purchase and Procurement Capability Ripeness

As the research designed five point Likert scale constitute of five item ranging from 'strongly disagree ' to 'strongly agree' to assure the degree of agreement or disagreement about the purchase and procurement function ripeness base on each item. The researcher used Gamma, Somers`d, Kendall`s tau-b, Kendall`s tau-c tests .Especially Gamma test for a symmetric measure of association between two ordinal variables, and Kendall`s tau-b and tau-c for measure of correlation for ordinal variables. As show from the table for strategies significance is between 0 and +1 it shoes positive relation among items.

Table 13 Correlation test for factors of purchasing

Symmetric Measures					
Purchasing strategies	correlational test	Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Access of large market	Kendall's tau-b	.165	.094	1.747	.081
	Kendall's tau-c	.136	.078	1.747	.081
	Gamma	.250	.142	1.747	.081
Cost reduction strategy	Kendall's tau-b	.039	.087	.445	.657
	Kendall's tau-c	.036	.080	.445	.657
	Gamma	.052	.116	.445	.657
Growth Strategy	Kendall's tau-b	.092	.094	.984	.325
	Kendall's tau-c	.079	.080	.984	.325
	Gamma	.133	.136	.984	.325
Access to large market strategy	Kendall's tau-b	.186	.093	1.997	.046
	Kendall's tau-c	.155	.077	1.997	.046
	Gamma	.278	.138	1.997	.046

Source: own survey, 2018

4.3.1 Wheat sourcing practices

Table 14 shows that Seeking of competitive advantage with a cost reduction strategy mean of 2.54 and SD 1.1 .Growth strategy mean of 3.16 and SD 1.06, Increase market share strategy mean of 3.38 and SD 0.99, Access to large market strategy mean of 3.39 and SD 1.00. But when we see benchmarking study of strategic sourcing in (Michigan State University, 2011) Seeking of competitive advantage with a cost reduction strategy mean of 4.2 and SD 0.99 .Growth strategy mean of 3.96 and SD 1.07, Increase market share strategy mean of 3.72 and SD 1.1, Access to large market strategy mean of 3.64 and SD 1.09.

Table 14 Mean of factors of purchase

		cost reduction strategy	growth strategy	increase market share strategy	access large market strategy
N	Valid	80	80	80	80
	Missing	0	0	0	0
Mean		2.54	3.16	3.38	3.39
Std. Deviation		1.102	1.061	.998	1.000

Source: own survey, 2018

Even if there are some valid reasons for an organization not to explore strategic sourcing. There may be a need for diverse, unique requirements; a lack of economies of scale; separate pots of funding; independent supplier business units; and political pressures for specific suppliers (Moore et al., 2004).Under Government Accountability Office of California (GOA,2013) or (Dwayne Q. Lyons,Thomas G.Maloney and Brett M.Rodgers, 2013). Found that some obstacles to strategic sourcing were a result of agencies wanting to maintain control over their contracting activities and retain the flexibility to purchase unique requirements.

Strategic sourcing has evolved as one of the enablers for supply chain performance enhancement in recent years (Dey et al. 2014). However, many studies have revealed that

it's still in nascent state in both developed and developing economies (Ho, et al. 2011, Scott et al. 2014). Therefore, linking strategic sourcing practices with other functional activities within the organizations and organizational strategic intents is of interest of any organization across industries and countries.

Survey of large firms in French industries by France Graduate School of Business Administration on international purchasing strategies and practices showed that motivations that lead toward international sourcing search for lower costs and right quality requirements appear to be the main reasons for global purchasing; both are viewed as "very important" or "important" by over 80 % of respondents. Then comes care for technological innovation (64.7 % of answers). Better delivery is rated as 10.6 % and 27.8 % respectively. Besides, among the strong motivations to buy abroad, respondents also checked scanning business environment (supply market, technologies, clients and competitors) stimulating some domestic suppliers. Both are considered by 80 % of respondents. Countertrade requirements are ranked as an important or very important reason by only 10.8 %, license agreements by 14.7 %.

Many scholars see the need of strategic sourcing and its positive impact on organizations' performance and competitive advantage (Kocabasoglu and Suresh, 2006; Chiang et al., 2012), this research reveals that strategic sourcing is still an emerging function within millers and food complexes in Ethiopia. As it is clearly discussed the statistical output and international practices above Ethiopian mills industry factors of purchasing inclined to access to large market and Increase market share .However , Cost reduction strategy and growth strategies are implemented at a low level compared to developed country.

4.3.2 Demand and Supply Uncertainty

This paper explore wheat demand and supply uncertainty factors in the mills industry in different regions of the country. Our central premises is that the insight gained from the study of one type of uncertainty often do not apply to the other. In fact the two types of uncertainty are in a sense mirror image of each other, in that the optimal strategy for coping with supply uncertainty may be exactly opposite to that for demand uncertainty.

4.3.2.1 Supply uncertainty

As it is depicted on the symmetric measures in table 15, all items in the supply uncertainty questions are correlated means significance is 0.39 which is between -1 and +1 and positively related.

Table 15 Supply uncertainty items correlation test

ordinal by Ordinal	Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Kendall's tau-b	-0.11	0.128	-0.859	0.39
Kendall's tau-c	-0.082	0.096	-0.859	0.39
Gamma	-0.17	0.198	-0.859	0.39

Source: own survey, 2018

And as shown on the table 16, 83.75% that means mean of 3.8 and SD 0.93 respondent agreed that suppliers produce materials with consistent quality, 77% that means mean of 4.19 and SD 4.49 suppliers consistently meet their requirements the standard deviation show that there is big variation under this item, 62.5% that is mean of 3.61 and SD 1.23 have extensive inspection of incoming critical materials from suppliers, and 32.5% that means a mean of 2.83 and SD 1.13 have a high rejection rate of incoming material from supplier.

Table 16 Mean of uncertainty of supply

statistics					
		produce consistent quality	meet quality requirement	inspection function	supply high reject rate
N	Valid	80	80	80	80
	Missing	0	0	0	0
Mean		3.8	4.19	3.61	2.83
Std. Deviation		0.933	4.489	1.238	1.134

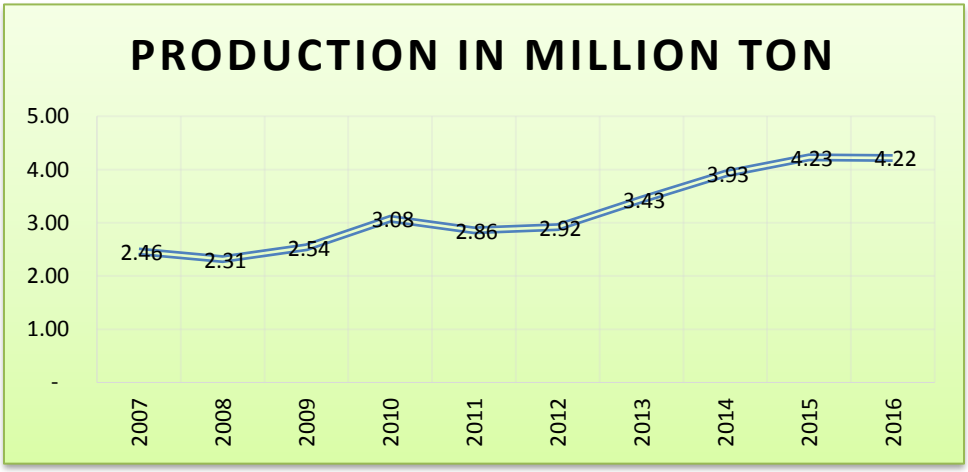
Source: own survey, 2018

Survey of large firms in French industries by France Graduate School of Business Administration on international purchasing strategies and practices showed that with

regard to quality assurance, it appears that an audit is required by the buyers beforehand on an average of 46.6 %. This information is one indicator among others of the fast growing importance of total quality requirements among the main cares of purchasing agents and consequently of the need for closer interrelation with the supplier in lots of situations. From benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that mean of 3.77 (75.4%) respondent agreed that suppliers produce materials with consistent quality, mean of 3.65(73%) suppliers consistently meet their requirements, mean of 3.12(62.4) have extensive inspection of incoming critical materials from suppliers, and a mean of 2.13(42.6) have a high rejection rate of incoming material from supplier.

One of the supply uncertainty factors of millers in Ethiopia is Domestic production volume. Ethiopia wheat production increases year to year. 2.46 million tons in 2007 to 4.22 million ton in 2016. Ethiopia wheat production rate is increasing with decreasing rate

Figure 2 Wheat production Growth trained in Ethiopia



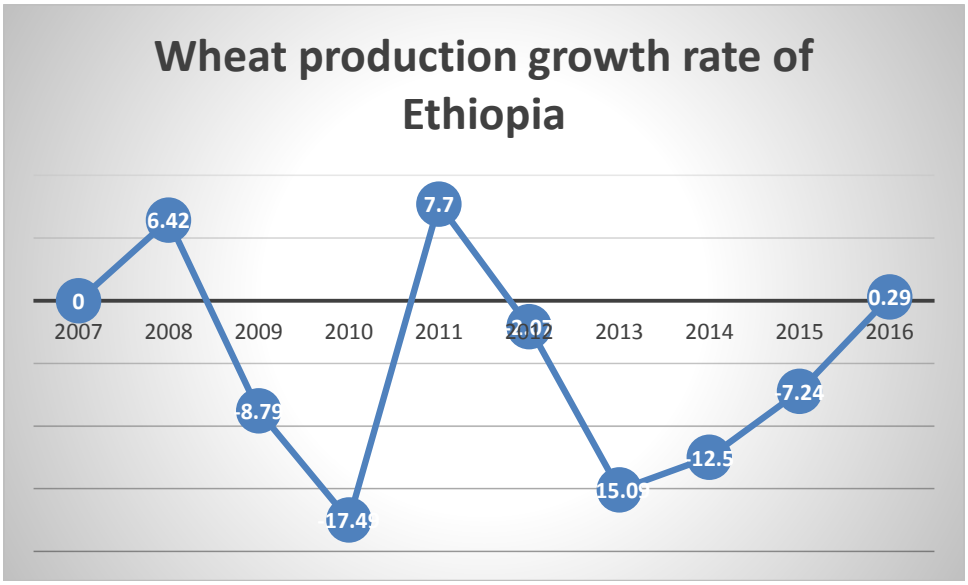
Source: CSA, (2007-2016)

Table 17 Ethiopia Wheat production growth rate of Ethiopia

FYSICAL YEAR	VOLUME OF WHAT PRODUCTION IN MILION TONS	GROWTH RATE OF WHEAT PRODUCTION (%)
2007	2.46	BASE YEAR
2008	2.31	6.42
2009	2.54	(8.79)
2010	3.08	(17.49)
2011	2.86	7.70
2012	2.92	(2.07)
2013	3.43	(15.09)
2014	3.93	(12.50)
2015	4.23	(7.24)
2016	4.22	0.29

Source: own survey, 2018

Figure 3 Wheat production volume growth rate in Ethiopia



Source: own survey, 2018

Wheat is one of Ethiopia's most important cereal crops by production. About 4.7 million farmers produce 3.9 million tons of wheat across 1.6 million hectares of land with average productivity of 2.4 ton/ha (CSA, 2014). Smallholder farmers (SHFs) consume nearly 60% of all the wheat they produce, and nationally, (Guush, et al., 2011). Ethiopians consume about 32 kilograms of wheat per person per year, including the

wheat equivalent of bread and other wheat products. According to the food balance sheets of FAO (2014), The 2012 IFPRI-ATA Baseline Survey provides some useful information on the patterns of wheat sales by Ethiopian farmers. On average wheat farmers produce 751 kg of wheat and sell 189 kg, so that the marketed surplus ratio is 25 percent.
In Ethiopia if income rises 10 percent, the demand for wheat products will rise 8.3 percent. This elasticity confirms the status of wheat as a preferred staple. Assuming 2.6 percent population growth and 6 percent growth in per capita income, the demand for wheat products can be expected to rise at 7.7 percent per year. (African Agricultural Market Program, 2016).

As the statistical results show Ethiopia produce quality of wheat and its production volume increases year to year. However, the production volume growth rate is not consistent and increase with decreasing rate. Especially, when compared to the population growth rate and the demand of wheat growth rate which is consistently growth with 7.7%.Therefore, Even if the respondent agrees that there is enough quality wheat production they didn`t compare the demand rate. So there is no enough wheat production in the country.

4.3.2.2 Demand uncertainty

As it is depicted on the symmetric measures all items in the demand uncertainty questions are correlated means significance is 0.099 which is between -1 and +1 and positively related.

Table 18 Demand uncertainty items correlation test

		Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	.162	.097	1.652	.099
	Kendall's tau-c	.125	.076	1.652	.099
	Gamma	.261	.154	1.652	.099
N of Valid Cases		80			

Source: own survey, 2018

Table 19 uncertainty of demand shows us statistical result means of 1.96 and SD 0.8 the respondent agree that volume or composition of demand is difficult to predict. Means of 1.8 and SD 0.7 agree that their master production schedule has a high percentage of variation in demand. Means of 2.29 and SD 1.02 agree that they keep several weeks of inventory of the critical material to meet their changing demand. Means of 1.18 and SD 0.69 agree that their demand fluctuates drastically from week to week. Means of 1.84 and SD 0.7 agree that their supply requirements vary drastically from week to week.

When we see the benchmarking study of strategic sourcing practice of Innovation University of Toledo and Michigan State showed that mean of 3.58 of the respondent agree that volume and/or composition of demand is difficult to predict. Mean of 3.54 of the respondent disagree that their master production schedule has a high percentage of variation in demand. Mean of 3.3 of the respondent agree that they keep several weeks of inventory of the critical material to meet their changing demand. Mean of 3.18 of the respondent agree that their demand fluctuates drastically from week to week. Mean of 3.05 of the respondent disagree that their supply requirements vary drastically from week to week.

Relatively, when we see mills firms in Ethiopia there is no demand uncertainty at all. Demand uncertainty did not seem to be too great of a concern, as consumer increases their consumption rate of wheat and wheat products at 7.7% per year and increase income level of the consumer increases the demand of wheat. As a result there is no market problem for wheat flour and wheat products (Pasta and Macaroni). Therefore there is no demand uncertainty at all.

Table 19 Mean of uncertainty of demand

Statistics						
		difficulty of dd predict	variation of production schedule	termination of inventory	dd fluctuation	supply requirement fluctuation
N	Valid	80	80	80	80	80
	Missing	0	0	0	0	0
Mean		1.96	1.8	2.29	1.81	1.84
Std. Deviation		0.803	0.701	1.021	0.695	0.737

Source: own survey, 2018

4.4. The intensity of purchasing staff role in the company

As it is depicted on the symmetric measures all items in the purchasing staff roles are correlated means significance is 0.342 which is between -1 and +1 and positively related.

Table 20 Purchasing staff role correlation test correlation test

Table 22 purchasing staff role correlation test Symmetric Measures					
		Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	-.099	.103	-.951	.342
	Kendall's tau-c	-.083	.087	-.951	.342
	Gamma	-.156	.161	-.951	.342
N of Valid Cases		80			

Source: own survey, 2018

From the statistical result table 21, Mean of 1.78 and SD 0.79 of the respondent agree the purchasing department plays an integrative role. Mean of 1.71 and SD 0.75 agree that Purchasing is included in the company's strategic planning process. Mean of 1.66 and SD 0.65 of the respondent agree that purchasing performance is measured in terms of its contributions to the company's success. Mean of 1.69 and SD 0.63 of the respondent agree that purchasing professionals' development focuses on elements of the competitive strategy. Mean of 1.7 and SD 0.75 of the respondent agree that purchasing focuses on

longer term issues that involve risk and uncertainty. Mean of 1.87 and SD 0.55 of the respondent agree that purchasing function has a formally written long-range plan.

Table 21 Mean of purchasing roles in the firm

Statistics							
		purchasing department role	purchasing include in planing process	purchasing performance measure	purchasing focuse on competitive advantage	purchasing focuses on uncertainty	purchasing function written long plan
N	Valid	80	80	80	80	80	80
	Missing	0	0	0	0	0	0
Mean		1.78	1.71	1.66	1.69	1.7	1.83
Std. Deviation		0.795	0.75	0.655	0.628	0.753	1.549

Source: own survey, 2018

whereas the benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that mean of 3.88 (77.6%) of the respondent agree the purchasing department plays an integrative role. Mean of 3.85 (77%) agree that Purchasing is included in the company's strategic planning process. Mean of 3.81(76.2%) of the respondent agree that purchasing performance is measured in terms of its contributions to the company's success. Mean of 3.53 (70.6 %) of the respondent agree that purchasing professionals' development focuses on elements of the competitive strategy. Mean of 3.43 (68 %) of the respondent agree that purchasing focuses on longer term issues that involve risk and uncertainty. Mean of 2.83 (56%) of the respondent agree that purchasing function has a formally written long-range plan.

Survey of large firms in French industries by France Graduate School of Business Administration on international purchasing strategies and practices showed that degree of initiative of the purchasing officers` mean answer consider that in 45% of cases the decisions to buy abroad, and to select suppliers is greatly dependent on their own initiative or on their subordinates. In other situations, the choice is governed by the absence of Fren

ch suppliers 26.0 % the final customers requirements(specifications).14.3 % Priorities defined either by top management or by other departments heads.14.6 % May be answers were slightly biased in some cases by the desire to courageous the image of the purchasing roles and power.

From the mentioned study we can see that firms in the world give high priority for the establishment and implementation of purchasing functionalities. Therefore the study result show that purchasing department plays great role on the firms` sustainable competency ability. However, In Ethiopia miller give little priorities to purchasing functional there is few professional under this department and the owner of the firm decide and do the purchasing function by themselves especially they purchase at the gate of their firm . That means the purchasing and procurement Function neither established nor has role for the company.

4.5 Companies supplier relationships

In this paper we attempt to evaluate the degree of focus on supplier relationship establishment and implement in mills firms of Ethiopia. How millers see their suppliers, and how they manage them, what seems the suppliers commitment.

As we can see from the symmetric measures below the significance level orientation towards supplier is 0.593, Supplier relationship 0.587, Supplier commitment 0.568. All items in the company's supplier relationship are correlated means significance which is between -1 and +1 and positively related.

Table 22 Symmetric measures of supplier relationship items

Table 24	Symmetric Measures of supplier relationship					
Factors	correlation tests		Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Orientation towards supplier	Ordinal by Ordinal	Kendall's tau-b	.053	.098	.535	.593
		Kendall's tau-c	.047	.088	.535	.593
		Gamma	.079	.147	.535	.593
supplier relationship	Ordinal by Ordinal	Kendall's tau-b	-.055	.102	-.543	.587
		Kendall's tau-c	-.047	.087	-.543	.587
		Gamma	-.079	.146	-.543	.587
Suppliers` commitment towards mills firms	Ordinal by Ordinal	Kendall's tau-b	.061	.107	.571	.568
		Kendall's tau-c	.046	.080	.571	.568
		Gamma	.102	.178	.571	.568

Source: own survey, 2018

4.5.1 Orientation towards supplier

As it is depicted on table 23 below, only mean of 2.96 and SD 1.1 of the company expects long supplier relationship with key supplier. Mean of 2.81 and SD 1.06 of the companies view supplier as an extension of their company, Mean of 2.45 and SD 1.01 of the milling companies work with suppliers to improve the quality of wheat or the supply. Mean of 2.39 and SD 0.93 companies view their supplier as extension of their company. Mean of 2.36 and SD 0.84 companies have evergreen relationship with their supplier. Mean of 2.75 and SD 0.89 companies share fair profit with their supplier.

Table 23 Mean of millers view towards supplier

Statistics							
		expect last log time supplier relation	see suppliers long term alliance	work with supplier on quality	view supplier as extension of company	evergreen relation with supplier	fair profit share with supplier
N	Valid	80	80	80	80	80	80
	Missing	0	0	0	0	0	0
Mean		2.96	2.81	2.45	2.39	2.36	2.75
Std. Deviation		1.107	1.068	1.018	0.934	0.846	0.893

Source: own survey, 2018

From the benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that mean of 4.23 and SD 0.14 respondent agree that companies expect their relationship with key suppliers. Mean of 4.02 and SD 0.8 respondent agree that companies see their suppliers as long –term alliance. Mean of 4.01 and SD 0.75 respondent agree that companies work with key suppliers to improve their quality. Mean of 3.8 and SD 0.94 respondent agree that companies view their supplier as extension of their company. Mean of 3.35 and SD 0.96 respondent agree that companies` relationship with suppliers are evergreen. Mean of 3.24 and SD 1.14 respondent agree that companies give fair profit share to key supplier.

Compared to the above result mills firms in Ethiopia have bad perception about the relationship with suppliers. In fear of quality risk and Price volatility most millers transact at the gate of their company. Suppliers take all quality risks and cover all transport costs, and add these costs on the price of wheat and sale to their customer at the gate of their company. When the millers and the supplier do not agree on the price and quality of wheat, the supplier takes it to sale another firm. This creates distrust among the supplier and millers and lacks long range commitment on working collaboratively.

As it is depicted in the directional measures and symmetric measures companies expect last long time supplier relationship as keep of supplier as extension of the company, and works with the supplier on quality as loyal to key supplier, and evergreen relationship with supplier loyal to key supplier has approximate significance of 0.636, 0.7, and 0.183 these shows the item has positive relationship

4.5.2 Supplier relationship

As table 24 shows as mean of 3.31 and SD 0.86 mills firms are loyal to suppliers. As mean of 3.55 and SD 0.87 mills firms have frequent face to face communication. As mean of 2.13 and SD 0.78 there is high level corporate between millers and suppliers. As mean of 1.89 and SD 0.69 millers can influence first tire suppliers responsive to

purchasing requirement. As mean of 1.99 and SD 0.84millers enter special agreement with key suppliers.

Table 24 Mean of suppliers relationship

Statistics						
		loyal to key supplier	frequent face to face communication	high corporate level communication	influence first tier suppliers	enter agreement with supplier
N	Valid	80	80	80	80	80
	Missing	0	0	0	0	0
Mean		3.31	3.55	2.13	1.89	1.99
Std. Deviation		.866	.870	.786	.693	.849

Source: own survey, 2018

As mean of 3.31 and SD 0.86 mills firms are loyal to suppliers. As mean of 3.55 and SD 0.87 mills firms have frequent face to face communication. As mean of 2.13 and SD 0.78 there is high level corporate between millers and suppliers. As mean of 1.89 and SD 0.69 millers can influence first tire suppliers responsive to purchasing requirement. As mean of 1.99 and SD 0.84millers enter special agreement with key suppliers.

As we can see the survey of France Graduate School of Business Administration on International Purchasing Strategies 74.3 % of respondents indicated that they usually had a direct access to the suppliers rather than buying through the intermediary of an external broker, agent or merchant. Likewise the expected trend for the following years was an increase of direct interaction with foreign sources. As for the nature of their relationship with their suppliers, the mean answer 26.2 % Long term and privileged relationship,52.3 % Regular relationship, 21.5% Occasional transactions.

And also benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that as mean of 4.04 and SD 0.684 mills firms are loyal to suppliers. As mean of 3.89 and SD 0.88 mills firms have frequent face

to face communication. As mean of 3.62 and SD 0.97 there is high level corporate between millers and suppliers. As mean of 3.57 and SD 0.95 millers can influence first tire suppliers responsive to purchasing requirement. As mean of 3.33 and SD 0.93 millers enter special agreement with key suppliers. It showed that competent firms will build good relationship with their supplier, but when we come to Mills firms in Ethiopia have poor supplier relationship.

4.5.3 Supplier`s commitment to the mills firms

As we can see from table 25, Mean of 2.1 and SD 0.73 the company reply that supplier see their relationship as long term alliance. Mean of 1.95 and SD 0.72 of the company has agreed that supplier are willing to make long term investment to help the company. Mean of 1.9 and SD 0.75of the company agreed that suppliers has a strong sense of loyalty for them. Mean of 1.85 and SD 0.76 show willingness to share their resources.

Table 25 Mean of suppliers commitment to the mills firms

Statistics					
		supplier's view as alliance	supplier`s willingness to help the company	supplier`s sense of loyalty	supplier`s resource sharing
N	Valid	80	80	80	80
	Missing	0	0	0	0
Mean		2.10	1.95	1.90	1.85
Std. Deviation		.739	.727	.756	.765

Source: own survey, 2018

When we see the benchmarking study of strategic sourcing practice of Innovation University of Toledo and Michigan State University showed that mean of 3.84 and SD 0.85 of respondent agree that suppliers see the companies as a long term alliance. Mean of 3.76 and SD 0.9 of the respondent agree that suppliers are willing to make long term investment in helping companies. Mean of 3.66 and SD 0.88 of the respondent agree that suppliers have strong sense of loyalty to companies. Mean of 3.64 and SD 0.94 of the respondent agree that suppliers are willing to dedicate whatever people and resources it takes to make companies a satisfied customers. It showed that suppliers are committed to

their client companies. But when we come to mills industries in Ethiopia suppliers have no commitment to mills firms.

4.6 Global sourcing

As we can see from the symmetric measures below the significance level of global sourcing is 0.524. All items in the global sourcing are correlated means significance which is between -1 and +1 and positively related.

Table 26 Symmetric measures of global sourcing

		Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	-.052	.079	-.637	.524
	Kendall's tau-c	-.018	.029	-.637	.524
	Gamma	-.225	.335	-.637	.524
N of Valid Cases		80			

Source: own survey, 2018

The researcher wanted to evaluate the mills firms` effort in order to identifying opportunities to "improve quality, lower prices, or gain efficiencies on a worldwide or regional basis. Global sourcing helps identify opportunities, coordinate initiatives and make programs available to merchants worldwide because it aims at integrating the purchasing function as a vital role. This emphasizes working closely with suppliers to ensure that the firms sustain inputs.

But, from the sample 100% of the company agreed that they only engaged on domestic sourcing and they disagree that engage in international sourcing as needed, international sourcing as part of their strategy, and has centralized global sourcing function. These four questions are tested they are related to each other by gamma, Kendall`s tau-c tests. From the output of the test their significance (p-value) are commonly 0.308. This show the items are correlated.

As it is depicted on Table 27 mean of 4.93 and SD 0.43 of the respondent agree that they only engage on domestic sourcing. Mean of 1.04 and SD 0.33 of the respondent agreed international sourcing on as needed bases. Mean of 1.03 and SD 0.0.22 agreed that international sourcing is part of their sourcing strategy. Mean of 1.03 and SD 0.22 agreed that their company has centralized global sourcing function.

Table 27 Mean of global sourcing

Statistics					
		only engage in domestic sourcing	engage in international sourcing	international sourcing strategy	centralized global sourcing function
N	Valid	80	80	80	80
	Missing	0	0	0	0
Mean		4.93	1.04	1.03	1.03
Std. Deviation		0.471	0.335	0.224	0.224

Source: own survey, 2018

As we can see the survey of France Graduate School of Business Administration on International Purchasing Strategies motivations that lead toward international sourcing Search for lower costs and right quality requirements appear to be the main reasons for global purchasing; both are viewed as "very important" or "important" by over 80 % of respondents. Then comes care for technological innovation (64.7 % of answers). Better delivery is rated as 10.6 % and on time delivery 27.8 % respectively. Besides, among the strong motivations to buy abroad, respondents also checked scanning business environment (supply market, technologies, clients and competitors) stimulating some domestic suppliers. Both are considered 80 % of respondents. Countertrade requirements are ranked as an important or very important reason by only 10.8 %, license agreements by 14.7 %.

When we see the benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that mean of 2.25 and SD 1.3

of the respondent agree that they only engage on domestic sourcing. Mean of 3.23 and SD 1.2 of the respondent agreed international sourcing on as needed bases. Mean of 3.58 and SD 1.2 agreed that international sourcing is part of their sourcing strategy. Mean of 3.02 and SD 1.3 agreed that their company has centralized global sourcing function. Therefore, Ethiopian mills firms global sourcing practices is too bad that may spring from the government policies and directives.

4.7 Electronic coordination

Table 28 shows that the item under Electronics coordination are tested to the relationship to each other and groups of company .here is the output of the test which is tabulated .As the table we can see that the degree of significance of the gamma test is all between +1 and 0 that show there is strong correlation between each item .Also among the group mean of the company the degree of significance shows that between +1 and 0 which shows strong correlation among the group mean of the companies.

Table 28 Firms` electronic coordination item correlation test

	Degree of significance (p-value)	
Item	Pearson chi-square test among groups	Gamma test between Items
Exchange information vie web portal	0.47	0.956
use online market place	0.213	0.801
provide information online	0.633	0.435
Share product and inventory planning information electronically	0.563	0.314
search and locate potential supplier online	0.179	0.431
pace and truck order online	0.836	0.733
allow supplier to submit bids online	0.682	0.495

Source: own survey, 2018

Digital technology will help procurement increase communication, collaboration, analytic report, and engagement using a field of tools along supply and purchase process from planning and sourcing to contract negotiation, order delivery, payment, and supplier management. In addition. Layout and IT architecture strategy and e-procurement

platform will specify procurement process, organization structure and a road map for procurement function. (IJBED, 2016).

The statically table showed that mean of 1.24 and SD 0.5 the respondent agreed that there is web portal information exchange, mean of 1.18 and SD 0.47 the respondent agree use online market places, mean of 1.23 and SD 0.42 the respondent agreed provide information online, mean of 1.23 and SD 0.42 the respondent agreed share product and inventory planning online, mean of 1.16 and SD 0.37 the respondent agreed search and locate supplier on line, mean of 1.15 and SD 0.35 the respondent agreed place and truck orders online, mean of 1.16 and SD 0.37 the respondent agree that received bids online from supplier.

Table 29 Mean of Electronics coordination

Statistics								
		web portal information exchange	use online market places	provide information online	share product and inventory planning online	search and locate supplier online	place and track orders online	receive bids online from supplier
N	Valid	80	80	80	80	80	80	80
	Missing	0	0	0	0	0	0	0
Mean		1.24	1.18	1.23	1.23	1.16	1.15	1.16
Std. Deviation		0.509	0.471	0.42	0.42	0.371	0.359	0.371

Source: own survey, 2018

The benchmarking study of strategic sourcing practice of innovation university of Toledo and Michigan State University showed that mean of 3.37 and SD 0.6 the respondent agreed that there is web portal information exchange, mean of 2.84 and SD 1.16 the respondent agree use online market places, mean of 3.14 and SD 1.64 the respondent agreed provide information online, mean of 3.29 and SD 1.12 the respondent agreed share product and inventory planning online, mean of 3.78 and SD 0.94 the respondent agreed search and locate supplier on line, mean of 3.66 and SD 1.07 the respondent

agreed place and truck orders online, mean of 3.31 and SD 1.2 the respondent agree that received bids online from supplier.

To sum up beside Ethiopian millers have no any electronics coordination with their supplier, when we compare with other countries electronic coordination experience it is lagging behind.

4.7 Main challenges of purchase wheat

Table 30 shows that the item under main challenges of purchasing wheat are tested to the relationship to each other and groups of company .here is the output of the test which is 0.726.As the table we can see that the degree of significance of the gamma test is all between +1 and 0 that show there is strong correlation between each item.

Table 30 Symmetric measures of main challenges of purchasing wheat

		Value	Asymptotic Standardized Error[a]	Approximate T[b]	Approximate Significance
Ordinal by Ordinal	Kendall's tau-b	-.030	.085	-.351	.726
	Kendall's tau-c	-.027	.077	-.351	.726
	Gamma	-.040	.115	-.351	.726
N of Valid Cases		80			

Source: own survey, 2018

Here the researcher wants to identify which challenge has greet impact on the millers` purchasing capacities.

As we can see from the statistical result table 31, mean of 3.06 and SD1.04 respondent agreed that there is bullwhip effect. Mean of 3.78 and SD 1.2 respondent agreed that Endowment factor of production. Mean of 2.55 and SD 0.95 respondent agreed that there is financial problem. Mean of 3.39 and SD1.28 respondent agreed that government rules and regulation is one challenge. Mean of 2.05 and SD 0.84 respondent agreed that international market is also a challenge. Mean of 1.91 and SD 0.78 respondent agreed that there is organizational behavior challenge for purchasing. Mean of 1.91 and SD 0.78

respondent agreed that there is technological challenge. Mean of 4.19 and SD 0.6 respondent agreed that there is high price challenge.

Table 31 Mean of main challenges of wheat purchasing

Statistics									
		bullwhip effect	endowment factor	financial problem	government regulation	international market	organizational behaviors	technology	high price
N	Valid	80	80	80	80	80	80	80	80
	Missing	0	0	0	0	0	0	0	0
Mean		3.06	3.78	2.55	3.39	2.05	1.91	1.91	4.19
Std. Deviation		1.048	1.211	.953	1.288	.840	.814	.783	.618

Source: own survey, 2018

4.8 What measure remedies should be taken to improve and strengthen the mills industry?

From the open ended interview question, which was prepared and presented what measure remedies should be taken by the government of Ethiopia to strengthen the mills industry. So description of the responses obtained in this regard is presented as follows.

Most 41% of the mills firms comment that the government should stop on the interference of wheat supply for the industry and allowed to import to all industry members especially for which has clustered association and big companies which has different product line such as Pasta and Macaroni and other food complexes. 48% of the firms agreed that the government should have interfere on the market. Their firm stands on government subsidized wheat without this government interferences they believe that they can`t compete and exist in the market. The only measure they believe that government should have increase the quota of subsidized wheat in order to strengthen and support mills firms to work on their full capacity. 11% of the firms are neutral on government interferences on the market. But they believe that the government should

have allowed to import wheat and give priority for foreign currency supply for this sector .Otherwise neither the government supply efficient wheat to firms nor satisfy the demand of the consumer (overcome the food security problem) .

CHAPTER FIVE

Summery, Conclusion and Recommendation

5.1 Summery

How do mills` firms in Ethiopia source wheat for their sustainable business? The purpose of this study is to enhance understanding of strategic sourcing practice of mills industry in Ethiopia and to discuss the challenges in adopting strategic sourcing. First, a literature review is undertaken to identify the key characterizing elements of strategic sourcing. such as purchasing function within the firm, development of key suppliers, information sharing with key suppliers and firms global sourcing practices and government policies and directives.

The researcher addressed the total population of 622 large scale mills firms found and operated in the country within the last three fiscal years from 2016 up to 2018.The researcher applied strata sampling method to determine 80 sample mills firms found in five regions of Ethiopia that represent the population. Each firm was represented by one respondent who were from the executive level, and had titles such as general manager, operational manager, Marketing manager or information communication manager. This provides us with a formidable response dataset within which the strategic nature of sourcing practices can be investigated; the researcher thus ensured the high-level representation of the responses. Our respondents were also characterized by a significant length of work experience, both in the industry and within their current firm.

The researcher applied qualitative and quantitative research approach and inferential and descriptive method. And used z_ statistics to determine the population mean of milling capacity utilization as well as dispersion analysis, which is mean and standard deviation. Which assures the respondents` degree of agreement that modern sourcing practice was applied or not in mills firms in Ethiopia.

For the ensuing further analysis and interpretation of the results, we rely on the division of our respondents into five regions (Addis Ababa, Oromia, Amhara, Tigray and SNNR)

and five groups Recession, Enfant, Growth, Matured and Pioneer, these groups were built based on the firm's purchase volume of wheat and milling capacity utilization performance. And as such, under this classification we do not find significant difference among firms for milling capacity utilization, all of the firms utilized their milling capacity below 22%. To generate competitive advantage, 'access large market', 'increase market share strategy' and 'growth strategy' emerged as important motivations driving sourcing strategy. But have poor purchasing department roles in the firm, high supply uncertainty, bad supplier relationship and supplier commitment, have poor information technology practice. Generally sourcing practice in mills industry in Ethiopia lucks modernization. But there was no any demand uncertainty at all.

5.2 Conclusion

The first purpose of this study is to properly investigate and describe the current purchase and procurement experience and challenges of mills industry. And pass recommendations (if found to be appropriate) which will help to improve the mills industry. By having this purpose in mind, investigation was made with regard to the methods and techniques employed to purchase and procurement, the various factors to be considered while investigating the issue, The main summaries of findings are as follows:-

Mills firms used their milling capacity below 22%. Mills firms` growth and expansion may come from utilizing with full capacity. But this already tide up with shortage of wheat and unable to import due to government policy. Therefore, Their competitiveness both in the domestic market or internationally fall on question. This may also result unable to expand their product line and unable to suck sufficient employs that can it hold it. In addition to these it may result negative horizontal impact on the dairy industry, because high percentage of animals feed gets from the mills industry. Shortage of animals feed may result unemployment who earns their income from breading .Additionally it will create shortage on milk and milk products. This will influence diet food security and inflation on milk products.

Millers` factors of motivating for purchasing practice inclined to anticipating increase market share and access to large market. However, 90% of their total 2009 fiscal year purchase was directly relied on government subsidized wheat supply.

The only supply uncertainty factor is lack of enough volume of wheat Even if there are surplus wheat in seven zones Oromia(Arsi, Bale, West Arsi),Amhara (East Gojam, North Gonder, North Shoa) Tigray (Mekele and shire),SNNR(Silite and Hadya).These zones can`t supply enough wheat that can satisfy the demand of mills factory.

There is no any demand uncertainty at all. The demand of wheat products such as wheat flour, pasta, Macaroni and other food complexes increase at high rate than wheat production growth rate due to population growth and income growth of individuals.

Millers did not built capacity and capillarity of their purchasing function that can attain sufficient sourcing, right quality of wheat at right quantity from right supplier with right price and time. To sum up their purchasing department didn`t play its role on firms strategic sourcing to meet its goal.

As a result of inefficiency of purchasing function mills firms couldn't build good supplier relationship with wheat supplier. In addition to this millers have no electronic coordination with their suppliers.

Global wheat importing and sourcing is not allowed due to the government food security policy, foreign currency shortage and other issues.

The main challenges of purchasing and procurement is high price of domestically produced wheat due to low production and high percentage of wheat is consumed by the smallholder farmer in different ways.

5.3 Recommendations

Since lack of enough wheat affecting the millers milling capacity it in turn affects their growth, expansion and competency ability. It needs especial attention of the government and actors in the industry. In order to strength and support the sub sector based on the findings from this study, the following recommendation were proposed.

In order to minimize under milling capacity utilization and supply uncertainty, government should establish commercial wheat farming In the long run in order to increase productivity and production. And strengthen commercial farmers and smallholder farmer produce quality durum and bread wheat at a competitive price that can compete internationally.

Millers should capacitate themselves by having more functional modern purchasing and procurement staff to source sufficient wheat to their firm. Hire professional those can lead the department with strategic sourcing in relation to the firm's goal.

Mills firms `purchasing and procurement function should have built high trust with suppliers and assure good supplier relationship. And coordinate and work together on the supply chain. Especially millers should have create electronics coordination with supplier in order to share information and receive bids, offer and order online.

Without sufficient sourcing business firms can`t last long for period of time. Because its position as startup activity of the flow of raw material into final product with in the firm. So that the government should allowed millers to import sufficient wheat that can supply based on their milling capacity. And millers should establish efficient procurement functional in their firm that can purchase wheat over the sea.

When all millers import sufficient wheat that can cover their milling capacity. It is obvious that the domestic wheat price will be balanced with international price and the price will be relied on demand and supply rules.

5.4 Recommendations for Future Research

Since this study had only focused on supply base environment it is recommended that further studies be carried out on students from other colleges and faculties to see whether there are any other challenges in procurement and purchase of wheat. Besides, this study only be done in for the partial fulfillment of the requirement of the Degree of Masters of Arts in Logistics and Supply Chain Management, it is also recommended that further studies be carried out on Ethiopian Development Research Institute (EDRI) about the contribution of milling industries distributed in the regions. Furthermore, future research could also explore the importing wheat policy related to the milling industry competitiveness in domestic and international market. As well as how millers can utilize 100% their milling capacity.

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APPENDICES

ANEX 1 QUESTIONNAIRE

Addis Ababa University

College of Business and Economics School of Commerce,

MA-Logistics and Supply Chain Management

Dear respondents,

I am a post graduate students in department of Logistics and Supply Chain Management at Addis Ababa University, College of Business and Economics, Scholl of Commerce.

The purpose of this questionnaire is to collect primary data for conducting a study on "Identification of Wheat Supply Chain Practice, Performance, and Challenges of Mills Industry in Ethiopia." As a partial fulfilment to the completion of the Masters of social science in Logistics and Supply Chain Management at Addis Ababa University, College of Business and Economics, Scholl of Commerce.

To obtain reliable and valid information for research, your open and genuine response is highly appreciated.

Kindly spare some of your time to go through the questionnaire and give your view on this topic. The information provided by you would be kept confidential and only be used for research study.

THANK YOU

SAMUEL GIZAW

Chapter one: - Respondent's background Information and firm's data.

A} Tick the given choice under which express your actual state

1. Gender MALE ☐ FEMALE ☐
2. Educational background PHD ☐ MA ☐ DEGREE ☐
3. His/her position in his/her company

   A .EXCUTIVE MANAGER

   B. OPERTIONAL MANAGER

   C .INFORMATION COMMUNICATION MANAGER

   D. MARKETING MANAGER

4. WORK EXPERIENCE

   A. 1-3 YEARS

   B. 4-6 YEARS

   C. 7-9 YEARS

   D. 10 AND ABOVE YEARS

B} Write the actual figure

5. Milling Capacity of the firm per day----------
6, 2009ET fiscal year annual purchasing and milling volume----------

C} Purchaser officer's number ----------

Chapter Two: - Main interview instruments

By considering already developed attitudes and practical wheat sourcing practices in your company, please express your degree of agreement or disagreement by tick at appropriate place in each item on the scale shown.

1. Supply Chain Source Practices

QUESTION CODE	FACTORES	MAIN ITEM	STRONGLY DIS AGREE	DIS AGREE	NEURAL	AGREE	STRONGLY AGREE
A	Factors motivating purchasing practices						
A1	Competitive Advantage						
A11		Seeking of competitive advantage with a cost reduction strategy					
A12		Seeking of competitive advantage with a growth strategy					
A2	Market Growth						
A21		Anticipated increase in market share					
A22		Access to a larger market					

2. Demand and Supply Uncertainty

QUESTION CODE	FACTORES	MAIN ITEM	STRONGLY DIS AGREE	DIS AGREE	NEURAL	AGREE	STRONGLY AGREE
B	Supply uncertainty						
B1		Suppliers produce materials with consistent quality					
B2		Suppliers consistently meet our requirements					
B3		We have extensive inspection of incoming critical materials from suppliers					
B4		We have a high rejection rate of incoming material from suppliers					
C	Demand uncertainty						
C1		The volume and/or composition of demand is difficult to predict					
C2		Our master production schedule has a high percentage of variation in demand					
C3		We keep several weeks of inventory of the critical material to meet the changing demand					
C4		Our demand fluctuates drastically from week to week					
C5		Our supply requirements vary drastically from week to week					

3. Purchasing function and organizational strategy

QUESTION CODE	MAIN ITEM	STRONGLY DIS AGREE	DIS AGREE	NEURAL	AGREE	STRONGLY AGREE
D1	The purchasing department plays an integrative role					
D2	Purchasing is included in the company's strategic planning process					
D3	Purchasing performance is measured in terms of its contributions to the company's success					
D4	Purchasing professionals' development focuses on elements of the competitive strategy					
D5	Purchasing focuses is on longer term issues that involve risk and uncertainty					
D6	The purchasing function has a formally written long-range plan					

4. Company`s supplier relationship

QUESTION CODE	FACTORES	MAIN ITEM	STRONGLY DIS AGREE	DIS AGREE	NEURAL	AGREE	STRONGLY AGREE
E	Orientation towards suppliers						
E1		We expect our relationship with key suppliers to last for a long time					
E2		We see our supplier relationships as long-term alliances					
E3		We work with key suppliers to improve their quality in the long run					
E4		We view our suppliers as an extension of our company					
E5		The relationship we have with key suppliers is essentially evergreen					
E6		We give a fair profit share to key suppliers					
F	Supplier relationships						
F1		We are loyal to key suppliers					
F2		We have frequent face-to-face communication with key suppliers					
F3		There is high corporate-level communication on important issues with key suppliers					
F4		We can influence first-tier supplier's responsiveness to purchasing requirements					
F5		We enter into special agreements with suppliers who have improved their performance					
G	Supplier's commitment to your company						
G1		Suppliers see our relationship as a long-term alliance					
G2		Suppliers are willing to make long-term investments in helping us					
G3		Suppliers have a strong sense of loyalty to us					
G4		Suppliers are willing to dedicate whatever people and resources it takes to make us a satisfied customer					

Global sourcing questions

question code	main item	strongly dis agree	dis agree	neural	agree	strongly agree
H1	We only engage in domestic sourcing					
H2	We engage in international sourcing on 'as needed' basis					
H3	International sourcing is part of our sourcing strategy					
H4	Our company has a centralized global sourcing function					

6. Electronic coordination

question .code	main item	strongly dis agree	dis agree	neural	agree	strongly agree
I 1	We exchange information with suppliers via a web portal					
I 2	We use online marketplaces to source from suppliers					
I 3	We provide specific online information about product specifications that our suppliers must meet					
I 4	We electronically share product and inventory planning information with our suppliers					
I 5	We search and locate potential suppliers online					
I 6	We place and track orders with suppliers electronically (e.g., online order placement)					
I 7	We allow suppliers to submit bids online					

7 Main challenges of wheat supply in the sector.

question code	main item	strongly dis agree	dis agree	neural	agree	strongly agree
J1	Bullwhip effect					
J2	Endowment factor(amount of land, labor, capital, and entrepreneurship that a producer possesses and can exploit for manufacturing)					
J3	Financial strategies					
J4	Government regulation					
J5	International market					
J6	Organizational behaviors					
J7	Technology					
J8	Price of wheat					

8} What measure remedies should be taken by the government to strengthen the competitive environment of mills Industry?

Thank you for your time. Do you have any questions that you would like to ask of me?