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THE EFFECT OF MULTINATIONAL INVESTMENT ON LOCAL BUSINESS COMPETITIVENESS, THE CASE OF DANGOTE CEMENT

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Table of Content

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This is to certify that the thesis prepared by Zelalem Bezabih entitled: ***The effect of Multinational Corporations on local business competitiveness*** and submitted in partial fulfillment of the requirements for the degree of ***Degree of Master Business Administration (MBA)*** complies with the regulation of the University and meets the accepted standards with respect to originality and quality.

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Acknowledgment

Abbreviations

ADB- African Development Bank

BTL – Below the line

CMA-Competition and market Authority

CSA-Central Statistics Authority

FDI- Foreign Direct Investment

FDRE-Federal Democratic Republic of Ethiopia

FY – Fiscal Year

GDP- Gross Domestic Product

LDC-Least Developed Countries

LEDC-least economic developed counters

MNC- Multinational Corporations/companies

MNE- Multinational Enterprises

MOFED- Ministry of Finance and Economic Development

MT- Metric Ton

OECD-Organization for Economic Development

OPC- Ordinary Portland Cement

PLC- Private Limited Company

PPC- Portland Pozzolana Cement

SPSS- Statistical Package for Social Sciences

SRP-Suggested retail price

SRS-Systematic Random Sampling

SSA-Sub Saharan Africa

TPD- Ton per day

UNDP- United Nations Development Program

WB- World Bank

YTD- Year to Date

Abstract

A company in a different investment environment than its host country is referred as multinational companies/MNCs/. The effect of MNCs on local economy has always been debatable. A case of Dangote Cement, the largest cement conglomerate in Africa is taken as MNCs, and its effect on four major players in the market.

Employing an explanatory research design and a mixed study approach, the effect of MNCs on local business competitiveness is examined in depth. Data was collected using structured questionnaire and in-depth interview as a primary source and extensive desktop review as secondary source of data. It's a cross sectional study conducted on key players of the market including Derba Messobo, Mugher, Dangote and National Cements. Rigorous desktop review, in-depth interview with management of the above companies, and Grade 1 contractors is held as data source. Both correlation and regression analysis were conducted to clearly understand the hypothesized effect of MNCs on business competitiveness.

Multinationals do pose a threat as their superior capacity and efficiencies dominate the market. Following suit is the effect of Dangote on the rest of main competitors forcing them to lose markets. Ability to afford cheaper price, higher product quality and up todate machinery with the required modern technology and expat man power, Dangote Cement is now dominant in the industry despite its 3 years stay in the market with 30% of the overall market demand. Lessons learnt include the need for improving productivity; encourage backward integration of customers and customer focus approach on the firm level. Whereas, companies to work together to develop better solutions to address common problems of alternative energy source and skilled man power development. Industry profit margin is still high as compared to SSA. Macroeconomic interventions may include diversification of demand drivers from heavy reliance on government to consumer driven.

Key words: Multinational, Globalization, Conglomerate, Cement, Competitiveness, Economic growth

Chapter One

Introduction

1.1 Background of the Study

One of most heated issues within current development debates relates to the role played by Multinational Corporations (MNCs) in economic development (Eric, 2011). It's no surprise that the rise in MNC investment in Ethiopia prompted such inquiry to understand their effect on local business. A sustained growth is much helped if local businesses are promoted and as such this study hope to examine the effect MNC has on local business competitiveness.

Ethiopia is one of the largest least developed countries (LDCs) in Sub-Saharan Africa, with a population of about 94 million people in 2012 (Admasu,2017). A vibrant but for so long forgotten land of great opportunity, Ethiopia is a country with immense possibilities. A population surpassing 100 Million, a fast growing economy and untapped labor and raw material are some of its greatest attractions.

Jan (2016) claim that the enigmatic growth in the past decade or so is inspired by Keynesian and structuralism thinking in the tradition of the pioneers of development economics who opted, more or less vocally for "a big push", a comprehensive state led concept with a "developmental state" and structural policies with industrialization as a centre piece.

The success story called up on several international investments. As the result, companies focusing on value adding agricultural products and textile poured in from different destinations mainly from China, Turkey and India. On areas stated as government focus on GTP master plan, investments include textile, horticulture and leather, the FDRE government aims to propel from agriculture dominance to industrialization.

Through it all, the focus was not entirely on boosting manufacturing and investment driven by the private sector. Both local and international investors were not as involved as they should in the process. This in turn is a challenge as the government is trying to shift the growth momentum to manufacturing and private sector.

As it is seen in other places, multinational investment played a great role in boosting manufacturing and making the adequate shift in technology required. In contrast, a growing economy like Ethiopia, the shift in production should also be accompanied by improved local capacity. Growing global pressure resulting us versus them competition may lead to elimination of the local businesses.

Niraj & Tony (1999) explained the role and unnecessary effects of multinational companies in local business as cautious venture. Accordingly, their arrival is a boon to local consumers, who benefit from the wider choices now available. For local companies, however, the influx often appears to be a death sentence.

Accustomed to dominant positions in protected markets, they suddenly face foreign rivals wielding a daunting array of advantages: substantial financial resources, advanced technology, superior products, powerful brands, and seasoned marketing and management skills. Often, the very survival of local companies in emerging markets is at stake.

Despite their role in boosting productivity, negative effects are continuously stipulated by several scholars. Hendrix (2016) believes that multinational companies are like double-edged sword. The sword can harm if not handled properly. Similarly the Multinational companies have their own pros and cons.

This particular study tried to find out the effect of multinational investment in local business competitiveness. Seen from Michael Porter's competitiveness model, the study focused in examining the effect of multinational investment on local business. Even if the study tries to pose an overall light on the overall multinational activities, the focus is on Dangote Cement involvement as a case study.

1.2 Statement of the problem

The overall nature of business level competitiveness is relatively recent phenomenon and not enough has been studied. The fact that privatization and competition in general is a result of couple of decade's development in Ethiopia has played its part. Meanwhile, the desire to modernize the business and work for higher competitiveness is only at infant stage.

Market oriented economic policy overwhelmed the command economy of the cold war, Ethiopia declared a market-led economic development strategy and started to practice the rule of privatization, trade liberalization and encourage the involvement of private sectors into the flourishing economic reform process. Price liberalization has to be accompanied by competition policy and law to benefit all those is taking part in the country's economy (Abebe et al , 2006).

The move in liberalization of trade and business in the country is further investigated by (Gidisa, 2010). The effect is further concentrated in a brief effect while trade liberalization has a significant positive effect on manufactured export performance; its effect on primary commodity export performance is not worth mentioning. The notion of adding multinationals is also rooted in boosting export earnings through their high stake quality and efficiency. Regardless, the foreseen liberalization has done little in boosting such moves.

The extent of technology and management of know-how transfer by the MNCs depend to a large extent on their corporate strategy. Ann (1994) confirms that such investments are more influenced by their internal procedures than local governments' rules. This in turn forces the government to loosen its requirements and will keep hoping for better results.

The effect of multinational investment in Ethiopia has also been studied from the environmental effect perspective by Angelina (2016). Accordingly, Multinational Corporations are key drivers of economic liberalization in the context of globalization and as thus, many countries, including LEDCs, have opted for their investments. However, these Multinational Corporations have positive as well as negative effect in the host country that they invest in.

Mekoyet (2016) conducted an explanatory research on the role of multinationals in Ethiopia under institutional approach under Castel Winery. The studies stressed the pivotal role MNCs play but are often encountered with monumental challenges. The finding of the study showed that unavailability of skilled man power, shortage of foreign currency, cultural differences with the host country, regulatory challenges, and challenges from the weather condition are among the major challenges of the company while operating in Ethiopia

Fredrik (2014) explored the overall research area of multinational involvement in Ethiopia and Kenya. Accordingly, very few studies have been conducted on the area. The exploratory research focused on the manufacturing of foreign companies and their effects on the social and economic level.

This particular study focused on the effect of multinational companies' involvement on local business competitiveness. In doing so, a case study was employed on the largest multinational company engaged in manufacturing. The effect on local business competitiveness was examined on the four major cement producers of the country. Including Dangote Cement, the 4 producers cover more than 75% of the market.

In doing so, the study employed Porter's Diamond mode/Five forces model. The model is ideal to examine to derive five forces that determine the competitive intensity and, therefore, the attractiveness (or lack of it) of an industry in terms of its profitability. Introduction of MNCs is generally assumed to have an effect on local business (Loredana, 2012). The questions are what are the effects as seen from the competitiveness perspective?

Companies must be flexible to respond rapidly to competitive and market changes. They must benchmark continuously to achieve best practice (Ricardo, 2012). This study examined the effect on local business competitiveness after the introduction of Dangote Cement in 2015 in Ethiopia. Three years to date, the study examined the effect on marketing mix decisions, market share and operational efficiency.

1.3 Objective of the study

1.3.1 General Objective

The main objective of this particular inquiry is to examine the effect of multinational investment on local business competitiveness. An institutional based approach is conducted on Dangote Cement to shine light on the overall MNCs.

1.4.2 Specific Objective

The specific objectives include

- To examine the effect of Dangote Cement on key variables of price, quality and quantity of local competitors
- To examine the effect on market share of Dangote Cement of local competitors
- To examine the level of operational efficiency of Dangote Cement on local competitors

1.4 Hypothesis

The research has two hypotheses. The null hypothesis predicts absence of significance relationship between the effects of Multinational Company on local business competitiveness. Whereas, the alternative dictates, otherwise,

- Ho_1- The entrance of Dangote has no effect on the price, quality, and quantity of local competitors.
- H_{o2}- The entrance of Dangote has no effect on market share of local competitors
- Ho_3- The entrance of Dangote has no effect productivity and customer satisfaction of local competitors
- H_1- The entrance of Dangote affected the price, quality, and quantity of local competitors.
- H_2- The entrance of Dangote affected the market share of local competitors
- H_3- The entrance of Dangote affected productivity and customer satisfaction of local competitors

1.5 Significance of the study

Competitiveness is crucial for organizations operating in today's dynamic markets. Jadesadalug (2008) stresses the need in exchange of efficient ways of production for better firm's performance. In this regard, the influx of multinationals plays a great role in boosting local business competitiveness. This study examined the effect of such MNCs on local business competitiveness.

Lessons learnt contribute to the debate on multinationals effect on local businesses. In particular, on Ethiopia, the study will add on how multinationals are changing the business way in Ethiopia, multinationals influence the industry and their effect on the overall business competitions.

The study has a significant contribution for firms, industry and government in how we integrate ourselves in boosting local business competitiveness. Going forward, how the tradeoff between attracting MNCs and encouraging the local business. The underlying assumption of stressing in boosting local competitiveness is the need to focus on productivity and overall economic growth.

- The key significance of the research is for government in its endeavor to regulate the integration of multinationals in to local economy. It's clear that nations progress when their firms improve productivity in industries or segments in which they already compete and when they gradually enter industries or segments that involve higher productivity. In the end the goal is improving business in international market too.

- The lessons learnt for manufacturers in the industry focuses in acting together to address common challenges of skilled man power availability and alternative energy source.

- The need to stress on understanding the imminent effect of MNCs on once business is helpful for firms as well. Manufacturers can act better amid the range of impacts posed by MNCs better. Preparedness for new entering MNCs effect as well as educated reaction for the existing ones.

1.6 Scope and limitation of the study

This particular research aims to examine the effect of multinational investment on local businesses competitiveness in Addis Ababa. Addis Ababa represents 2/3 of the overall cement market in the country. Being a cross sectional study, it only has a description at certain time. Despite the wide ranges of MNCs influence in the economy, this study examined only business competitiveness.

Business competitiveness is briefly conceptualized on Chapter Three/3.8/. The need to down size the scope of the research given the focus of the objectives and as per scholar's evaluation, competeveness is described based on three key variables. Price, quality, quantity, market share and operational efficiency are the chosen areas of business competitiveness. Operational efficiency is also limited to evaluating to productivity and customer satisfaction.

The study is conducted on explanatory design and mixed research approach. Accordingly, the focus is on increasing understanding on the effect of MNCs on local business competitiveness. In the process, limited biases and adherence to complete conclusive remarks are the key limitations of the research. Regardless, with the help of qualitative approach and strong statistical analysis using relation and regression analysis, the study has tried to minimize the limitation.

In addition, the study is a case study on the largest multinational investment in the country to date. With the hope of shining light on other similar investments, the focus of the research is on Dangote Cement, which is the single largest private investment in Ethiopia to date. The effect is analyzed on 4 selected main local competitors of the industry. Eighty five percent (85%) of the overall cement production in the economy is by the 5 major competitors including Dangote Cement.

1.7 Organization of the paper

The study paper has five parts. In order of consecutive appearance, it includes: Introduction, literature review, methodology, finding and analysis and conclusion and recommendations. The five Chapters guide the reader through gradual proceedings of the research from defining the background, offering relevant literature, citing required methodological order followed by conclusive remarkable and way forwards.

The first chapter entails the background on the economic growth of Ethiopia. In addition, the role MNCs play as catalysts of economic progress and the challenges faced in some countries are discussed. The chapter also guides the reader on the main objectives of the research and its significance.

Chapter two is a run on relevant research materials done on the subject matter. Both theoretical and empirical literatures are considered for the purpose of consolidating the interest area and its previous knowledge gap. Readers are brought in to pace with the need to do this particular inquiry as it's not seen from different studies conducted on the subject matter. The whole purpose of covering the relevant literatures is to pinpoint the availing gap on the effect of MNC on local business competitiveness in the Ethiopian Cement Industry context.

How the research was conducted, method of engagement, sampling, data analysis methods as well as manners of presentation road map is showcased on Chapter three of research. Readers are certainly be able to poses better insight on how the research is done after going through the methodology section.

Data analysis and presentation of findings is presented on Chapter four of the research. The effect of MNCs on local business competitiveness in terms of marketing miz, market share and operational efficiency is indicated on Chapter four. The analysis is guided with Porter's five forces model and a thematic presentation using a descriptive statistics and in line with the specific objectives is showcased on chapter four.

The last part is conclusion and recommendation as Chapter five. Multinational engagement is of a great importance as ill suited policy frame works could easily cripple local capacity. Possible recommendations for policy and knowledge implications are expected on the recommendations. The study also indicated a research gap for further enquiries.

Chapter Two

Review of Literature

The need to consider business competitiveness is of utmost importance. It's a gradually developed trait which has a great significance in sustaining business in particular and overall economy in general. As competitiveness is defined as the ability to provide products and services as or more effectively and efficiently than the relevant competitors (Krugman, 1994); its influence in business sustainability is monumental.

Big multinational companies have the much needed influence in their operational existence accrued during the many years they stayed in business. Whether we like it or not their influence is observed in wherever they operate. This particular research is focused in examining their effect on local business competitiveness. Accordingly, the relevant literatures both theoretical and empirical are presented below.

2.1 Theoretical Literature

2.1.1 Definitions, Economic Concepts and theories of Competitiveness

2.1.1.1 Definition of Competitiveness

Long before economists modified their stance on the need for mediator in setting better competitiveness environment, efficiency is a simple variable installed in making sure there is competitiveness among industries. Evidence of this indicated on the earliest theories of Adam Smith. According to Stigler (1957), if a competitive equilibrium exists, then the equilibrium is necessarily Pareto optimal in the sense that there is no other allocation of resources which would make all participants in the market better off.

Tomasz and Aldona (2014) explained the definition of competitiveness. In that the term of "competitiveness" is one of the most commonly used concepts in economics but it is not precise enough, what means that there is no generally accepted definition of competitiveness. Ausra et al (2013), trace back the origin from the Classical Latin word "petere" meaning to seek, attack, aim at, desire, and the Latin prefi x "con-" meaning together. At present, it is often used in different contexts, meaning dissimilar things to different researchers. The phrase was coined in the 70s of the twentieth century. It was then that American economists, under the evidence of severe trade

battle between American and Japanese companies, undertook the first attempts to determine the degree of competitiveness between the rival economies.

Competitiveness has been described by various authors as a theoretical, multidimensional and relative concept associated with the market mechanism (Tomas & Aldona, 2014). In a sense that, much of it is referred in comparison with the particular market and behavior. The concept may refer to different levels of aggregation: supra-national, national, regional, local, industrial, sectoral, as well as to individual companies (or farms).

Competition in the market describes how firms already in a particular market compete on a day to day basis to gain market share. According to CMA (2015), examples are abundant including, for instance, most retail markets. For competition in the market to be effective, we would expect there to be a significant number of sellers, ease of entry and exit, and well informed, rational customers.

2.1.1.2 Economic concepts and theories of competitiveness

Economists have always debated on how to mitigate business and way of managing the overall markets. One of the key manifestations is how to materialize and manage competitiveness. Since the days of Adam Smith (1814), competitiveness has been seen as inherent tool which regulates the overall market to the betterment of business.

Several concepts and theories of competitiveness are raised by scholars in the area. The most common concepts and theories of competitiveness are three. These are classical, neoclassical and contemporary concepts.

Barney & Hansen (1994) and McGahan (1999) reviewed the many scholars of competition and competitiveness. Classical theories include invisible hand by Adam Smith, Comparative advantage concept by David Ricardo and Heckscher-Ohlin trade theory (natural resource abundance theory. The neoclassical leaders are John M. Clark in theory of effective (workable) competition, Theory of marketing behavior Wroe Alderson & Institutional economics streams by Friedrich List Max Weber James Buchanan.

The classical theory commends the power of market forces in realizing a better market environment. So called invisible hand is the intuitive market forces of demand and supply working together to give out an equilibrium price and quantity which satisfies the market. Such is the workings of these forces, no apparent regulation and control is expected from government of any other external sources.

In the classical conception, competition is viewed as a dynamic rivalries process of firms struggling with each other over the expansion of their market shares at the expense of their competitors (Hunt.,2000). By contrast, the neoclassical conception of competition is derived from the requirements of a theory geared towards static equilibrium and not from any historical observation of the way in which firms actually organizes and compete with each other (Lefteris, 2011).

 Lefteris (2011) explains neoclassical theory of competition as analysis of competition contained in the model of perfect competition, which describes the ideal conditions that must hold in the market so as to ensure the existence of perfectly competitive behavior from the typical firm and, by extension, the characterization of the industry as competitive or not.

In addition, Wziątek (2003) reaffirm the contemporary theories including Krugman's concept of competitiveness by Paul R. Krug-man and Porter's theory of competitiveness Michael E. Porte. This particular inquiry is conducted in consideration of Porter's theory of competitiveness. This will help to understand a holistic approach to understand the overall competitiveness in the cement market.

Quite a lot of scholars debate on the components of business competitiveness. The concept of competitiveness refers to the ability to achieve dominance and steadiness in the competition between the individual companies and competitors on a micro level, and between economies on a macroeconomic level (Gabor, 2007).

Porter (1990) defines competitiveness from five angles perspective. Dedicated to knowing the background of the external business environment and the degree of attractiveness of a particular market sector, the Porters 5 forces model contains, as follows:-

- The rivalry between competitors.
- Supplier bargaining power.
- Customer bargaining power.
- The threat of new entrants.
- The threat of substituting products.

2.1.1.3   Measures of competitiveness

In the light of evidence that the competitiveness concept lacks an universally accepted definition, researchers has proposed a variety of approaches to estimate competitiveness (Tomas & Aldona, 2014). In most cases they agreed on that it could be measured in different levels of economic analysis: mega-(global), macro-(nations, regions), meso-(economic sectors and industries) and micro (firm's) level. Regardless, competitiveness is one that has been debatable through bulk of literature. Trying to understand competitiveness, perhaps it behooves to conquer what a competition entails.

Competitiveness is difficult to measure. According to Ausra et.al (2013), competitiveness is a complex category so it is not easy to measure and characterize it by several parameters. According to the scholar, in the fast-changing markets and industries competitive dynamics of environmental conditions require constant monitoring, appropriate management decisions to ensure the growth of effective changes. As internationalization process is taking spart in the global economy today, which also is making their pact to the competitive process in which the formation of a new phenomenon come in to force-the cooperation changes compatibility of economic and its competitiveness.

Despite the many variables in measurement of competitiveness, price((Duran &, Giorno,1987), Jorgenson, Kuroda (1992)) , (Lanoie et al., 2011], productivity of factors of production, Changes in market share by (Krugman, Hatsopoulos ,1987) , product attribute or

quality(Swann, Taghavi [1992)) and multidimensional indicators(Porter [1990]; Buckley et al. [1992), Siudek et al. [2013)) are commonly indicated in several literatures.

Krugman (1994) states, people who use the term competitiveness" do so without a second thought", the meaning of the terms remain vague and to make things even more complicated, the exact meaning depends on the problem under hand. He stresses the focus on competitiveness as "dangerous obsession".

Enn (2015) dissects the many competitiveness theories starting from the Wealth of nations by Adam Smith in 1815. According to her almost infinite variety of real world situations and array of possible problems have created a continuum of views inspiring Boone (2000) to answer the question what is competition that „more than two hundred years after Adam Smith we still don't know"and Krugman (1996) to claim that at least in the case of nations (international trade) the term competitiveness is meaningless on the one hand and still giving possibility to have detailed definition.

The measures to competitiveness are further complicated due to lack of agreed definition. According to Enn (2015) such debates arises from the existence of number of related and partly overlapping phenomena and terms: competition, competitiveness, productivity, and effectiveness, comparative advantage and so on. Vickers (1995) gives a good introduction to the variety of competitions.

Part of a competitiveness variable as mentioned by Porter (1985) was aimed level of achievement or efficiency. In cement industry, the most common efficiency measure is capacity utilization. According to Muthukrishnan (2002)., a country is said to be economically and industrially backward/forward depending upon the level of productivity of labor, capital and whatever other factors of productions one could conceive of .

Three important points to keep in mind when thinking about the objectives of competition and competitiveness according to Porter (1985) are:-

- Underlying variable of competition (price, quantity, quality etc.);
- Aimed level of achievement/efficiency /; and
- Competitive process that is at least partly determined by the strategic objectives of agents.

Other scholars like Cem G. et al (2015) concluded that competitiveness should be taken into account as one of the key aspects of business viability when assessing the overall quality of business environment. In so doing, measures of competitiveness are well rooted in ensuring a well functioning environment or market.

Business theories which are nothing but a carefully groomed corporate experience across a range of countries and time periods, do not provide a definite answer as to why a company will always be more competitive than others. Therefore, competitiveness is not only hard to define, but also extremely difficult to measure: as is known, the know-how having brought success to some company might not be that useful to other companies due to various additional influential aspects (Cem, et al, 2015)

Competitiveness and success in business go in line. In current business environment, its difficult to avoid competition rather its important to stay ahead in excelling the above stated factors. The overall effort rallies on ability of firms to adapt and change which is a critical sign of business vitality.

2.1.1.4   Explaining competitiveness variables

The above review of literature explicitly implicates the key contents in measuring competitiveness. Despite the many scholars overseeing on the matter, majority of them share the role of price, product attribute, market share, and operational efficiency as main contents of competitiveness.

A market is defined as the integration of buyers and sellers. According to P. Kotler (2003) a market may be defined as all buyers, actual and potential, of a particular set of goods and service. The size of the market depends on the number of such buyers. Market analysis focuses on the methods used by different companies to compete effectively in a particular market

Price competition is one of many ways that a product or service can compete in the marketplace. In price competition, two products which are substantially similar are judged by prospective consumers on their respective pricing, with the purchase made mostly on the basis of which is cheaper (Ellis, 2019).

It is now widely recognized that one of the main determinants of business profitability is market share. Robert et al (1975) concluded that under most circumstances, enterprises that have achieved a high share of the markets they serve are considerably more profitable than their smaller-share rivals.

Market share is of higher significance when it comes to defining business competition in so many ways. According to Robert et al (1975) the most obvious rationale for the high rate of return enjoyed by large-share businesses is that they have achieved economies of scale in procurement, manufacturing, marketing, and other cost components. A business with a 40% share of a given market is simply twice as big as one with ~o% of the same market, and it will attain, to a much greater degree, more efficient methods of operation within a particular type of technology.

Productivity in particular and operational efficiency in general has a significant power in determining competition and competitiveness. On one hand it creates a more competitive environment whereas on the other hand it empowers companies to rule over their competitors.

As per a study by London Competition Authority CMA (2015), productivity and competition are indeed strongly related.

According to CMA (2015), the evidence suggests that competition drives productivity in three main ways. First, within firms, competition acts as a disciplining device, placing pressure on the managers of firms to become more efficient. Secondly, competition ensures that more productive firms increase their market share at the expense of the less productive. These low productivity firms may then exit the market, to be replaced by higher productivity firms. Thirdly, and perhaps most importantly, competition drives firms to innovate, coming up with new products and processes which can lead to step-changes in efficiency.

The impact of productivity on competitiveness is also stressed by Zofia (2003) that higher productivity is the synonym of improved competitiveness. Accordingly, higher productivity is the synonym of improved competitiveness. Enterprises are competitive when their productivity of labor and all production factors grow consistently, which situation allows them to reduce the unit costs of their output, etc., but also affect other enterprises at the national and international levels.

Competitiveness n a market is also a factor of customer satisfacation. Improved productivity in a a company delivers better service and quality to a customer. The extent as to how far customer satisfaction is reflected on productivity is partly dependent on how far the firm takes its gains to the hands of its customers. This is indicated on the rigorous study conducted by the London's Competition and Market Authority (2015).

Productivity improvements should always lead to gains to consumers, at least in the long run. Real productivity improvements are likely to stem from reductions in costs, improvements in quality, or innovations which create new products and processes, all of which benefit consumers (CMA, 2015).

Productivity is mostly explained in economic terms. Basically there are two types of productivity: labor productivity and total factor productivity. Labor productivity considers output per unit of labor input. These labor inputs can be constructed either as output per worker, or output per hour worked. High levels of labor productivity may reflect a high efficiency level and/or high capital per worker.

2.1.2   Multinational Corporations/MNCs/

Several literatures define MNCs in their own terms. Among them, Root (1994), an MNC is a parent company that engages in foreign production through its affiliates located in several countries, exercises direct control over the policies of its affiliates, and implements business strategies in production, marketing, finance and staffing that transcend national boundaries.

Multinational corporations do not come into being from thin air; there must be a form, an organization and a goal for them to be brought into existence. Ondabu & George (2014) described the motivation behind the extension of MNCs anywhere as an ultimate thirst for profitability.

The most obvious benefit of MNCs is FDI, added tax revenue, technological transfer and knowledge transfer. According to (Fosfuri, Motta, and Ronde , 2001), knowledge embodied in the labor force may move from multinational to local firms either to existing local firms or when workers start their own firms

Several studies have found important positive FDI spillovers resulting from labor turnover, since MNCs invest in providing their workers with knowledge and skills, and when workers move from these companies to domestic companies, they carry this knowledge with them to local firms (Markusen and Trofimenko, 2007)

According to Clicker (1990) the dominant player in the modern world investment set up is the multinational corporations. In contrary to the inflated number of literatures praising MNCs,, Nyong'o (1991) strongly contends that, Nation state building requires politically strong nationalistic local entrepreneurs. Meaning, their involvement can only be proactive as long as they create local capacity.

The overall MNCs contribution to local economy has been a debatable issue. The fact that they pile up wealth through extracting local resource and labor to the country they originate from, raises key questions involving their net handover to local business and economy. In this regard, OECD (2008) conducted an extensive inquiry as to how much they boost wages and livelihood. Accordingly, the main areas of influence were identified as indicated below.

i.   Employment

The pool of available employees for your small business could shrink if a multinational company opens a location near you. Because these large companies can hire many people, you may find yourself with fewer applicants. This can mean you have to raise wages to attract talent. In addition, you may have to offer better benefits to compete with the offerings of a multinational.

ii.   Crowding Out Competition

A multinational may be able to afford to offer lower prices than yours. A large company can do this if it anticipates selling more products to make up for the lower profit margin on each one. In addition, multinationals often get discounts from suppliers for buying in bulk, which can help them offer lower prices.

Multinational may also compete by flooding the local market with advertising designed to capture customers that have been buying from local businesses. You can counter this competition by emphasizing that you are a member of the community and strive to customize your offerings to meet local needs instead of generic tastes.

iii.   Working Conditions

A large international company may build new stores and office buildings, thus providing employees with modern surroundings you may not be able to offer. This can include the latest technology, such as worker-friendly lighting and ergonomically built computer keyboards. In addition, air conditioning may be new and safety equipment may be abundant.

Though you may maintain safety conditions that meet government standards, employees may perceive that the multinational offers safety provisions above and beyond the minimum requirements. Employees of the multinational may also find their surroundings more comfortable

and employee-friendly. However, you can combat this with some simple upgrades and new policies that favor employees, such as providing daycare, holding company social events and offering flexible scheduling.

iv. Technology Transfer

When a multinational business operates in your area, it is likely to use updated technology for business processes, from inventory control to marketing, customer service, processing orders and accounting. This can give the multinational efficiency that you lack. "Technology transfer" occurs when employees learn the new technology and begin relying on it.

They come to see the new technology as the standard. You may have trouble attracting and retaining talent that sees your methods as outdated, and you may have to upgrade so that you can improve your own efficiency to compete with the multinational.

2.2 Empirical Literature

2.2.1 Background on Cement Industry

The Ethiopian ten years cement Industry Development strategy (2014) by Ministry of Industry indicated that , Ethiopia has greater potential for higher cement consumption in the coming years to come mainly due to persistent and robust GDP growth which is also estimated to sustain, increased cement consumption as a result of increasing per capita income and emergency of middle class; increasing government capital budget expenditure; rapid urbanization (4.3 %); high rate of population growth (2.6 %); serious housing deficit and large infrastructural gap among others (CSA, MOFED, ICR, 2014).

Besides, in order for the nation to realize the vision to join the middle-income group by 2025, several other mega projects will be undertaken in the next decade. In the Ethiopian context, the forecast of cement demand is highly dependent on the government capacity to finance construction projects. According to MOFED report, the amount of budgeted plan for which the government is willing and able to finance is increasing. In this regard, Ethiopia's capital budget expenditure has been rising continuously since the past ten years.

The total cement consumption can be increased by the growth of urban population if it is supported by a proportional increase with income growth. As the urban population grows, the need for more housing, plan for slum upgrading, various infrastructure construction demands will be expected to increase. Accordingly, as urbanization, population growth and per capital income increase, there will be higher probability for cement demand increase (see below figure, the projected trend of urbanization and population growth in Ethiopia)

The Dangote Group continued its bold investment in all over Africa and invested a net worth of 720 Million USD in FDI in Ethiopia in 2015. Part of the African conglomerate, the Dangote Cement Ethiopia operates with 2.5 Million Metric Tons of annual production capacity. Located on Western Shoa, Adea Berga Woreda customarily known as Mugher area, the company directly employed close to 1,500 employs.

Despite its positive effect in culminating the price hikes and consecutive cement shortage in the country, the Dangote cement has been never shortage of problems. Part of the problems emanate from policy issues, internal problems and other socio-economic problems. Nevertheless, this particular study will try to focus on the effect of investment activities on the overall local business competitiveness.

2.2.2 Nature of business competitions in Ethiopia

Labor, land and young population are the strongest assets in the country. By far and large, extensive arable land,, close to 65% young population and relatively unskilled and cheap labor have been the showcase identities of the Ethiopian story (ADB,2010). Ethiopia has experienced strong economic growth in recent years. With real GDP growth at or near double digit levels since 2003/04, the country has consistently outperformed

Ethiopia is one of the largest least developed countries (LDCs) in Sub-Saharan Africa, with a population of about 94 million people in 2012. After suffering economic stagnation for most of the 1970s and 1980s, its economy began to grow in the mid-1990s. According to Admasu (2017), during the last decade it has become one of the fastest growing economies in the world with an average gross domestic product (GDP) growth rate of about 10% per annum.

The potential benefits of market competition range for creating the incentives and dynamics driving efficiency, innovation and productivity growth is well established. An effort to establish a market economy which is based on completion is a recent phenomenon. Up on the fall of the Derg regime in 1991, market economy was put in place.

Despite its journey for three decades, a functioning market economy is still at infant stage. Hailegerbriel (2009) analysis on the regulation of competition is a fairly recent phenomenon in Ethiopia. Before 1991, the economic policy in Ethiopia was not based on the ideals of free market aside from the introduction of a mixed economic policy around 1990. The military (socialist) regime - that seized power after the 1974 revolution - took measures that reduced the role of the private sector and the free market that had started to flourish during the imperial regime of Haile Selassie.

KibreMoges (2015) stated that Ethiopia today has set out one long journey towards establishing a full-ledged market economy. On the one hand it aspires to establish a competitive market economy, while on the other it pursues a state-led economic management system to develop productive forces during the interim. In addition, Admasu, (2017) reiterates according to the ambitious five-year Growth and Transformation Plan (GTP) that the Ethiopian government rolled out in 2010, Ethiopia aims to attain a lower-middle-income status by 2020

It can freely be said that business in Ethiopia are nowhere near international standards. Evidence of that is lack of competitiveness in global trade. Poor product quality, backward trading system and lack of appropriate manufacturing technologies are among the many reasons commonly mentioned in Ethiopian business environment.

Local capacity is not where the government expects it to be. As per GTP I, industry was expected to grow by 18-25%, where as actually it grew only 8%. That's 1/3 of the expected growth. Meskerem (2014) confirms While privately owned local firms do not seem to feature prominently in Ethiopia's industrialization process, the government continues to take some bold initiatives to accelerate growth in manufacturing and achieve the GTP targets. One such initiative is the establishment of major industrial zones around Addis Ababa, such as Bole Lemi industrial park funded in part by the World Bank Group.

Located in just GM +3 time zone, Ethiopia has been a favorable business and investment destination during the past decade. According to Ethiopian Investment Guide (2017), Ethiopia has become a preferred destination for foreign direct investment and emerging hub for manufacturing in Africa due to its political stability, relatively better infrastructure, large and young population and untapped natural resources.

Favorable investment policy has been in place since early 2000's. having the focus on agriculture and labor intensive, the government used to favor such investments. Later, the industries transition came to be a priority as the result; industrial parks were built across the country.

2.2.2 The role of Multinationals in Ethiopia

Ethiopia has registered remarkable economic performance with annual growth averaging 10.9% over the past ten years. This is double the Sub Sahara Africa and triples the world average growths over this period and has led to Ethiopia being rated as one of the fastest growing economies in the world (UNDP, 2014).

The Gross Domestic Product (GDP) in Ethiopia was worth 80.87 billion US dollars in 2017. The GDP value of Ethiopia represents 0.13 percent of the world economy. GDP in Ethiopia averaged 20.32 USD Billion from 1981 until 2017, reaching an all time high of 80.87 USD Billion in 2017 and a record low of 6.93 USD Billion in 1994.

Emergence of MNCs in Ethiopia is a story of couple of decades. Following the introduction of market economy in 1991,very few MNC entered the country. The past 10 years have seen a significant rise in the number and investment. Kolli (2010) estimated that the share of the private sector in the GDP of Ethiopia at current prices is 84.8 percent in 2008/09, out of which the bulk of the private sector lies within the informal sector (Kolli, 2010).

Ethiopia witnessed strong economic growth during the good part of the past decade or so. The World Bank confirms (WB, 2015). The yearly growth is driven mainly by the services sector from the supply side and public investment from the demand side. Heavy investment by the government on infrastructures and mega projects contributed by far and this further increased the consumer spending power.

The enigmatic growth sustained in double digits during the years 2003 to 2015. According to Jan (2016), aggressive expansionary macroeconomic policies triggered bulging fixed investment, much beyond a narrow public expenditure boom. The combination of favorable factors induced strong productivity leaps mainly in agriculture and lifted millions of smallholder peasants at least partially out of subsistence economy toward participation in markets.

Up to recently, there were about 55 MNC working in Ethiopia. The majority of them were focused in agro industry, horticulture, and construction and mining sector. It's understood that all of the above sectors employ extensive labor and the use of non renewable resources. The net contribution of these companies has never been fully recognized.

Developing countries are attracting a significant portion of global Foreign Direct Investments. Governments of such countries often compete fiercely for attracting Multinational Corporations (MNCs) in the expectation of the advantages they will bring to their economies, often prioritizing economic goals (Admasu, 2017).

Some four years back, a time series analysis was conducted by Meskerem (2014). Results show that two years lagged FDI has a positive and statistically significant effect on contemporary economic growth. On the other hand, FDI after trade liberalization has positive but statistically insignificant effect on economic growth. Results further show that the positive impact of domestic investment on economic growth becomes less when FDI assumes positive significant impact, implying the crowding out effect of FDI on domestic investment.

2.2.4 Determinants of multinational investment in Ethiopia

Currently, governments are competing fiercely for MNCs investments (Madies and Dethier, 2010) in the expectation of the advantages they will bring to their economies: MNCs are considered important sources of employment and valuable channels of technology transfer. MNC branches provide a means through which local firms can increase their productivity and export potential, ways of diversifying the economy and, more generally, of improving the level of economic development of the host country.

In their attempt to attract Foreign Direct Investment (FDI), most African countries have liberalized trade and attempted to create enabling environment in recent decades. Ethiopia, like many African countries, took some steps towards liberalizing trade and the macroeconomic

regime as well as introducing some measures aimed at improving the FDI regulatory framework (Getinet .& Hirut , 2005)

Ethiopia is no exception from the rest of the world. The key variable for attraction of MNCs remains the same so as factors involved. Land, raw material, business friendly laws, labor, and availability of adequate power are among the main factors. Access to valuable markets and revenue repatriation are also detrimental. According to Meskerem (2014) , the government should be able to create the right environment to realize benefit from spillover effects of between domestic investment and FDI.

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Chapter Three

Methodology

</div>

Chapter Introduction

Multinational enterprises (MNEs) are a key channel of globalization. Organization for Economic Cooperation and Development, OECD (2015) emphasizes investment by MNC as the backbone of many global value chains by linking and organizing production across countries and are an important channel for exchanging capital, goods and services, and knowledge across countries.

Multinational companies shot for maximum profit. In the process, they usually end up exploiting local capacity to the point where none or minimal is left to compete with them (Eric and Michael, 2011). This particular inquiry examined the effect of MNCs on local business competitiveness.

The aforementioned literature on Chapter Two of the research has made a relevant count of both theoretical and empirical data available on the area of the study. In the process, the focus has been guiding the reader on description of the availing data on the overall economic condition of Ethiopia and the nature of Multinational investment in the country. In addition, the main variables in the inquiry are presented in order to serve a better recap of what's about to feature on forthcoming Chapters.

3.1 Research Design

This study followed an explanatory design with the hope of increasing the understanding on the effect of MNCs on local business competitiveness. Following the hypothesis proposed on Chapter one, MNCs effect on price, quality, quantity, market share, productivity and customer satisfaction of local competitors is explained.

 It is also a mixed study involving both qualitative and quantitative approaches. Through qualitative questioning in-depth data is gathered so as to earn a deeper look in to competitive performances of each company. Whereas, the quantitative approach uncovers feasible results recorded as a show case for competitive advantages and business performances on the eyes of customers and retailers of cement across Addis Ababa.

The choice of a mixed approach is rooted in the researcher belief that business competitiveness has a double component of quantitative and qualitative nature. The above literature indicate that among the many features a competitiveness can be described in speed, flexibility, quality, dependability and cost effectiveness. The likes cost effectiveness can easily be measured through a quantitative approach. Meanwhile, quality and flexibility of business is greatly be helped in a qualitative method.

3.2 Sources of Data

Desktop review from the secondary source and raw data through questionnaire and interview as primary source are employed. In doing so, official and non-official documents in evaluating trends and projections were helpful. The primary data was collected by the student researcher from retailers across main markets in Addis Ababa and selected Grade 1 contractors.

Data is collected from the main market players of the cement industry in the country. These players are Dangote, Derba, Messobo, Mugher and National cement. Both primary and secondary data is gathered. An in-depth interview for selected respondents from the above main competitors and a semi structured questionnaire to retailers and contractors is employed. .

3.3 Data collection techniques

Being a mixed research involving qualitative and quantitative approaches, the data collection technique is devised to serve the said approaches. The data for the qualitative part of the study is gathered through an in-depth interview with the management of the 5 main players of the market. An interview guideline was kept to structure the collection of required data.

Meanwhile, a semi-structured questionnaire is administered to feed the quantitative data requirement. Accordingly, the student researcher visited the four market areas of Addis Ababa to gather the data. With the help of paid professional data collectors and through adequate supervision, data was collected from retailers from Gotera Area, Gojam berenda, Saris area and Megenagna Addis Ababa.

3.3.1 Validity and reliability of the questionnaires

Validity aims to target whether a questionnaire measures what it intends to measure. According to Fields (2005), a valid questionnaire covers the intended objective well. The main types of validity include face validity, content validity, construct validity and criterion validity

The focus on validity test has been in content validity. As it is the most highly recommended form of instrument validity checking modality, the degree to which items in an instrument reflect the content universe to which the instrument is generalized" (Straub, Boudreau et al. 2004).
In addition to thorough literature review on the subject matter, the instrument was given to Ethiopian Cement Association. The best way to conduct a content validity is to pass through panel of experts in the area ((Choudrie and Dwivedi, 2005). Accordingly, each question has been amended as per the recommendations and an as per the research objectives.

The other validity test is a construct and criterion validity. Straub et al (2004), cause and effect relationship is established in forming the questions. In so doing, all possible outcomes were lined up both with the help of industry document examination and with the help of the panel of experts.

Reliability or repeatability of instruments is also checked through Cronbach Alpha coefficient. It is viewed as the most appropriate measure of reliability when making use of Likert scales (Whitley, 2002 & Robinson, 2009). Accordingly, with the help of SPSS, Cronbach Alpha Coefficient is computed following the pilot study. A percentage ration of 0.86 was registered as estimate of consistency. According to Robinson (2009), no absolute rules exist for internal consistencies, however most agree on a minimum internal consistency coefficient of 0.70.

3.4 Target Population

The scope of the research is on measuring business competitiveness following the entrance of the Dangote Cement in Ethiopia. Local companies which are targeted in this research are the four major local players in the market. These include Derba Cement, Messobo Cement, Mugher Cement and National Cement.

Primary data is collected from three/3/ sources with a bid to get a comprehensive cover on the subject matter. These include the management of the 5 main manufacturers, the retail market, and direct cement users/Grade 1 contractors/. This helps triangulate a profound data from the manufactures, the people in the middle and the end users. In doing so, the three main objectives of the research were carefully met.

3.5 Sampling Method

Purposive sampling is used to identify respondents in qualitative segment of the research. Meaning, the respondents targeted for an in-depth interview are of high level managers who have the most information in the overall business competitiveness of the identified 5 major producers of cement in the country.

On the quantitative data, SRS/systematic random sampling/ is employed in examining the business features across the five companies using the Porter's Five forces model. Accordingly, semi structured questionnaire was administered to systematically selected respondents in the main market.

3.6 Sample Size determination

According to data from Ministry of Trade, Chemical Institute, the number of cement retail shops in the four main markets of Addis Ababa is 453. These shops are located in the above four major market areas. The sample size determination for quantitative part of the research is based on the Krejecie .& Morgan(1970) sample representation table often used for such empirical inquires.

The sample size determination table attached at the back of this paper is derivative from the sample size calculation which expressed as below. The calculation was based on $p = 0.05$ where the probability of committing type I error is less than 5 % or $p < 0.05$.

$$S=X^2NP\ (1-P)/d^2\ (N-1) +X^2P\ (1-P)$$

Where,

S =required sample size.

X^2=the table value of chi-square for 1 degree of freedom at the desired confidence level (0.05 = 3.841).

N =the population size

P= the population proportion (assumed to be 0.50 since this would provide the maximum sample size.

D= the degree of accuracy expressed as proportion (0.05). & 1% degree of freedom

Accordingly, based on the above computations a sample size of 215 respondents was selected. Sample interval of 2 retailers was used to collect the data.

Sample interval=Population /sample size= 453/215=2.1

Meanwhile, the sample size for Grade-1 Contractors has been selected as 40 as per the above sampling formula. There are 133 registered Grade-1 Contractors in Ethiopia (Ministry of Construction, 2016). The quantitative analysis is made combining quantitative questionnaires of both retailers and Grade-1 Contractors. As both groups are requested the same questions, there is no need to do a separate analysis.

3.7 Method of data analysis and presentation

Being a mixed research, the study has endured a deeper understanding on the subject matter. According to Hurmerinta and Nummela (2006), mixed methods in the field of business add value by increasing validity in the findings, informing the collection of the second data source, and assisting with knowledge creation.

Accordingly, data from each of the five major producers was analyzed in a way that it indicates the internal or company level, relative (versus other competitors) and macro level perspectives. SPSS was employed to analyze the quantitative data.

Date regarding operational efficiencies of the manufacturers was collected through in-depth interview of the management; whereas larger contents of price, quality and market share related inquiries were targeted via structured interviews.

The qualitative researcher uses complex reasoning that is multifaceted, iterative, and simultaneous. Although the reasoning is largely inductive, both inductive and deductive processes are at work (Creswell, 2007 & 2011). The data analysis under this enquiry passed through the following steps with an inductive reasoning. Rather than starting the study with an idea of its own, the study went through field data collection with defined research intent of finding what was on the ground.

In addition, cross triangulation and thematic analysis backed the qualitative part of the research. Data collected from in-depth interview are cross checked with desktop review and categorized in predefined themes to respond to each of the above identified specific objectives.

The cross triangulation is not only based on the type of information observed but also the source of data and the method of collection. A data collected from respondent in a single method was cross checked both with the secondary data source data as well as in light of the interview responses. This in turn helps land a more refined and truthful data (Creswell, 2011)

The quantitative analysis is based on statistical analysis using both descriptive and inferential statistics on the independent variable and dependent variable. Investment by MNC as Dangote Cement is an independent variable. Whereas, local business competitiveness is the dependent variable. The later is expressed as three sub dependent variable as indicated below.

- Price, quality and quantity of products
- Market share
- Operational efficiency

Even though the measures of business competitiveness are diverse, the researcher employed a commonly agreed definition used by the most prominent scholars of the area of study. These include Porter (1985) , Gabor (2007) , Enn (2015) ,Cem (2015) and Krugman (1994), as indicators of business competitiveness.

The independent variable is designated as multinational investment by Dangote Cement Ethiopia. Different scholars offer different concepts of measuring multinational corporations' activities to provide empirical researchers. For instance, Konstantin (2013) minimizes those variables in to three. These include foreign direct investment/FDI/, sales and technological superiority.

Robert Lipsey contributed to much of the available empirical evidence on the impact and growth of MNC on host country's development. According to Magnus and Linda (2001), Robert's studies focus on the significance of technological competitive advantage and their effect through employment. The two independent variables identified under MNC activities are technology and employment.

For a more comprehensive cover of MNC activities and to better understand their effect on local business competitiveness, multinational investment is represented by three independent variables of FDI, sales and technological specialization. The three identified variables are to some extent mutually exclusive.

The entrance of Dangote Cement on the cement industry and its effect on price, quality, quantity, market share and level of operational efficiency is examined with the help of correlation analysis on the four other main producers of cement in Ethiopia. A Pearson correlation analysis is used to identify possible relationships and their apparent significance between the independent and dependent variable.

The analysis made use of both descriptive and inferential statistics to gather a deeper look on the influence of the multinational engagement on local manufacturers pricing, quality, quantity, market share and operational efficiency status. Common descriptive statistics measures of frequency, standard deviation and other tabular data are enclosed as part of a descriptive analysis. Where as a multivariate correlation is done on part of inferential analysis.

Findings as well as a stream analysis as per the objective of the research are seen on the next Chapter of paper. The findings are then sorted out to fit the Porter's five forces model. In the process, comprehensive accounts of the surrounding factors are enacted to better describe the effect of Dangote Cement on local business competitiveness.

The presentation is mainly thematic presentation in a way that answers each of the specific objectives. A theoretical triangulation is observed as per the above model and other main theoretical constructs are employed to better shine a more clear light on the effect of multinational investment on local business competitiveness.

3.8 Conceptual framework

This particular inquiry aims to configure the effect of a multinational investment on the local business competitiveness. An MNC by Dangote is regarded as independent variable where as business competitiveness is dissected in to three main dependent variables as indicated in the diagram below.

As indicated in Chapter One and Two, the below identified conceptual integration is established as per noted scholars in the field of the study.

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Chapter Four

Findings and Analysis

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4.1 Chapter Introduction

Multinational investment by far and large poses a higher capacity than the local capacity in a country like ours. Size in the flow of capital, operational efficiency, technological advancement and ability to suck in loss and afford cheaper pricing are some of the ways that MNCs supersede domestic investments. This Chapter encloses the main findings on the effects of Multinational Companies on local business Competitiveness.

This particular inquiry aims a dig on the overall effect of MNCs and its level of influence on local business competitiveness as it's conceptualized on Chapter Three. The findings are presented and analyzed in both descriptive and inferential statistics. A thematic data presentation is followed by triangulation and multivariate analysis to better refine results. The analysis findings are presented in Porter's five forces model.

The overall analysis is done simultaneously on the data gathered through in-depth interview, structured questionnaire and desktop review. A combined analysis is focused in refining the responses of respondents as per the research objective. Mixed chronological order of analysis is used to put forward formidable results.

4.2 The Effect of Dangote Cement as a Multinational Company on local business competitiveness

The Ethiopian Cement market was at its boom during the years since 2011. High demand for cement has driven prices to 100% double from where they are right now. According to a Chemical Institute (2015), never has been such a price hikes in cement market. A quintal of cement goes for 450 ETB. Customary experiences are shortage in delivery, delay in construction projects due to shortage of supply and recurrent customer order delays.

The insufficient market resorted to imports. The year 2012 marked the end of significant cement imports. This is partly due to the entrance of Derba Cement with 2.5 Million Mt production capacity. Regardless, production and demand remain in coherent for the years to come. As per

Ethiopian Cement Strategy (2015), demand for cement grows at 15% annually. Meanwhile, production remained not that close. See table below

Year	Domestic Production In Mill MT	Import (In Million tons)	Total consumption in Mill MT
2003/04	1.42	0.001	1.42
2004/05	1.25	0.061	1.25
2005/06	2.75	0.899	2.75
2006/07	1.72	0.935	1.721
2007/08	1.66	1.446	1.661
2008/09	1.69	0.25	1.691
2009/10	1.62	0.784	1.62
2010/11	2.719	0.321	2.719
2011/12	3.765	0.009	3.765
2012/13	4.73	0.002	4.73
2013/14	5.474	0.001	5.474
2014/15	6.86	0.002	6.86
2015/16	7.738	0.002	7.738
2016/17	8.624	0	8.234
2017/18	10.02	0	10.02
2018/19	11.83	0	11.83
2019/20	13.96	0	13.96
2020/21	16.47	0	16.47
2021/22	19.43	0	19.43

(Source: Chemical and construction input industry development institute report, 2015 and own percentage computation)

The year 2015, marked the entrance of Dangote Cement. This effectively would turn imports to nil and boost the overall demand to 8 Million Mt per year. Dangote's entrance brought both challenges and prospect for the existing major competitors.

The difference in technological advancement and presumed international quality branding as well as added competition effected the pricing, quantity produced, quality, market share as well as operational efficiency of existing producers. As it's discovered in the interview of the top

management of these competitors, Dangote has shifted the dynamic of the market and has commanded the pricing situation in the retail market.

The detail account of its effect on pricing, quality, quantity of production, market share as well as operational efficiency is seen below. In the analysis below, data from responses of in-depth interview, semi-structured questionnaires for both retailers and Grade-1 contractors and highlights of desk top review is included.

The effect of Dangote on price, quality, quantity, market share, productivity and customer satisfaction of local competitors is reflected on two stage analysis given below. The descriptive analysis is mostly based on primary data gathered from respondents which is focused on how the customers, retailers and manufacturers see the effect. Meanwhile, the regression analysis is focused in addressing factors like price, productivity and quantity as these are reality assessment inquiries.

In the meantime, perceived acceptance on quality and visibility on market share are largely addressed on the descriptive analysis. This doesn't mean they are not mutually addressed but instead the proportion of the research segment dedicated to answering such inquiries is larger on the descriptive part of the analysis.

4.2.1   The effect of Dangote Cement on pricing of Major Competitors

Pricing of cement has always been volatile in Ethiopian market. Factors involved in pricing are far too many and some are not even economic factors. A study by Cement Strategy Institute in Ethiopia, described the nature of pricing as collateral phenomenon subjective of uncountable middle person involved in the trading of the products.

The actual changes in price are indicated on the later topics on regression analysis. Meanwhile, the descriptive analysis on the effect on the changes in price is measured from the buying trend and retail sales prices of customers. The end users, customers and middle men are targeted in the inquiry.

To understand the overall nature of pricing the following table indicates the retail prices in the past three years. It's evident that selling prices have plummeted drastically particularly 2016. This is apparent in the responses below. And considering the volatile nature of market prices, getting significant agreeable respondents is remarkable. 70% confirmed the frequent alterations in selling prices.

One can assume the shift in customer's preference is due to better price provision and apparent reduction in sales of main competitors. Accordingly, 70% of both retailers and contractors alike confirm the shift in sales reduction due to the entrance of Dangote Cement in 2015. Njeru (2017) indicate that close to 80% of apparent purchase decision in Ethiopia as well as in Africa are as the result of pricing factors.

The effect on Prices — bar chart with series: Agreed, Disagreed, Neutral.

Category	Agreed	Disagreed	Neutral
Cement prices changes since 2015	70%	10%	20%
Selling prices have reduced	50%	35%	15%
Shift in Demand	55%	36%	9%
Reduction in sales of Competitors	70%	20%	10%
Shift in Customer's prefernce	62%	33%	6.50%
Shift in Retailor's Preference	61%	39%	10%
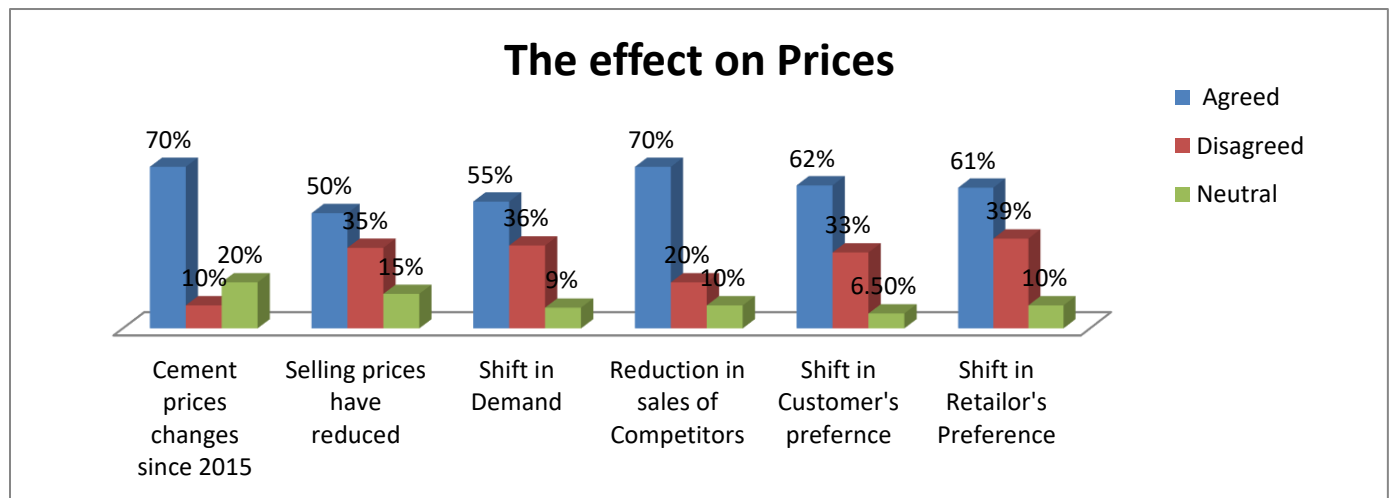
4.2.2   The effect of Dangote Cement on quality of competitors

The effect on quality has been of apparent confirmation, 69% of respondents believe that the quality of the main competitors has improved since the entrance of Dangote. A result of newly developed competition or inward improvement, the change is evident in the reduction of customer complaints and less bad reporting's.

Table and graph below show a clear improvement in key quality indicators. Packaging bursting and unnecessary caking has reduced. Meanwhile, availability of improved or better quality product in the market looks like has shifted customer preference away from the main competitors according to 72% of the respondents.

Effect of Dangote on Quality of competitors

■ Agreed ■ Disagreed ■ Neutral

	Quality of cement has increased during the past three years	Customers complain about quality of products	Customers preference has shifted	Products features are different in presentation	Quality of products has reduced	Package bursting has become frequent	Products cake soon in stores
Agreed	69%	27.0%	72.0%	52.0%	23.7%	32.2%	29.7%
Disagreed	26%	58.0%	23.0%	31.5%	60.0%	58.4%	64.8%
Neutral	5%	15.0%	5.0%	16.8%	19.3%	9.4%	5.4%

4.2.3   The effect Dangote Cement on production quantities of major competitors

Data collected from both retailers and direct customers Grade-1 contractors, is based on the past three years experience and how their consumption has grown. The inciting evidence is the entrance of Dangote in 2015 and a clear reference has been made on the semi-structured questionnaire which was carefully administered by trained data collectors.

In accordance with their responses, the increase in production is evident on ease of product visibility and readily customer convenient access responses. Whereas, production interruptions are indicated by the majority of respondents recording 70.3% of the respondents. This is also testimony for poor productivity efficiency indicated on 4.2.5

The difficulty to measure the effect on quantity of production is understood and as per indicated above this perceived ability to deliver and added abundance test in the market is instrumental. The actual number effect is clearly seen in the table below. The graph below show cases the market implications of quantity of delivery. For instance, long standing customer need to be convinced that a product is perennial and its not there for the short hall. The likes of market abundance and visibility are a test of strength in the eyes of customers.

The effect on Quantity of production

■ Agreed   ■ Disagreed   ■ Neutral

62.4%	66.3%	69.3%	56.0%	70.3%
25.7%	27.2%	21.8%	37.6%	17.3%
11.9%	6.4%	1.5%	6.4%	12.4%
Products can easily be seen in the stores	Products are abundantly available	Customers easily get the	Delivery to market has weaken	Production is perennial without interruption
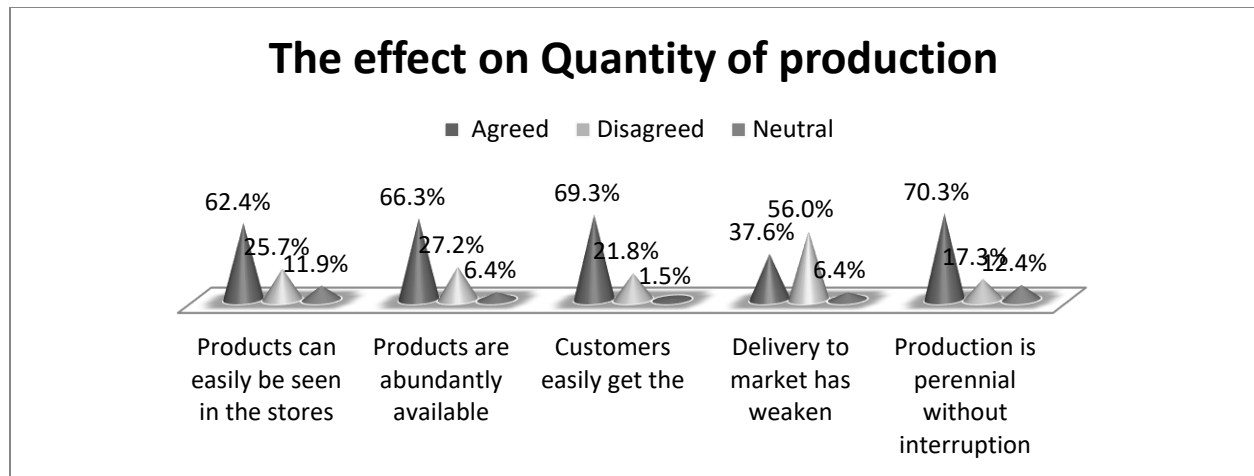
The difference in quantity of production is imminent of the entrance of Dangote in late 2015. To better understand the overall actual dispatched quantities for 3 years, it's evident that even though collectively the 5 manufacturers more than 85% of the overall demand, the quantity has been snatched from the existing manufacturers. Considering records before 2016, Derba and Mugher have lost the larger share of the market than the rest major competitors.

No.	Manufacturers	FY2016 MT	FY2017 MT	FY2018 MT
1	Dangote Cement	1,934,392.13	2,130,552.88	2,070,177.68
2	Messebo Cement	1,683,385.56	1,823,193.94	1,495,902.10
3	National Cement	681,263.20	963,778.11	1,028,061.73
4	Mugher Cement	863,723.85	984,740.90	1,015,369.55
5	Derba Cement	1,546,535.63	1,239,161.00	878,466.60

4.2.4　　The effect of Dangote Cement on market share of major competitors

By far the most reflecting factor on the effect of Dangote on the main competitors is the shift in market share. 60% of respondents confirm that the market has turned away from the existing main competitors. This is also evident on other related indicators like loss in market visibility and and shift in customers preference. These are upheld by 51% and 53% of respondents.

Effect on Market share of competitors

■ Agreed　■ Disagreed　■ Neutral

Category	Agreed	Disagreed	Neutral
Supply o competitors has reduced	50.0%	42.6%	7.4%
Customers preference of competitors has increased	19.3%	27.7%	53.0%
Products have lost market visibility	51.0%	39.6%	9.4%
Products are found abundantly	67.8%	22.3%	9.9%
Market leadership has shifted	57.0%	24.8%	18.3%
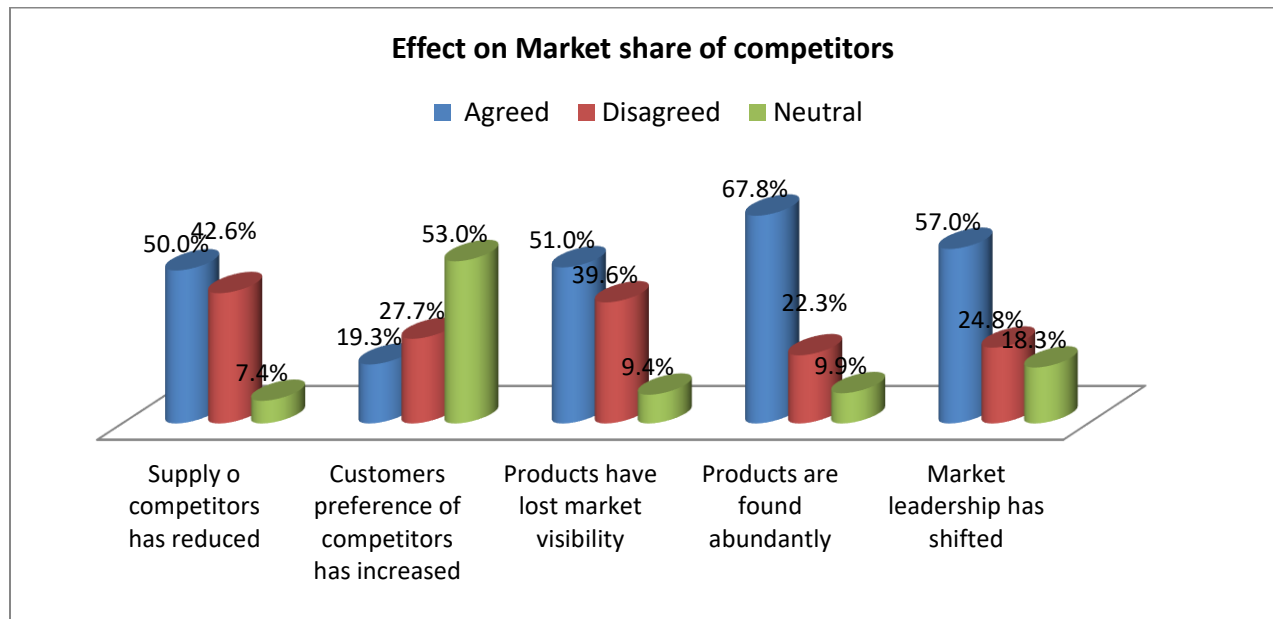
The loss in market share is particularly stronger on Derba Cement. It has witnessed the bigger deep in shares from 20% in the beginning of 2016 to 12% in the combined yearly performance on YTD 2018. When National Cement recorded a small but steady increase in shares, Messobo maintained a more or less no change on yearly shares for three years running. Graph below clearly depicts a three year comparison on Quantity of production as well as changes in market shares.

Market Share Comparison
2016-2018

- 2016 Market Share %
- 2017 Market Share %
- 2018 Market Share %

Dangote Cement: 27%, 26%, 27%
Messebo Cement: 22%, 22%, 20%
National Cement: 9%, 11%, 14%
Muger Cement: 12%, 12%, 13%
Derba Cement: 20, 16, 12

Comparison on Quantity and Market Share
2016-2018

- Dangote Cement
- Messebo Cement
- National Cement
- Muger Cement
- Derba Cement

2016
Quantity in Mt:
1,933,934.31
1,683,385.56
1,546,535.63
863,723.85
681,263.20

2017
Quantity in Mt:
2,122,507.73
1,823,193.94
1,239,161.00
983,749.90

2018
Quantity in Mt:
2,070,177.68
1,495,902.10
1,028,969.73
878,466.60

4.2.5 The effect of Dangote Cement on Operational efficiencies of major competitors

The operating efficiency of the cement industry is judged by its capacity utilization and the economical use of major inputs, such as limestone, coal and power consumption per ton of cement production (Muthukrishnan, 2002). This particular inquiry is focus on capacity utilization.

It's true that in most literatures, operational efficiency is related with minimizing wastage and increasing profitability (Chie-Yin & Anrew (2012), Hackman (2008). Hopp & Spearman (2004) and Nahmias. (2009). These definitions do not exclude the likes of productivity and customer satisfaction as indicators of operational efficiency.

The many types of operational efficiencies indicated in the above scholars put productivity as the core source of measuring efficiency. Meanwhile customer satisfaction in most cases is presented in terms of quicker service delivery and lesser waiting time as a measure of operational efficiency.

Data collected from retailers, contractors as well as in-depth interview of the management indicate, service quality or customer waiting time has significantly been reduced. Before 2015, the dominant manufacturers waiting time goes up to 3 months and above. Complaints were high as the country as over all were suffering from shortage of cement.

The improvement in overall operational efficiency is hardly reflected on capacity utilization efficiency of main competitors and the overall industry. Average capacity utilization still ranks below Sub-Saharan average of 70%. Table below shows the trend in changes on the overall capacity utilization in the country.

Year	Total Demand of cement In Million MT	Installed Production capacity in Million MT	Actual capacity utilization in %
2009	1.69	2.53	66.70%
2010	1.62	2.84	57.10%
2011	2.72	5.14	52.92%
2012	3.76	10.04	37.45%
2013	4.73	12.10	36.03%
2014	5.47	12.10	45.20%
2015	6.86	12.40	55.30%
2016	7.40	14.26	51.89%
2017	8.13	15.90	51.13%
2018	9.20	18.28	50.31%

Perhaps the largest set back in drawing back cement efficiency is the cost related to energy consumption. According to Ministry of Trade (2018), cost of energy covers 60% of cement cost of production. At average the profit margins of manufacturers are severely hampered by the huge cost of production.

The average capacity utilization of Ethiopian cement industry from the past seven years between the year 2008\9 and 2014\15 data shows around 50% which is way below the Africa and world Average capacity utilization.(See below table 4.5)

Due to lack of adequate data, this study is limited to measure operational efficiencies of the main competitors from two variables only. These are productivity and customer satisfaction. Results indicate there is a slight improvement in productivity and a better growth in customer related operations.

4.2.5.1   *Effect on Customer Satisfaction*

The idea of customer satisfaction is inherent in meeting customer needs on that specific line of work (Biesok,& Wyród ,2011). In cement market, much has to do with faster delivery and managing customer complaints better. Offering a better profit margin for retailers and improved returns in individual and company endeavors tops other requirements in attaining yield in customer management.

Both retailers as middle customers of cement and Grade-1 contractors have been asked if they consider the above criterions are better achieved or not. Accordingly, customer's feedbacks are responded better than before and complain management is said to be improved by 60% of the respondents. Damage compensation and quality related issues are better addressed as per 53% of the respondents. Ease of access and customer convenience is upheld by 68% of the respondents.

The effect of Dangote on Customer Satisfaction

■ Agreed   ■ Disagreed   ■ Neutral

	Agreed	Disagreed	Neutral
Customer's feedbacks are quickly responded	32.30%	48.60%	20.10%
Products are found abundantly in the market	67.80%	22.30%	9.90%
Customers complain about quality of products	27%	58%	15.00%
Package bursting has become frequent	32.20%	58.40%	9.40%
Products cake soon in stores	29.70%	64.80%	5.40%
Damage compensation has improved	53%	31%	16%

4.2.5.2   *Effect on productivity*

According to World Bank (2009), manufacturing efficiency in Eastern Africa is 76%. Ethiopia lies way below average score. This doesn't mean each factory register a different performance. For instance, Messobo cement averages a year end efficiency of 70% while Mugher rattles at 40%. See table below for detailed comparison among the five main competitors. Clearly, Dangote's efficiency in product ivy gave it the edge to lead the market as it's indicated above.

Year	2016		2017		2018		Efficiency
Factories	Quantity in Million Mt	Efficiency %	Quantity in Million Mt	Efficiency %	Quantity in Million Mt	Efficiency %	3 Year Average Efficiency
Dangote Cement	1.90	76%	2.10	84%	2.00	80%	80.00%
Messebo Cement	1.60	70%	1.80	78%	1.50	65%	71.01%
National Cement	0.60	46%	0.90	69%	1.00	77%	64.10%
Muger Cement	0.80	36%	0.90	41%	1.00	45%	40.91%
Derba Cement	1.50	60%	1.20	48%	0.90	36%	48.00%
Average Efficiency		57%		64%		61%	60.67%

Responses on in-depth interview and document reviews have confirmed by far the companies which had to give up most are Derba Cement and Mugher Cements. On the years since the entrance of Dangote, both the then leading manufacturers production quantities reduced by more than 15% each.

With regard to productivity, mixed responses were identified. In a moment, we analyzed productivity in numbers on a three year trend analysis since 2015. Regardless, respondents claim that supply has increased. Not so much difference is observed on the monthly supplied quantity to the market. 70% of respondents agreed that customers now get cement much easier than before.

The effect of Dangote on Productivity
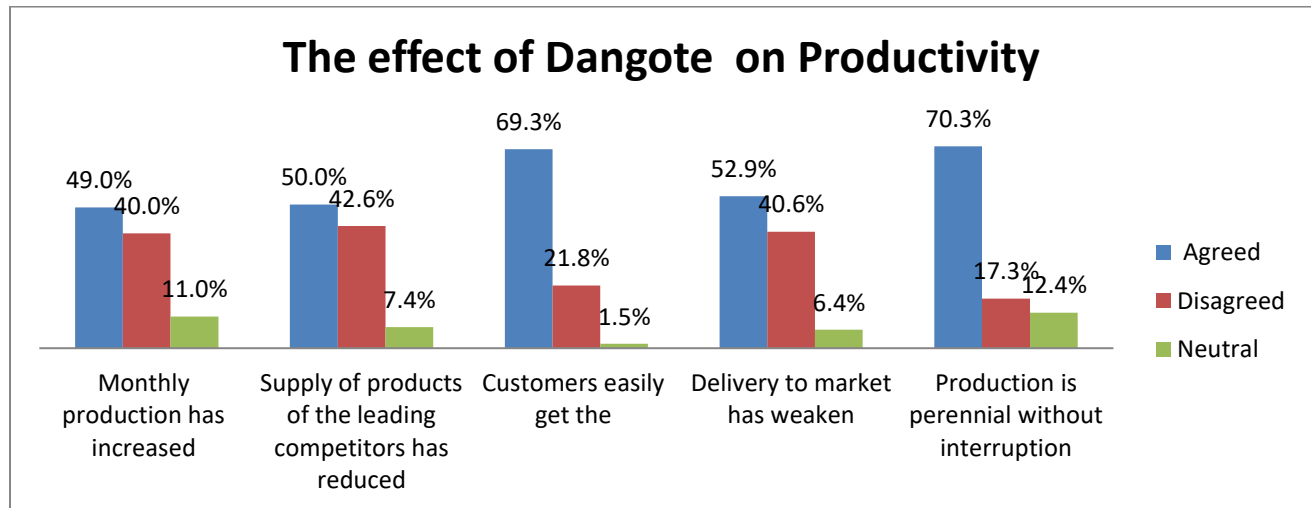
It's evident that up on entrance of Dangote, the cement market in general and the major competitors in particular has faced a competition in all kinds of measures indicated above. The lead in both quantity of production and market share, the loss in positions by the preexisting players and imposition of efficiency in manufacturing are the high lights of the effect.

The above descriptive can only tell us so much to understand the effect of Dangote on other competitors. The extent and depth of the influence needs further inquiry. In our case, a correlation and regression analysis is conducted to quantify the effect and effectively reject the null.

4.3 Correlation and Regression analysis on the effect of Dangote cement on local business competitiveness of the main competitors

The above descriptive analysis show cased the effect of Dangote cement as a multinational company on pre-existing manufacturers. The effects ranging from price to operational efficiency are clearly indicated above. The next step is how significant is the relationship of the entrance of Dangote on the stated variables. Can we draw an effective conclusion on all variables? Can this effect be taken as effect on the overall research population? For this we turn to a deeper inferential analysis to better understand the associations.

Results from SPSS have helped to gather valuable analysis in an effort to establish a meaningful relationship among variables. Whether or not we accept or reject the null hypothesis is determined through significance level comparison with margin of error and P-values and Chi-square.

The summed effect of Dangote as a multinational company on the local business competitiveness is depicted above. But, how significant and whether or not the results are due to chance are interpreted below.

- Ho_1- The entrance of Dangote has no effect on the price, quality, and quantity of local competitors.
- H_{o2}- The entrance of Dangote has no effect on market share of local competitors
- Ho_3- The entrance of Dangote has no effect productivity and customer satisfaction of local competitors
- H_1- The entrance of Dangote affected the price, quality, and quantity of local competitors.
- H_2- The entrance of Dangote affected the market share of local competitors
- H_3-The entrance of Dangote affected productivity and customer satisfaction of local competitors

Even though, the hypothesis is on nutshell on the dependent variables, the table below and the following analysis are designed to configure each of the dependent variables and the presumed effect independently. That way, understanding the correlation is much easier and as per the result of the analysis, we can effectively reject the above null hypothesis.

Variables	Chi square	p-value	R^2	95 % Confidence interval
The effect on Price of competitors	9.3	0.00	0.00	3.1(1.47-6.63)
The effect on Quality of competitors	12.63	0.00	0.00	0.3(0.13-0.58)
The effect on Quantity of competitors	44.8	0.00	0.00	11.7(5.22-26.2)
The effect on Market Share of competitors	11.8	0.00	0.00	3.5(1.67-7.39)

4.3.1   The effect on Price of competitors

As part of a business competitiveness variable, the effect on pricing is critical. As the above table indicates, the p-value is much lower than the pre-stated 0.05 margin of error. Hence, reject the null hypothesis

Verifying the effect on separate variables on each of the above key measurements is a plus to get a refined conclusion.

- Hence, the p-value for the effect on the price of competitors is equal to 0.00. Since this is less than the significance level (0.05), the above null hypothesis (Ho_1) is rejected.

- Chi-square distribution/goodness of fit/, with 1%v degree of freedom and 5% margin of error is 3.841 (Refer. Chi-square table attached behind). However, our finding confirms the chi-square value is 9.3, which is significantly higher than the critical value, hence, once again, rejecting the null hypothesis.

That is, $X^2 = \Sigma \dfrac{(observed\text{-}expected)^2}{Expected} = 9.3 > 3.841$, reject the null hypothesis

In an average the retail price has seen a reduction if we take the year of Dangote entry 2015. Regardless, since only 5 months left on the colander year, it's hard to get the full sense of the yearly effect. However, literatures above confirm on June and July 2015, a retail sale for cement was close to 450 ETB per quintal.

Economists agree on the overall effect of market price with added quantity on display is negative. Joseph and Kemil (2014) refer to the underlying economic assumption that price would decrease if increased quantities are sold in the market. This research is not intended to make the direction of the effect rather, whether the entrance of Multinational company had an effect or not. To that end, it's effectively indicated that it has a significant effect.

4.3.1.1   A regression analysis on retail price effect on Derba Cement

Underlying the correlation indicated above, the regression analysis confirms how strongly the variables are related and a goodness of fit indicates how well the data fits our regression line. Such is the confirmation below that the changes in retail values of Dangote price strongly affect the alterations in sales prices of Derba Cement.   Being a leader in the market, Dangote's influence in commanding prices is visibly seen in the graph below.

Dangote vs Derba retail price regression

$y = 0.8382x + 30.628$
$R^2 = 0.8816$
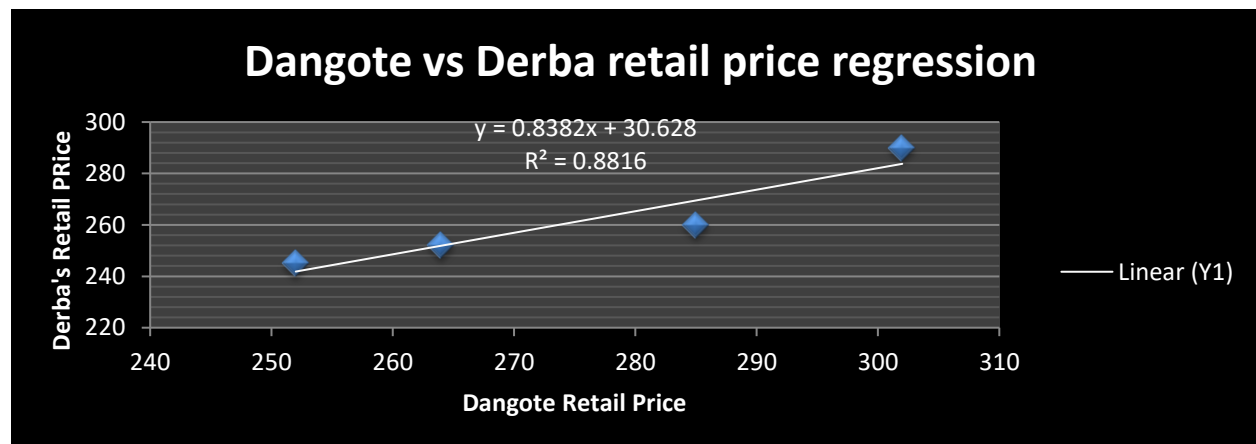
A linear regression implied above between the price of Dangote and Derba in the past four years. Strong relation is predicted on the above. Accordingly, R^2 (R squared) value shows us how close is each Derba's price reaction fits to the regression line.

R^2 values of 0.881 indicate a very close fitness measurement to the regression line. This in turn means, the regression line does strongly confirm the actual values. The predicted values sit very close to the actual values. It also tells us that 88% of the change in Derba's price is accounted for by its regression by Dangote's price

Multiple R value of 0.94 affirms the existing strong linear relationship in that a change in 1 birr by Dangote imposes 84 cents price hikes by Derba cement

Regression Statistics					
Multiple R	0.938938921				
R Square	0.881606297				
Adjusted R Square	0.822409445				
Standard Error	8.346250358				
Observations	4				
ANOVA					
	df	SS	MS	F	Significance F
Regression	1	1037.43	1037.43021	14.89279	0.061061079
Residual	2	139.3198	69.65989504		
Total	3	1176.75			
Observation	Predicted Y1	Residuals			
1	251.9016421	0.098358			
2	241.8437447	3.156255			
3	269.5029626	-9.50296			
4	283.7516506	6.248349			

The critical F-value can easily be calculated with simple excel command as indicated below

=F.INV.RT (0.05.1.10) or F=R^2/(P-1)/(1-R^2)/(n-P)

In our case F critical value is 4.96; hence as the actual value which is 14.89 beyond the critical value making us strongly reject the null. As indicated in one tail test graph below

Rejection Region

4.96   F-test result (14.89)
Critical value
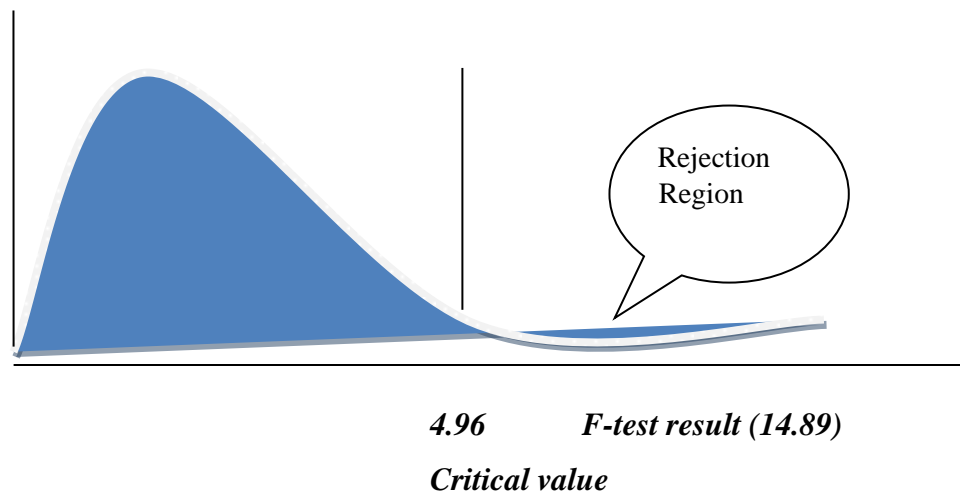
Measure of significance of f of regression is 0.023, which is much lower than the P value of 0.05, confirming results above are not of chance rather predictable regression.The residual doesn't necessrily shows pattern, which also means our data is consitnetn in the regressiona and results above are in deed predicted closely fir to the regression line. See graph below.Centred around zero and they are semi-normally distributed, our regressions is well fitted.

Being the difference between the observed value of the dependent variable (y) and the predicted value (ŷ) the residual, indicates the distribution and how well our prediction fits the regression line. As a measure of wellness, the sum of residuals is zero. As it's seen below

Residual = Observed value – predicted value or called errors
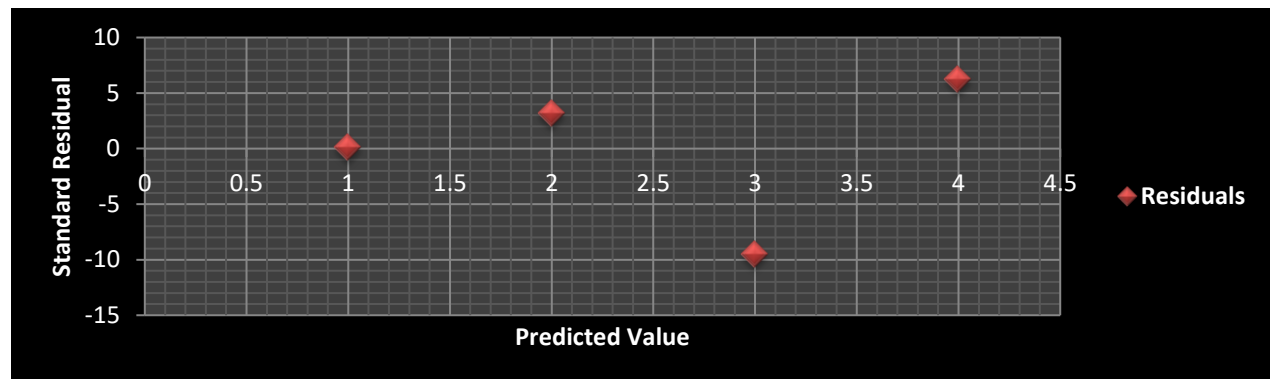
The residual is more or less randomly distributed against the imaginary line. Which in trun indicates, the linear regression model is in deed a good fit to explain price relationship. Or in otherwords, the residuals do not contradict the linerarity of the regression.

4.3.1.2   A regression on retail price effect on Mugher Cement

This means that 84% of the variance of Y is explained by the correlation: the correlation is good. The other 16% of the total variation in Y remains unexplained. Meaning, by far the pricing of Mugher is dependent on changes of Dangote price.. In other words, 85 percent of the variance in changes Mugher retail price is predictable from changes in Dangote's retail. The later is not only a price leader but also enjoys a paramount market share close to 30%.

For every birr increase in Dangote Price, Mugher increased 0.93 cents in its retail. Despite, charging a premium price exceeding all other competitors by an average 8 birr, Dangote maintained a price leadership.

Dangote Vs Mugher price regression

$y = 0.9269x - 1.8334$
$R^2 = 0.8353$
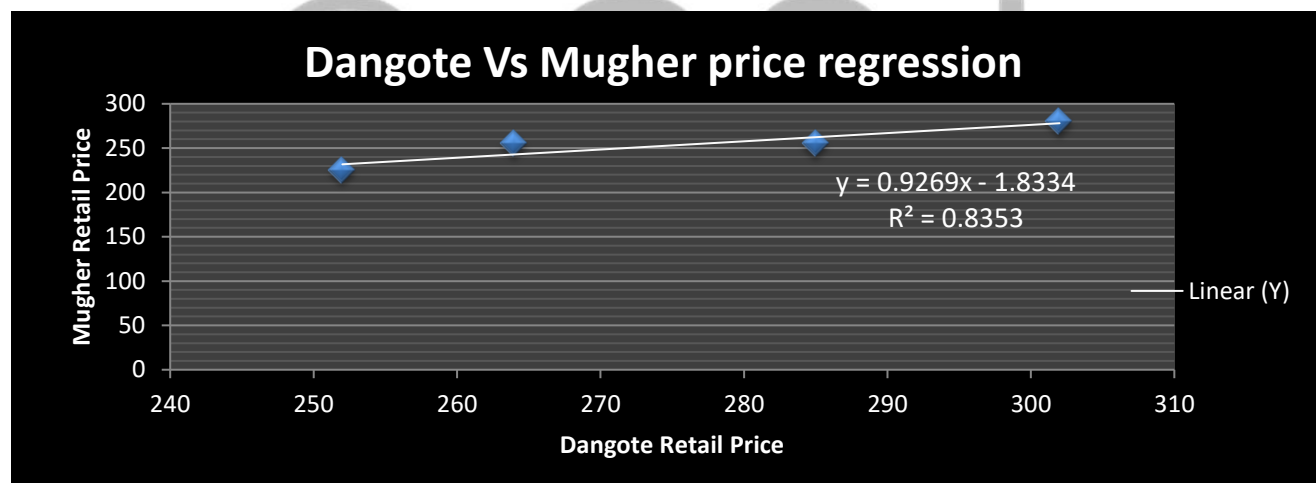
A linear regression indicated in the graph above shows the direct relationships between the prices of Derba as independent variable having an effect on the price of Mugher. A more fitted regression lines and the price is influenced 93% of the time.

Regression Statistics	
Multiple R	0.913960648
R Square	0.835324066
Adjusted R Square	0.752986099
Standard Error	11.18261093
Observations	4

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	1268.648	1268.648426	10.14507	0.036039352
Residual	2	250.1016	125.0507872		
Total	3	1518.75			

Observation	Predicted y2	Residuals
1	242.8593195	12.14068
2	231.7369223	-6.73692
3	262.3235145	-7.32351
4	278.0802438	1.919756

4.96 (critical value)   10.14(Actual test value)

The null is well and trul rejected as the F test value is 10.14 way greater than the critical value of 4.96 Significance f value is 0.036 which in turn is less than the p value of 0.05, once again, helping us confirm the rejection of the null confidently.

Meanwhile, as indicated below the residual is well spaced and randomly distributed. It doesn't necessarily show a pattern, confirming a well distributed regression.
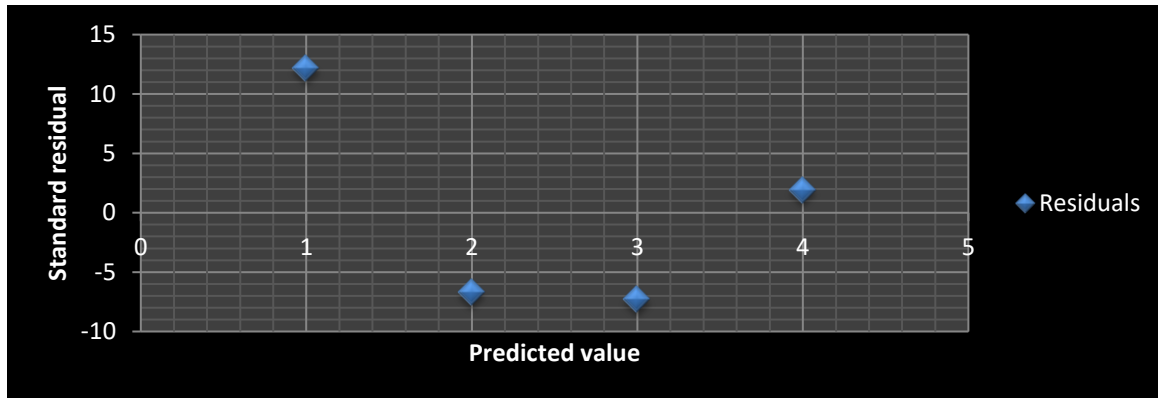
4.3.1.3   *A regression on retail price effect on Messobo Cement*

R squared is 0.76, indicating a stronger prediction on the price of Mugher. It entails the data on pricing very close to the regression line. It ensures the well indicated predictive behavior of the pricing effect of Dangote on Messobo retail pricing.

The coefficient of determination or R^2 explains the dependence of level of the retail pricing of Messobo on the change in Dangote retail price. Accordingly, for every 1 birr change in Dangote, there is be 0.72 cents increase in Messobo sales price, a positive relationship among the two variables.
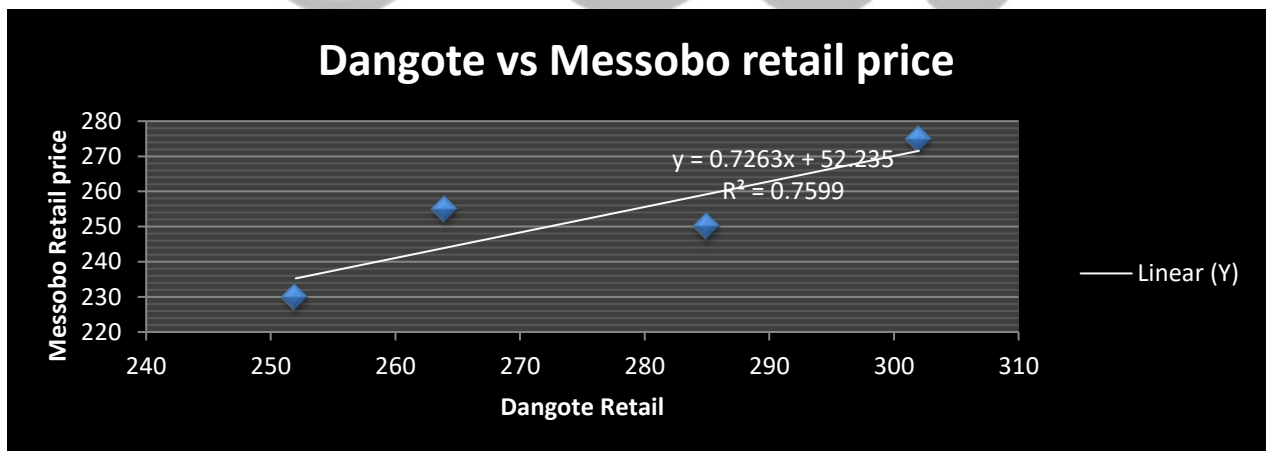
Regression Statistics					
Multiple R	0.871729772				
R Square	0.759912795				
Adjusted R Square	0.639869192				
Standard Error	11.09255123				
Observations	4				

ANOVA

	df	SS	MS	F	Significance F
Regression	1	778.9106	778.9106145	6.330306	0.028270228
Residual	2	246.0894	123.0446927		
Total	3	1025			

Observation	Predicted Messobo	Residuals
1	243.9664804	11.03352
2	235.2513966	-5.2514
3	259.2178771	-9.21788
4	271.5642458	3.435754

The F-test value is 6.3 which is again above the critical value of 4.96. Accordingly, we effectively reject the null. The significance value of 0.028 is also much below the p value of 0.05.

4.96   6.5
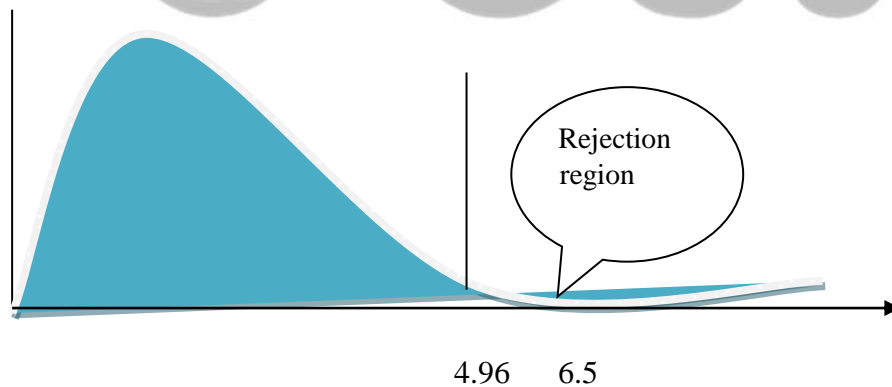
The residuals are sparsely distributed indicated an absence of regular pattern. Meanwhile, as indicated below the residual is well spaced and randomly distributed. It doesn't necessarily shows a pattern, confirming a well distributed regression
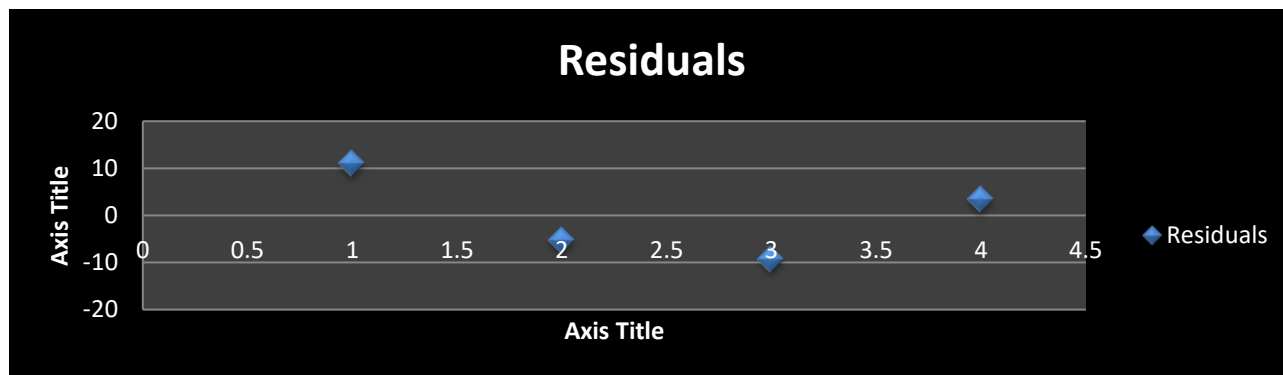
4.3.1.4   A regression on retail price effect on National Cement

Value of Coefficient of determination (r2) is 0.76. It indicates a close to perfection fitness of our data to our regression line. It ensures the predictability of retail price of National Cement as effect by Dangote Cement. Accordingly, for every 1 birr increase in price of Dangote, National increases by 0.55 cents.
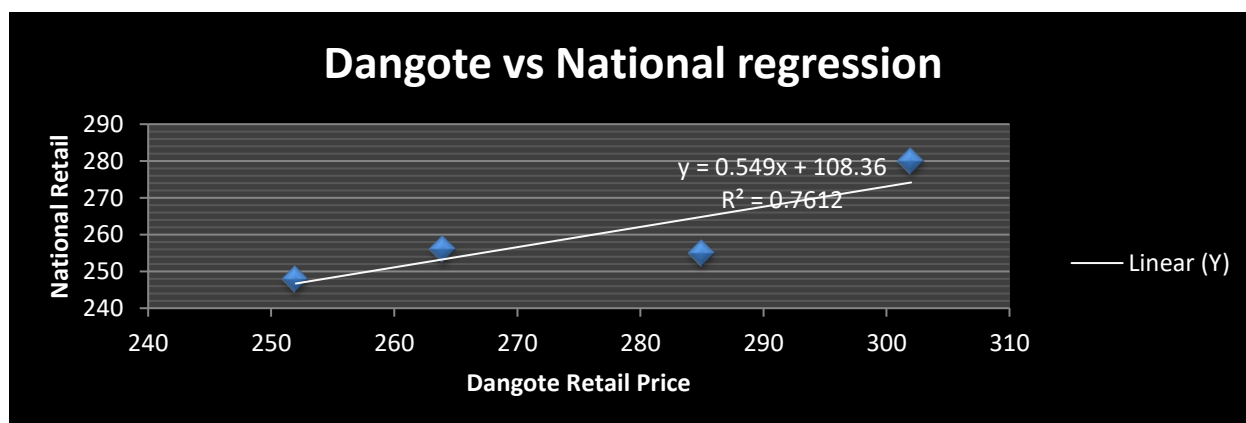
Regression Statistics	
Multiple R	0.87246568
R Square	0.761196363
Adjusted R Square	0.641794545
Standard Error	8.355849048
Observations	4

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	445.1096	445.1095734	6.375082	0.012753432
Residual	2	139.6404	69.82021331		
Total	3	584.75			

4.96   6.4
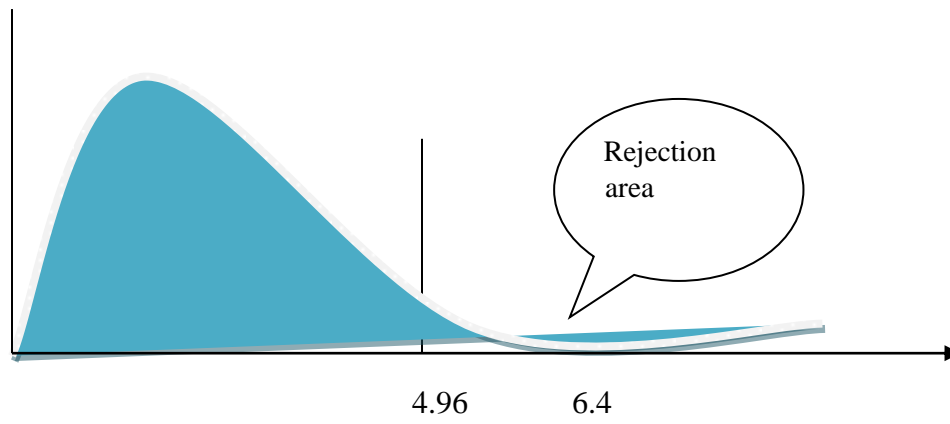
RESIDUAL OUTPUT

Observation	Predicted Y	Residuals
1	253.2991366	2.700863
2	246.7110208	1.288979
3	264.8283393	-9.82834
4	274.1615033	5.838497

The residuals are relatively randomly dispersed across the imaginery line. This prove the absence of contradiction for the use of linear regression existing among the two prices.
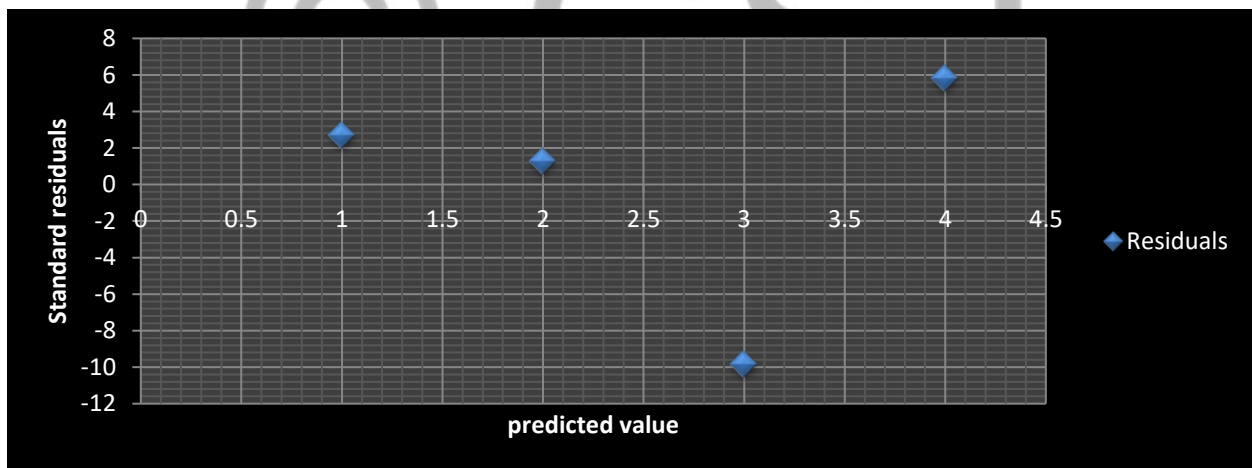
4.3.2   The effect on Quality of competitors

Competition also exerts downward pressure on costs, reduces slack periods and provides incentives for the efficient organization of production (Nickell, 1996). This is somehow explained on the observed result of the customer responses. Up on the arrival of a mega manufacturer which drove up quantities on display and produces effective delivery mechanism, the market felt the competition. The comparison on quality since the entrance of a multinational company is well explained on the above table.

Perceived quality is the generally subjective verdict of quality relative to the prospects of quality. These prospects are based on one's own and others' experiences, plus various other sources including brand reputation, price, and advertising (Kandasamy, 2014). Retailers and customers replicated the above statement in that the international brand did played a part in particular big consuming companies.

Overall quality of products has increased in the market. There is less customer complaints, less package bursting and a more effective feedback response mechanism are at play in return. Be that as it may, the p-value of the actual significance level on whether such effect exists is 0.00. This is much lower than the significance level of 0.05, reject the null hypothesis. The goodness of fit or chi-square for the presumed effect is also significantly higher than the critical value as indicated below.

$$\text{That is, } X^2 = \Sigma \frac{(observed-expected)^2}{Expected} = 12.63 > 3.841, \text{ reject the null hypothesis}$$

A strong brand such as Dangote with respect to perceived quality will be able to extend further, and will find a higher success probability than a weak brand. Purchase decisions are plagued in perceived quality particularly when measuring objective quality difference is difficult. Bristow et al (2002) explained that when objective quality of a product is hard to justify, buyers would take more abstract signals such as brand name as the key consideration.

4.3.3   *The effect on Quantity of competitors*

A p-value of 0.00 also significantly lesser than the critical p value of 0.05, hence reject the null hypothesis. Once again, this is clearly seen on the tabular and graphical data indicated above. Up on the entrance of a mega multinational with standardized manufacturing efficiency of closer to 90% of its 2.5 Million Mt per annum capacity, it put the other local competitors on pressure to deliver as much or face market loss.

In country like ours, brand and choice is much impacted based on availability. n physical retail environments, product placement is hugely important (Christopher & Julie, 2010) . Ability to produce more than your competitors is obviously giving an edge to better place products. As the data indicates, both the capacity and efficiency employed has strongly affected the local competitors.

In particular reference to retail markets, the effect of placement at a disposal is critical. Ramya & Mohamed (2016) confirms that among the many factors initiating a continuous consumption are abundance and availability. It seems this has played as an effect on the local competitors as Dangote dispatches close to 8,000 Mt a day to main market areas. The effect of the increased quantity is clearly depicted by study p-value of 0.00 which is by far lesser than the significance level put aside. Hence, the null hypothesis claiming no effect is rejected.

The measure of goodness of fit is 44.8. Compared to the critical Chi-square value of 3.841, this is a monumental display. Goes to the point made above, by far ability to produce and dispatch big has strongly affected local capacities. This once again effectively rejects the null hypothesis.

4.3.4   *The effect on Market Share of competitors*

Perhaps by far the greatest testimony for the effect of a big multinational on local firms is the loss on market share. Evidence of that is seen on pages (51-53) above as Mugher and Derba being the greatest losers in that respect. Both loss a total of 25% of the market which is effectively snatched by Dangote Cement. In the process, National cement has also gained few percentages. During the three and half years since 2015, the lead in the market share has totally shifted.

Eric and Michael (2011) implied that crowding out effect is seen as the greatest impacts by MNCs on local firms. Nowhere is seen well than the market share loss on local firms. The effect is evidenced with the p-value of 0.00. This in turn is way lesser than the significance level of 0.05. As the result, the null is strongly rejected.

The chi-square of 11.8 is recorded on goodness of fit measurement. This also confirms the strong effect thereby rejecting the null.

4.3.5 The effect Dangote on operational efficiency based on productivity

The effect on productivity on each player is one which is difficult to measure. Rather, the overall change on the main players can be seen in the table below. Long before the entrance of Dangote Cement, better productivity efficiencies were observed. This can be the result of new machineries on the time, better demand growth or lack of adequate competition.

The lowest efficiencies were recorded on the years 2012 and 2013. That's why the consumption trend implicates a heavy cement import and heavy selling prices in the market.

Year	Total Demand of cement In Million MT	Installed Production capacity in Million MT	Actual capacity utilization in %
2009	1.69	2.53	66.70%
2010	1.62	2.84	57.10%
2011	2.72	5.14	52.92%
2012	3.76	10.04	37.45%
2013	4.73	12.10	36.03%
2014	5.47	12.10	45.20%
2015	6.86	12.40	55.30%
2016	7.40	14.26	51.89%
2017	8.13	15.90	51.13%
2018	9.20	18.28	50.31%

The overall efficiency slightly increased by 10% up on the entrance of Dangote on 2015 but also dipped down to 50% as of 2018. This may not entirely reflect the effect. There is significant difference among each of the main players.

Let's discuss on the deviation in quantity of production on the ten years ranging from 2009 to 2018. In the later stages of the decade, we can locate the entrance of Dangote on 2015. Below is the standard deviation and mean of the productivity calculated based on the average efficiency as indicated on the table above.

Year –count	Actual production quantity in Million Mt calculated based on efficiency %- Obsevation (X)	Deviation from the mean (x-mean)	(X-mean)2
2009	1.69	-8.92	79.53
2010	1.89	-8.71	75.88
2011	3.43	-7.18	51.51
2012	6.70	-3.91	15.28
2013	8.07	-2.53	6.42
2014	8.07	-2.53	6.42
2015	8.27	-2.33	5.45
2016	9.51	-1.09	1.20
2017	10.61	0.00	0.00
2018	12.19	1.59	2.52
Sum	70	-36	244
Count (n)	10	10	10
Average (mean)	7		
Variance X2			27
Standard deviation			5

- In order to interpret, 95% rule. Accordingly, 95% of the above efficiency lies between -3 and 17.

The reduction in productivity as it's seen below is the result of the loss in market in the competitor's side and the shift in demand.

Companies	Installed capacities in Million Mt	Four years average Productivity Efficiency %
Dangote Cement	2.5	80
Messebo Cement	2.3	71
National Cement	1.3	64
Muger Cement	2.2	40
Derba Cement	2.5	48

The biggest loser in reduced quantity of production is resultant of the market loss by Derba and Mugher respectively. It's fair to say that entrance of Dangote has offset the increase in demand winding up taking over the market shares of local competitors. Being the latest entrant in the market on 2015, the demand growth is compensated more than proportionally by the mega capacity of Dangote cement.

The regression below is based on the above table which summarizes the average effect on productivity on all competitors. Much of the changes in productivity and customer satisfaction is explained above under the descriptive analysis. Here, a rough estimate on the role of Dangote's change in capacity utilization efficiency versus the combined average capacity utilization of the four main competitors is analyzed. The result shows a greater than average influence with moderately fitted regression line.

Productivity Efficiency 2015-2018

$y = 0.2759x + 0.2953$
$R^2 = 0.4233$
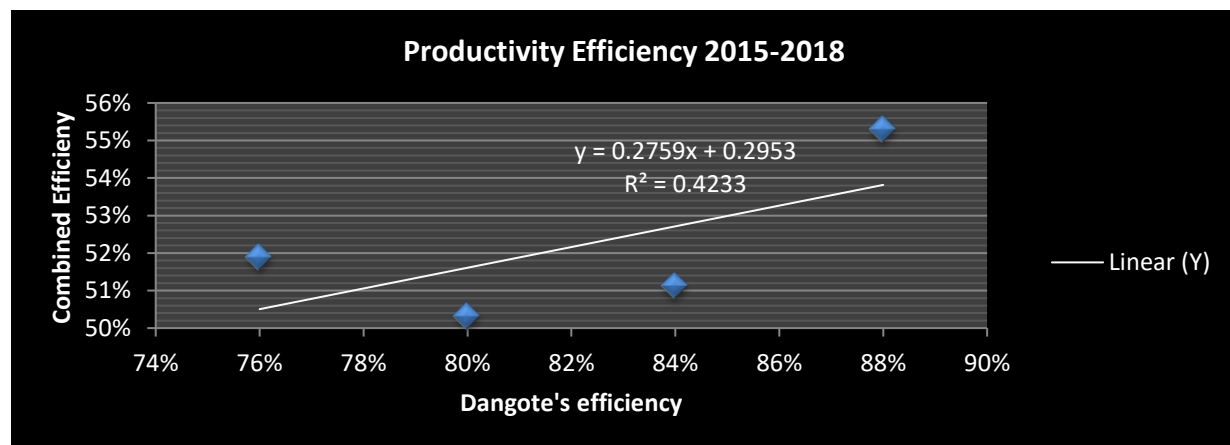
R^2 of 0.42 is a closer than average influence on the change in Dangote productivity impacts the productivity of the other main competitors. 42% of the data that is the closes to the line of best fit. This is perhaps confirms there are other variables help determine the changes in efficiencies. These factors may include technological factors, individual performances, resource allocation, and etc. The multiple R can better describe the effect as its value is 0.65, indicating a much closer fit of the variables to the regression line.

Summary Output

Regression Statistics	
Multiple R	0.650577
R Square	0.423251
Adjusted R Square	0.134876
Standard Error	0.020372
Observations	4

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.000609	0.000609	6.267711	0.0349423
Residual	2	0.00083	0.000415		
Total	3	0.001439			
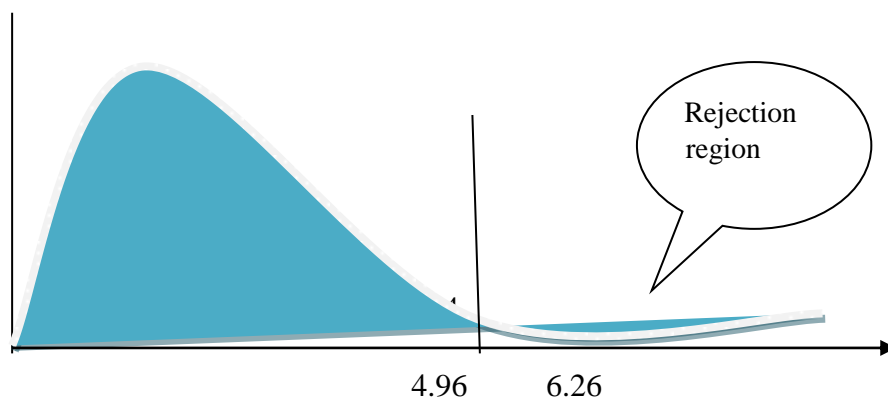
The actual F value of 6.26 is slightly higher than the critical value of 4.96. Once again, confirming the rejection of the null with slight margin. Looking the residuals, it educates us on the difference between the actual efficiency levels and the predictions and how random they appear.

Regardless of understanding on the effect on the overall competitors, it still behooves to isolate the effect on each players one by one. Table below depicts a the aggregae productiviy efficiency on the main players in the market in the past four years. A vivid image on the extent of the effect can be learnt on the separate regression done below.

Companies	**Yearly manufacturing productivity efficiency**			
	FY2015	FY2016	FY2017	FY2018
Dangote Cement	72%	76%	84%	80%
Messebo Cement	64%	70%	78%	65%
National Cement	38%	46%	69%	77%
Muger Cement	48%	36%	41%	45%
Derba Cement	68%	60%	48%	36%

4.3.5.1   *The effect of Dangote Cement on productivity efficiency of Messobo Cement*

The goodness-of-fit measure between productivity of Dangote and Messobo cement is strongly fitting. With r^2 value of 0.60, the linear regression depicts a strong prediction among the two variables. The linear graph predicated as per the tables indicated below shows a steady regression on the change in value of Dangote's productivity efficiency and its effect on that of Messobo's. Ninety six percent (96%) of the changes in Messobo's productivity is explained by the change in productivity of Dangote. It's fair to say that the above regression line strongly predicts the actual values.

Regression Statistics	
Multiple R	0.7683297
R Square	0.5903305
Adjusted R Square	0.3854958
Standard Error	0.0506248
Observations	4

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.0073	0.007386	12.8819	0.0231
Residual	2	0.0051	0.002563		

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Total	3	0.0125						
Intercept	-0.05686956	0.4422	-0.1286	0.03038	-1.959	1.845	-1.95953	1.84579
X	0.96086956	0.5660	1.697641	0.02367	-1.47	3.396	-1.47444	3.39618

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals	Standard Residuals
1	0.6349565	0.005	0.122015
2	0.6733913	0.022	0.538548
3	0.7502608	0.032	0.782577
4	0.7118260	-0.059	-1.44314

The correlation coefficient of multiple R of 0.76 predicts strong linear relationship with Dangote and Messobo Cement productivity.

The critical F value of 4.96 and P value of 0.05 are way below the actual F values of 12.88 and significance values of 0.02, this in turn allows us reject the null. Looking at the above tables, we can see well dispersed residuals which in turn confirm the reliability of the regression line.

Count		Observation X	Deviation from the mean X-mean	(X-mean)^2
	1	64	-5.25	28
	2	70	0.75	1
	3	78	8.75	77
	4	65	-4.25	18
Sum		277	0	123
Count (n)		4	4	4
Average (mean)		69		
Variance X^2				41
Standard deviation				6

- The change in efficiency on Messobo is between lower 56% and 82%.

4.3.5.2   *The effect of Dangote Cement on productivity efficiency of National Cement*

Despite only having half capacity of production as compared to that of Dangote Cement, National Cement's productivity is strongly affected by that of the former. The linear regression indicated below confirms that 76% of the change in productivity of National is explained by the change in Dangote. For a

1% change in productivity of Dangote, there is a 3.11% rise in productivity of National's productivity. Meanwhile, a multiple R value of 0.87 affirms a stronger correlation among the two productivities.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.869774
R Square	0.756507
AdjustedR Square	0.634761
Standard Error	0.111645
Observations	4

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	0.077453	0.077453	6.21380083	0.130225681
Residual	2	0.024929	0.012465		
Total	3	0.102383			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	-1.851230769	0.975223	-1.89826	0.198080783	-6.047275092	2.344814
X	3.111538462	1.248235	2.49275	0.130225681	-2.259185165	8.482262

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals	Standard Residuals
1	0.389076923	-0.00908	-0.09957
2	0.513538462	-0.052	-0.57044
3	0.762461538	-0.07015	-0.76958
4	0.638	0.131231	1.439593

The critical F value of 4.96 and P value of 0.05 are below the actual F values of 6.2 and significance values of 0.013, this in turn allows us reject the null. Looking at the above tables, we can see well dispersed residuals which in turn confirm the reliability of the regression line.

Count	Observation X	Deviation from the mean X-mean	(X-mean)^2
1	38	-19.5	380.25
2	46	-11.5	132.25
3	69	11.5	132.25
4	77	19.5	380.25
Sum	230	0	1025
Count (n)	4	4	4
Average (mean)	57.5		
Variance X2			341.66667
Standard deviation			18.484228

The production efficiency of National is between 21.46 and 94%..

4.3.5.3   *The effect of Dangote Cement on productivity efficiency of Mugher Cement*

Perhaps the least productivity effect is expirianced on the government owned Mugher cement. 28% of the changes in productivity alterations are explained as the result of the changes in Dangote's productivity. A one percent increase in Dangote's productivity affects as 0.83% decrease in productivity in Mugher's efficiency. A more than proportional correlation is predicted through a multiple r value of 0.54.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.53794391
R Square	0.28938365
Adjusted R Square	-0.06592452
Standard Error	0.08221495
Observations	4

ANOVA

	Df	SS	MS	F	Significance F
Regression	1	0.005505165	0.005505	8.14458	0.0412056086
Residual	2	0.013518595	0.006759		
Total	3	0.01902376			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%

| Intercept | 1.09136364 | 0.718146504 | 1.519695 | 0.0267944 | -1.998571378 | 4.181298651 |
| X | -0.82954545 | 0.919191052 | -0.90247 | 0.0412056 | -4.784505343 | 3.125414434 |

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals	Standard Residuals
1	0.49409091	0.055909091	0.83287
2	0.46090909	0.097272727	-1.44906
3	0.39454545	0.014545455	0.216682
4	0.42772727	0.026818182	0.399507

The critical F value of 4.96 and P value of 0.05 are way below the actual F values of 8.14 and significance values of 0.041, this in turn allows us reject the null. Looking at the above tables, we can see well dispersed residuals which in turn confirm the reliability of the regression line.

Looking at the mean and standard deviation, the production efficiency is much closer to the average mean.

Count	Observation X	Deviation from the mean	(X-mean)2
		X-mean	
1	48	6	30.25
2	36	-7	42.25
3	41	-2	2.25
4	45	3	6.25
Sum	170	0	81
Count (n)	4	4	4
Average (mean)	42.5		
Variance X2			27
Standard deviation			5.1961524

The production efficiency of Mugher is between 32 and 52.8%.

4.3.5.4   The effect of Dangote Cement on productivity efficiency of Derba Cement

Derba is the company which had lost the biggest market share. Among the many factors contributed its poorer performance as compared to its installed capacity, 60% of the loss is due to change in Dangote's performance. A 1% increase in Dangote's productivity is predicted to have a 2.1% decrease on Derba's efficiency.

Stronger linear correlation is implicated through multiple r amounting 0.77.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.774597
R Square	0.6
Adjusted R Square	0.4
Standard Error	0.108444
Observations	4

ANOVA

	df	SS	MS	F	Significance F
Regression	1	0.03528	0.03528	8	0.022540
Residual	2	0.02352	0.01176		
Total	3	0.0588			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%
Intercept	2.168	0.947253	2.2887236	0.014930	-1.9077	6.2437	-1.90770014
X	-2.1	1.212436	-1.73205081	0.022540	-7.31669	3.116689	-7.3166891

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals	Standard Residuals
1	0.656	0.024	0.27105237
2	0.572	0.028	0.31622777
3	0.404	0.076	0.85833251
4	0.488	-0.128	-1.44561264

The critical F value of 4.96 and P value of 0.05 are way below the actual F values of 8 and significance values of 0.0225, this in turn allows us reject the null. Looking at the above tables, we can see well dispersed residuals which in turn confirm the reliability of the regression line.

Count	Observation X	Deviation from the mean	(X-mean)^2
		X-mean	
1	68.00	15.00	225.00
2	60.00	7.00	49.00
3	48.00	-5.00	25.00
4	36.00	-17.00	289.00
Sum	212	0	588
Count (n)	4	4	4
Average (mean)	53		
Variance X2			196
Standard deviation			14

The productivity of Derba Cement is between 25% and 81%.

4.4 Industry level competitiveness, a broader outlook on competitiveness in the cement market

The potential benefits of market competition range from creating the incentives and dynamics driving efficiency, innovation and productivity growth is well established. Nick (2008), Barbral (2007), Broadman. (2007). Cook, P. et al. (2007) affirm the role it plays in a certain economy. It's indicated that competition is central to the operation of markets, and fosters innovation, productivity and growth, all of which create wealth and reduce poverty.

Despite its journey for three decades, a functioning market economy is still at infant stage. Hailegerbriel (2009) analysis on the regulation of competition is a fairly recent phenomenon in Ethiopia. KibreMoges (2015) stated that Ethiopia today has set out one long journey towards establishing a full-ledged market economy

Being a developing country, Ethiopia can use all the help it can get to boost its economy. A foreign direct investment like that of Dangote cement is on its face a welcome addition to its struggling cement demand on 2015 and before. Owed to remarkable economic growth during the decade before 2015 and as the result of poor manufacturing efficiency, cement demand was high as compared to the supply.

In addition to filling the supply gap in the market, lot is expected from MNCs as they look to boost their profitability which at the end is repatriated in hard currency back to their host country. Employment creation, taxation revenue, technological transfer and efficiency improvement are few of the opted benefits when one think of MNCs. Boosting competition is also the other apparent significance.

However, the effect ranges from positive all the way to negative consequences particularly when the industry is lurking with poor manufacturing efficiency and a relatively backward technological stance. The analysis above confirms the main areas on the effect of such an MNC on local business competitiveness. It ranked up core areas as effect on pricing, quality, quantity, and market share and operation efficiency of local competitors.

Using marketing competitor's analysis it is possible to determine the strength and weakness of competition which in result helps us understand industry. Based on this, the following competitor's analysis is made among Dangote and the other main four competitors which have 85% market share including Dangote.

Considering the main factors that affect the competition in the cement market weighted average system is used to identify the strong performer with the following assumptions and realities.

- 85% market share is covered by the 5 companies which are considered in the analysis.
- Price, quality, proximity to the market and mode of delivery (transport) are considered as a factor to make the competition analysis.
- The major market for cement is Addis Ababa and around Addis Ababa competitor's analysis is made based on Addis Ababa market.
- The competition is rated from 10 (Very strong Performer) to (1) week Performer.

Weighted rating Table					
Competitors	**Price**	**Quality**	**Proximity to the market**	**Mode of delivery/transport**	**Total Score out of 10**
Dangote cement Ethiopia	1.75	2.5	1.5	1.5	**7.25**
Mugher Cement Enterprise	3.5	1.875	1.5	0.2	**7.075**
Messebo Cement Factory	0.875	1.25	0.2	1	**3.325**
National Cement	0.875	1.25	1	1	**4.125**
Derba Midroc Cement	2.625	1.875	2	2	**8.5**

The weighted scale is indicative of the capacity as seen on the summary responses of the customers and retailers. As its seen, the local competitors do poses the potential to fend off the competitive rivalry from Dangote Cement. Evidence of their inability to do so is indicated on the actual performance seen on the above findings.

Despite being endowed all the good qualities to do way better in the market, none of them are leaders. For instance, Mugher and Derba offer the cheapest price in the market. This isn't indicative of their sales. Here, we should ask why? In addition, on the other criteria like mode of delivery Derba still enjoys better number of trucks (score=2). Regardless, it only covers 12% of the market share, 15% lesser than that of Dangote.

Understanding the existence of significance effect on the performances and the overall variables, this section, opts to construct a well recognized model of competition on the cement market. Porter's five forces model

An effort to understand organization's position within a business environment is to consider an overview of the surrounding environment. Such analysis identifies the general factors that impact on all market segments that operate under the same economic, technological, political and social environment (Daft, Sormunen and Parks, 1988).

Porter's five forces model (1985) was introduced as a strategy tool aiming to analyze the immediate competitive environment of individual industries. Having been developed as an industry analysis framework, the five forces model, considers the specific forces that determine

competition. The impact of these five factors facilitates the competitiveness and economic potential of an industry (Essays, 2018).
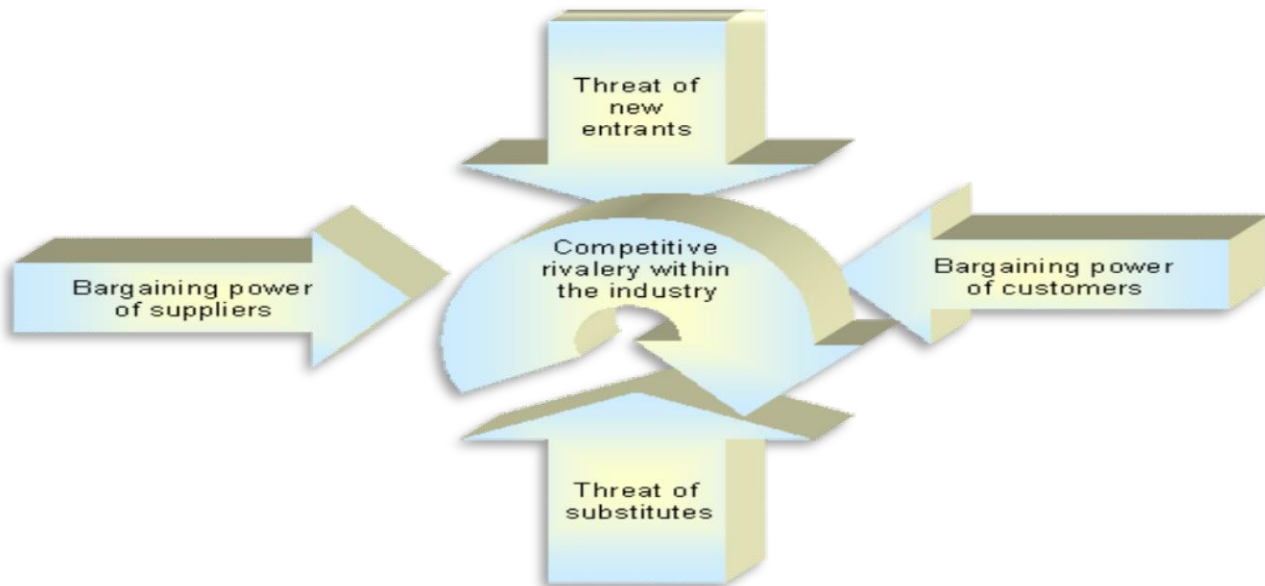
4.4.1   *Threat of new entrant*

Cement industry in Ethiopia for quite some time has been plagued with shortage. Subsequent entrances by Derba, Dangote and Habesha in 2012, 2015 and 2016 respectively have culminated the shortage. By far the biggest threat of new entrants is cost of energy and lack of skill. This is not to say the other common barriers are not at play. Economies of scale, technological access, and cost advantages do still act as a blockade.

Economies of scale is critical for cement industry as it's a bulk manufacturing, high energy cost taking up to 60% of the cost, a low profit margin sector. The minimum size requirements for profitable operations are high and costly. Evidence of this is some small capacities which at some point entered the Ethiopian market and were unable to sustain themselves. For instance, see table below.

S.no	Name of the factory	Plant type	Annual production capacity	Commencement date	Location of the factory
1	Abyssinia cement PLC	VKS	90,000	Sep.2007	**North Showa Chancho**
2	Jema PLC	VKS	45,000	Dec.2007	**North Showa Muketuri**
3	Red-fox –Cement PLC	VKS	150,000	8-Apr	**East Shewa-Koka**
4	Huwau Plc	VKS	*150,000*	*2012*	
5	Huang Shan Cement PLC	VKS	60,000	9-Jun	**Mojo**
6	Debresina Business And Industry	VKS	70,000	9-May	**West Shoa Holeta**
7	Avoriniga	VKS	140,000	2009	**Addis Ababa**
Total			**705,000**		

None of the above combined capacities of 705,000 MT in 2010 are existent as the threat of economies of scale and technological efficiency hit them hard. It could very well be a result of other challenges but the biggest once are still operational. Other common challenges are also addressed by Nebiye (2013) as poor governmental efficiencies, high electricity dependence as energy source.

Cost minimization could be attained in maximizing the scales of economies in the process of production and conserving the type and level of energy consumption which accounts the major

cost component in the industry. Belay Mengistu (2011). A new entrant is highly costly. For instance a new plant is under construction in Dejen area.

Abay Industrial Development Share Co. recently signed a contract with FLS midth for the construction of a Greenfield cement close to the city of Dejen.Valued at €100 million, the contract see the Danish engineering company construct a 5000 TPD plant, will be completed in 2022 (World Cement, 2019).

The industry is more competitive and entry is much harder than it was before 2015. The fact Dangote is in the mix with better efficiency evidently made profitability of local capacities more challenging. Despite the previously predicted 15% annual construction growth, the government seems to slow down the capital expenditure lately. This puts the main demand driver on hold.

4.4.2   *Buying power of customers*

Much of the consumption of cement is traditionally based on government expenditure. According to Ministry of Industry, 60% of the cement consumption during the last 15 years has been directly or indirectly made by the government projects. It goes to show how the economy is dependent by the "G" part of the GDP (Gross Domestic products).

Cement market in Ethiopia like the other sectors, it's a seller's market. The buyer has little if not none capacity to influence the market. Up until recently, cement is a high value commodity found only based on the will of the manufacturer. According to World Cement (2019), the year 2018 witnessed a surplus in production. Compared to other years before, it's a unique phenomenon.

To larger extent, cement is undifferentiated and can be replaced by substitutes, and switching to an alternative product is relatively simple and is not related to high costs. Customers have low margins and are price-sensitive, Just like other developing countries, much of purchase decision is made based on price sensitivity. Kakiza (2015) & Katarzyna. (2014) confirms the role of price in purchase decision to be close to 80%. In return, 80% of buying decision are induced in response to lesser price.

Accordingly, bigger cement producers can afford the economies of scale to deliver with lesser prices and thereby commanding better market. Backward integration of customers is very poor and usually raw materials are exclusively operated by the producers. Hence, customers bargaining power is very low.

It's no wonder that up on entrance of Dangote on mid 2015, price reduction drove up the consumption trend dramatically. As the result, the consumption and loss of market were imminent by existing competitors. In particular reference household consumption, the cost of changing is really low. The other dynamics in this section also include size of each order and difference between competitors.

4.4.3   Threat of substitutes

On the look of it, cement is a homogenous product where cost differentiation is the main strategic issue to secure competitive advantage in the market (Selim and Salem 2010). On contrary, cement market in Ethiopia is a seller's market, not much is on the hands of the customers. Dominance in capacity of production and better efficiency has made the 5 companies studied in this research lead a sort of oligopoly market.

The level of risk a certain company faces to be replaced is largely at play based on capacity difference and ability to deliver faster to ordering customers. The top five manufacturers under the study have dominated the market based on their efficiency and the threat of substitution is the result of failure to deliver instead of the power of the buyers.

Other factors like brand loyalty of customers and close customer relationships play a minimal role for different customer segments. Big buyers like government regard customer relationship and lesser price as a high value of decision paradigm. Meanwhile, other buyers like households and contractors still favor lesser price for what's deemed to be a homogenous product. The threat of being replaced is high with irregular buyers and households.

4.4.4   *Bargaining power of Suppliers*

By far the biggest link is the power of suppliers. It's noted above that the cement market is a seller's market. Up until 2012, Ethiopia was not self sufficient in cement production (FDRE, Revenue & Customs Authority, 2014.). The five companies Derba, Messobo, Dangote, Mugher, and National cement control the overall market. The three year data indicates they influence 85% of the market potential. This has created a loose oligopoly whereby they control the market but not necessarily in agreed or cartel mechanism.

Buyer power is minimal. Depending on the sales mechanism each follow, the buyer is not closely monitored. For instance, Derba, Mugher, National, and Messobo cement dominantly use a direct sales mechanism. Each have a depot where they entertain direct sales. Up until 2018, Dangote doesn't conduct direct sales. Instead, using middle distributors with their own distribution capacities, it has impacted the market better than the rest.

Sales and distribution channels matter in managing supplier power. In addition to the difference in production efficiencies and technological advancement, labor is also an essence of differentiation in supplier bargaining power. Being a multinational company in particular and lack thereof skilled man power in the industry in general, ex-pats are the once behind almost all the manufacturers.

All of the above five major producers are located on or closer to the raw material. They usually control raw material collection and transportation. For instance, Derba and Dangote get pumice from Meki area in rift valley. This gives them edge in maneuvering sole control on uninterrupted supply.

Major characteristics of the supplier bargaining power relies in high differentiation of economies of scale, low switching cost, strong forward integration controlling suppliers, oligopoly like behavior, and reluctance to accept new products by the customer. In addition, a low entry barrier in the side of the buyer makes it easier to grow their dominance.

4.4.5   *Competitive rivalry*

Common competitive features of the industry include shooting down retail prices, lowering transportation costs, scaling up retailers margin of profits, maximizing net sales realization and manufacturing identical products. The industry is dominated by32.5R Portland Pozzolana cement (PPC) and 42.5 Ordinary Portland cement (OPC).

The sector also exhibits competitors with almost similar capacity. Of the 5 main manufacturers, Derba Cement and Dangote cement both poses 2.5 Million Per annum capacity. Meanwhile, Mugher and Messobo contain a 2.3 Million MT per annum capacity. This in turn makes pricing the premier competitive play ground.

The difference on retail prices is a testament of the existing completion and an effort to drive the market. While Dangote Cement leads the market with an average 26.5% market share, it poses the highest retail price in the market. This is a paradox which can be explained in heavy customer reliance on its delivering capacity and strong international brand. The average retail price comparison and a brief regression are done above.

It is now evident that the high-cost producers might have to shut down in order to give the industry a breather in terms of supply-demand balance (World Cement, 2019). Meaning the competitive rivalry is highly reliant on ability to produce better with a reduced cost. High cost of imported coal requires a substitution and the high earning ex-pats need to be replaced with local man power.

Ethiopia's demand projections rely heavily on the country's economic stability, its diversification, and the investments made in infrastructure and construction overall. The country's ability and intention to deliver such growth is strong (World Cement, 2019). The room for improvement is still high as per capita cement consumption is still 62 Kg per head, much lesser than Sub-Saharan average of 165 Kg per person.

Based on the above analysis, a contextualized Porter's five forces model is constructed to paint a vivid picture on competitive nature of the Ethiopian cement industry. *Summary of the Porter's five forces model in Ethiopian Cement Industry*

Threats of New Entrants

Homogeneous products (OPC& PPC)

Ease of substitution

Difference in delivery efficiency

Small but relative brand loyalty

Improving customer relationship

low switching cost for customers

Minimal quality difference

Threats of new entrants

Concentration of manufacturers in same area

Supplier's Power

Seller's market

low switching cost

control of raw materials

loosened Oligopoly market

high economies of scale

reluctance to accept new release of products

low entry barrier for buyers

strong forward integration

Price dependent competition

Difference in productivity efficiency

low retail profit margin

high average profit by manufacturers

High market growth rate of 15% per annum

Low per capita cement consumption of 62 Kg compared with SSA of 165Kg

Oligopoly market

relatively quality unaware customers

Competitive Rivalry

Buyer's Power

Government is the largest customer 60%

The supply industry contains few but big capacities

High fixed cost of suppliers

Undifferentiated products of OPC & PPC

Concentration of buyers both in area and quantity

60% of cement is consumed in and around Addis Ababa

Customers have low margins and are price-sensitive

product is not of strategical importance for the customer

Customers(retailers) have small margin

lack of cost related knowledge by customers

No product -customer strategic partnership

Homogeneous products (OPC& PPC)

Ease of substitution

Difference in delivery efficiency

Small but relative brand loyalty

Improving customer relationship

low switching cost for customers

Minimal quality difference

Concentration of manufacturers in same area

Threats of Substitution

Ethiopian Cement Industry Competitiveness factors, Porter's Model

Chapter Five
Conclusion and Recommendation

5.1 Conclusion

The overall aim of the research was to examine the effect of multinational corporations on local business competitiveness. In doing so, the independent entity in this enterprise is Dangote Cement (Ethiopia) Plc, which is part of the Dangote conglomerate working in all over Africa. The later was founded in 2015 as the biggest cement manufacturer in East Africa. With the yearly capacity of 2.5 Million Metric Tons, it has over run the competition from local manufacturers and now is a leader in the 9.2 Million Mt market capacity in Ethiopia.

The effect on business competitiveness is conceptualized based three main dependent variables. The first ones are price, quality and quantity of the four main competitors. The second one is market share and thirdly, operational efficiency measured in terms of productivity and customer satisfaction.

Both descriptive and inferential analysis was done to get a sense on the effect of multinational corporations on local business competitiveness. Apparently, MNCs superiority in production efficiency and technological advancement and the fact that they can afford highly paid expats has influenced the market. The effect is strongly implicated with the rejection of the null hypothesis which claimed no relation among the independent variable of MNC and the three dependent variables.

It has strongly affected the pricing situation of the main competitors of Derba, Mugher, Messobo and National Cements. Before Dangote's entrance, the average retail price was 395 ETB per quintal. Fast forward three years, its 277.5 ETB per quintal. In terms of quality, it has exploited its international brand perception to trickle down to local market. With its ability to afford the most up to dated machinery and the well paid expats, it has influenced the public perception.

Evidence of its operational efficiency is its dominance in productivity efficiency and subsequent market dominance. It currently poses 1/3 of the market. Entrance of Dangote has resulted in market loss by almost all local capacities. None has seen a greater impact than Derba with averaging 12% market share loss annually.

The role customers play in maintaining a market can be best described on the year's preceding 2016, as the average cement delivery waiting mounts months. Such was the dissatisfaction on the eyes of customers, the entrance of Dangote has seen a spike in their satisfaction in both service and delivery speed.

Results of the study indicated that there has been a significant effect of such an MNC on the service modality and customer management. Less quality problems of package bursting, unnecessary caking in stores and other negative feedbacks were reported.

Business competitiveness in overall has been greatly affected to the extent to endangering the mere existence of local capacities. A way to sustain growth emanates in bolstering local capacities and making them able to be profitable and competitive. This requires a better way of engaging mega MNCs and domestic capacities in a better way.

Continuous blessing from such conglomerates is only possible if they end up improving the efficiencies and competitiveness of local manufactures that will be here no matter what. This is why further policy engagements are necessary. Future MNC engagement should encourage ways to transfer better technologies and empower local capacities as much.

No doubt that multiple MNCs are and will keep on commencing business in Ethiopia. Our desire to keep attracting FDI and other forms of future investment should take in to account business competitiveness and mechanisms to bolster local efficiencies. This is vital for sustainable development.

5.2 Recommendations

As a nation, we need not lose focus on the sole intention of MNCs. As Alina (2016) described the attraction of profit oriented the multinational companies' attention towards the developing markets for the simple reason that here they could find with ease cheap factors of production and they could easily impose themselves by means of illusory promises.

Understanding the effect of MNCs is instrumental on devising a better engagement mechanism. The study has overseen their effect on particular reference to business competitiveness on local firms. Being a mixed research, it covered both depth and the significance level correlation among critical variables in the mix.

Major lessons learnt in the process include company level, industry level and country level remarks. Discussing a business competitiveness ranges in those sphere of influence. Competitiveness has individual, environmental as well as country wide macroeconomic dimension. Such is the lesson in going forward. Accordingly, the recommendation focuses on how we should integrate MNCs in local economy for sustainable development. This is in added context to how companies should adjust themselves to the threat and blessings of MNCs.

 A time for reality check, we can't keep on protecting local businesses forever amid globalization. The only way to grow using local capacities is to find a way to better integrate with international challenges and growing out of them. As a result, protectionist economic policies are a bit old and firms need to see off the effects of MNCs through their strategies and execution.

The effect of MNCs is also depicted with the help of Porter's five forces. This in turn gives us an idea how the level competitiveness ranges in the industry and overall country. Implications as the result include research, educational and policy dimensions.

5.2.1 Firm level recommendations

- Individual companies should pass themselves through a continuous learning to better themselves in productivity

- Customer management is vital to secure loyalty or brand prominence

- Companies need to encourage backward integration involving prominent customers so as to create customer-product strategic alliance

- Speed of delivery and complaint correction can and should be amended quickly.

- The key to attaining retailers trust and continuous attachment to a product is faster product shop delivery and keeping the desired profit margin

- Product quality is only significant if indeed is perceived as such in the eyes of customers, hence branding quality is important

- Market and product diversifications are instrumental in maintain market share. Right now, 60% of the demand and sales is concentrated in and around Addis Ababa. Only two products are for sale in Ethiopia (OPC & PPC)

- Strong BTL/Below the line/ marketing is necessary. Particularly, on daily laborers who are the secretly influential on choosing consumption decision makers. This will boost cost of switching from one product to another.

- Firms need to transfer themselves from the seller's market mentality to customer serving buyer's market mentality. This involves prioritizing the needs of the customers and offering convenient and affordable distribution channels.

5.2.2 Industry level recommendations

Working together, firms need to address their challenges like shortage of fuel and energy, hard currency, and skilled man power to better perform in the market Energy being the biggest expense covering almost 60% of production sources, perhaps the government need to take the initiated to come up with cheaper means of getting coal from local

Commonly blames problematic areas of power interruption require adequate attention. Not being able to work 5-6 hours a day has by itself impacts 25% of the productivity. Industry level profit margin is still high. This discourages consumption thereby hurting sales and aggregate profitability in return

Unlike other developing countries, retail prices in Ethiopia are not SRP (Suggested Retail prices). In this instance, other check and balance mechanisms should be put in place to protect the ultimate victim, I.e customers.

5.2.3   Policy/Macroeconomic implications

The source of cement demand is still heavily reliant on government initiatives. Growth diversification by encouraging the private sectors is critical in this regard. Other problematic areas hindering local capacities also need a policy support. For instance, availing the vital foreign currency in time of need is critical for keeping production efficiency and maintaining productivity. MNCs do have other sources of getting the hard currency; they don't necessarily wait for local source.

Peace and security is decisive to mere existence let alone betterment in the sector. It lies on the shoulders of the government and in parts the increase in cost of production and retail prices emanate due to sporadic clashes and violence's in the past three years.

Better skill and technological transformation plat forms should be aligned in a joint enterprise with the advanced MNCs and growing local sector. The dependence on expat expertise is not only costly; it's also not sustainable for incremental growth. Universities and other institutions should focus on availing able man power to operate such companies which currently are almost entirely dependent on Chinese and Indians

The promise of having a foreign direct investment is predicated on employment creation, technological transfer and a range of other benefits. In the mean time, they do repatriate their earnings in hard currency. Its monumental reaping benefits earlier by encouraging MNC-local firms partnerships.

MNCs are highly profit driven and by default they will do anything to shoe down costs and boost their earnings. It's up to the government to try and get the best out of the situation. For instance, faster knowledge transfer, trying to abide with expats stay laws until they transfer knowledge and technologies, and boosting local capacities.

Promoting national pride on products manufactured and owned locally will play to the benefit of local capacities . Mandatory laws should be in place to facilitate skill transfer. Its suggested in one of the country's laws that expats are only required if they poses a skill not found locally and its until they transfer that peculiar knowledge that they are allowed to stay.

5.2.4   *Educational and Research implications*

By far the greatest lessons learnt in this study are indicated above through firm level, industry level, and Macroeconomic level recommendations. To sum up, the entire input is on how to engage MNCs with local capacities in a way we encourage business competitiveness and boost the economy. Regardless, the study focused on the effect of MNCs on local business competitiveness.

Areas of future research are also identified in the process. For instance, further studies need to be conducted on other areas of MNCs impact on developing economy like ours. Socio-political areas of MNCs engagement, Corporate Social Responsibility and MNC appropriation, in addition, the environmental and degradation impact of cement and other mining intensive investments need a deeper look.

Socio-political engagement with the public is another area of further study for better and sustainable existence. For instance, Cost factors due raw material access conflict in particular in Oromia region resulted in extra payment by firms which drove up their manufacturing costs. This adds up fuel in prevailing cost hikes as the result of currency devaluation and a rise in international coal price. Further inquiry on actual impact will perhaps give us a vivid image on the   above matter.

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<center>

Appendix I

Interview Guiding Question for Management

(Dangote,Derba, Messobo, Mugher and National)

</center>

Introduction

I would like to express my deepest appreciation for being willing to participate in this study. This study is aimed to examine the effect of the entrance of Dangote Cement on local manufacturers. All the data gathered will be used for academic purposes and in no way this shall be otherwise.

1. Examining the effect of Dangote cement on price, quality, quantity of local manufacturers

    1.1. How do you describe the changes in cement market price since 2015?

    1.2. Tell me the changes in retail prices during the past three years?

    1.3. Do you think quality of cement has changed since 2015?

    1.4. If yes, why do you think is cause of the change?

    1.5. How do you describe the changes in quantity of production during the past 3 years?

    1.6. Has your company altered the quantity of production during the past 3 years?

    1.7. If yes, what are the main factors contributing to the changes in quantity of production?

    1.8. How do you describe the market competition regarding pricing, quality and quantity?

    1.9. Is there a clear market leadership with regard to the above variables?

    1.10. Do you think the price, quality and quantity competition is influenced by other factors than competition among the main producers?

2. Examining the effect Dangote cement on market share of local manufacturers

    2.1. How do you describe the market share performance of your company during the past three years since 2015?

    2.2. Are there changes in market share? If yes, what do you think are the main factors for the change in market share

    2.3. Has the entrance of Dangote in 2015 affected your company's market performance?

    2.4. How much of the change in the market share is due to the government regulation and involvement in the overall consumption?

    2.5. How do you describe your company's performance in relation to the overall market actual market performance?

2.6. How do you describe your product's level of acceptance on the eyes of customers since 2015?

3. Examining the level of operation efficiency

   3.1. Do you think shortage in skilled labor in the market affected your operational efficiency? If so, how?

   3.2. Tell me about your manufacturing efficiency?

   3.3. How do you describe the impact of government spending on your company's production efficiency?

   3.4. Has your company's production efficiency been affected by entrance of Dangote in 2015? If yes, how?

   3.5. How do you rate your company's performance in line with others?

   3.6. How much of the change in operation efficiency due to the entrance of Dangote Cement?

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Appendix II

Semi-structured questionnaire for Retailers

Introduction

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I would like to express my deepest appreciation I being willing to participate in this study. This study is aimed to examine the effect of the entrance of Dangote Cement on leading competitors. All the data gathered will be used for academic purposes and in no way this shall be otherwise.

I. **Examining the effect of Dangote Cement on Price, Quality and Quantity of the leading competitors/Derba, Mugher, Messobo and National Cement/.**

A. **The effect of Dangote cement on prices of leading competitors**

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Cement prices changes frequently during the past three years					
Selling prices have reduced					
Customers commonly request products					
Sales have reduced since 2015					
Preference of customers have shifted					
Products sell in a higher price					
Retailers preference have shifted					

- *How do you describe the effect of Dangote cement on selling prices of the leading competitors?*

B. **The effect of Dangote cement on product quality the leading competitors**

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Quality of cement has increased during the past three years					
Customers complain about quality of products					

Customers preference has shifted					
Products features are different in presentation					
Quality of products has reduced					
Package bursting has become frequent					
Products cake soon in stores					

- *How do you describe the effect of Dangote cement on product qualities of the leading competitors?*

C. The effect of Dangote cement on production quantity of leading competitors

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Quantity of cement has increased during the past three years					
Products can easily be seen in the stores					
Products are abundantly available					
Customers easily get the required quantity					
Delivery to market has weaken					
Production is perennial without interruption					

- *How do you describe the effect of Dangote cement on production quantities of the leading competitors?*

II. Examining the effect of Dangote Cement on market share of leading competitors

III.

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Supply of products of the leading competitors has reduced					
Customers preference of the leading competitors has increased					
Products have lost market visibility					
Products are found abundantly in the market					
Market leadership has shifted					

a. ***In your opinion, which product is leading the market?***

- Derba   - Dangote – National

- Messobo - Mugher

How do you describe the effect of Dangote cement on the overall market share of leading competitors?

…………………………………………………………………………………………………
………………………………………………………………………………………………

Appendix III

Semi structured Questionnaire for Grade-1 Contractors

A. Examining the effect of Dangote on price, quality and quantity of the overall market in particular comparison to Derba, Mugher, Messobo, and National cements.

a. The effect of Dangote cement on prices of leading competitors

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Cement prices changes frequently during the past three years					
Buying prices have reduced					
Your company has shifted its preference					
Products have lesser price in the market					
Preference of your customers have shifted					
Purchase quantities have reduced					
Your dependence on single product has increased					

How do you describe the effect of Dangote cement on selling prices of the leading competitors?

b. The effect of Dangote cement on product quality the leading competitors

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Quality of cement has increased during the past three years					
Quality of products has reduced					
Customers complain about quality of products					
Customers preference has shifted					
Products cake more frequently					
Package bursting is a common phenomenon					
The product setting time is better					

- 13 - | P a g e

How do you describe the effect of Dangote cement on product qualities of the leading competitors?

c. The effect of Dangote cement on production quantity of leading competitors

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Products delivered in the market has increased					
Products can easily be seen in the stores					
Products are abundantly available					
Customers easily get the required quantity					
Products are quickly delivered					
Production is perennial throughout the year					

How do you describe the effect of Dangote cement on production quantities of the leading competitors?

B. Examining the effect of Dangote on market share of leading competitors

| Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
Supply of products of the leading competitors has reduced					
Customers preference of the leading competitors has increased					
Products have lost market visibility					
Products are found abundantly in the market					
Market leadership has shifted					

How do you describe the effect of Dangote Cement on the overall market since the year 2015?

C. Examining the effect on operational efficiency of leading competitors

Questions	Strongly	Agree	Neutral	Disagree	Strongly

	Agree				disagree
Customer complaints are quickly fixed					
Products are delivered quickly					
Products are abundantly available in the stores of the market					
There are flexible arrangement in customer management					
Sales quantities have increased in shops					
Customers are engaged to contribute for operational betterment					
Delivery costs have reduced					
Customers repeatedly procure from single vendors					

a) How do you describe the effect on operational efficiency leading competitors?

b) How do you describe the role of skilled labor and manufacturing technologies in operational efficiency of cement manufacturers?
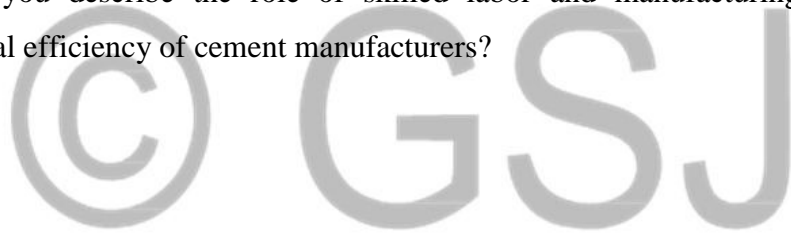
Appendix IV Chi-square Table

Referred   from

https://people.smp.uq.edu.au/YoniNazarathy/stat_models_B_course_spring_07/distributi

ons/chisqtab.pdf

Chi-square Distribution Table

d.f.	.995	.99	.975	.95	.9	.1	.05	.025	.01
1	0.00	0.00	0.00	0.00	0.02	2.71	3.84	5.02	6.63
2	0.01	0.02	0.05	0.10	0.21	4.61	5.99	7.38	9.21
3	0.07	0.11	0.22	0.35	0.58	6.25	7.81	9.35	11.34
4	0.21	0.30	0.48	0.71	1.06	7.78	9.49	11.14	13.28
5	0.41	0.55	0.83	1.15	1.61	9.24	11.07	12.83	15.09
6	0.68	0.87	1.24	1.64	2.20	10.64	12.59	14.45	16.81
7	0.99	1.24	1.69	2.17	2.83	12.02	14.07	16.01	18.48
8	1.34	1.65	2.18	2.73	3.49	13.36	15.51	17.53	20.09
9	1.73	2.09	2.70	3.33	4.17	14.68	16.92	19.02	21.67
10	2.16	2.56	3.25	3.94	4.87	15.99	18.31	20.48	23.21
11	2.60	3.05	3.82	4.57	5.58	17.28	19.68	21.92	24.72
12	3.07	3.57	4.40	5.23	6.30	18.55	21.03	23.34	26.22
13	3.57	4.11	5.01	5.89	7.04	19.81	22.36	24.74	27.69
14	4.07	4.66	5.63	6.57	7.79	21.06	23.68	26.12	29.14
15	4.60	5.23	6.26	7.26	8.55	22.31	25.00	27.49	30.58
16	5.14	5.81	6.91	7.96	9.31	23.54	26.30	28.85	32.00
17	5.70	6.41	7.56	8.67	10.09	24.77	27.59	30.19	33.41
18	6.26	7.01	8.23	9.39	10.86	25.99	28.87	31.53	34.81
19	6.84	7.63	8.91	10.12	11.65	27.20	30.14	32.85	36.19
20	7.43	8.26	9.59	10.85	12.44	28.41	31.41	34.17	37.57
22	8.64	9.54	10.98	12.34	14.04	30.81	33.92	36.78	40.29
24	9.89	10.86	12.40	13.85	15.66	33.20	36.42	39.36	42.98
26	11.16	12.20	13.84	15.38	17.29	35.56	38.89	41.92	45.64
28	12.46	13.56	15.31	16.93	18.94	37.92	41.34	44.46	48.28
30	13.79	14.95	16.79	18.49	20.60	40.26	43.77	46.98	50.89
32	15.13	16.36	18.29	20.07	22.27	42.58	46.19	49.48	53.49
34	16.50	17.79	19.81	21.66	23.95	44.90	48.60	51.97	56.06
38	19.29	20.69	22.88	24.88	27.34	49.51	53.38	56.90	61.16
42	22.14	23.65	26.00	28.14	30.77	54.09	58.12	61.78	66.21
46	25.04	26.66	29.16	31.44	34.22	58.64	62.83	66.62	71.20
50	27.99	29.71	32.36	34.76	37.69	63.17	67.50	71.42	76.15
55	31.73	33.57	36.40	38.96	42.06	68.80	73.31	77.38	82.29
60	35.53	37.48	40.48	43.19	46.46	74.40	79.08	83.30	88.38
65	39.38	41.44	44.60	47.45	50.88	79.97	84.82	89.18	94.42
70	43.28	45.44	48.76	51.74	55.33	85.53	90.53	95.02	100.43
75	47.21	49.48	52.94	56.05	59.79	91.06	96.22	100.84	106.39
80	51.17	53.54	57.15	60.39	64.28	96.58	101.88	106.63	112.33
85	55.17	57.63	61.39	64.75	68.78	102.08	107.52	112.39	118.24
90	59.20	61.75	65.65	69.13	73.29	107.57	113.15	118.14	124.12
95	63.25	65.90	69.92	73.52	77.82	113.04	118.75	123.86	129.97
100	67.33	70.06	74.22	77.93	82.36	118.50	124.34	129.56	135.81

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Appendix 5

Consent form

Hello, my name is Zelalem Bezabih. I am a student of Jimma University, School of Business and Economics. I am doing a study the effect of multinational companies on local business competitiveness on cement companies.

The whole of the interview and questionnaire data will only be used for academic purposes. After I collected the data, I will be keeping it only for my personal use and will only be used for study purposes. After the completion of the study, only researchers will have access to the study document. Through it all, I will respect the confidentiality of the data including your name will be concealed and codified.

I really appreciate your cooperation. I want to remind you that your response will be of great help for the study. Moreover, signing this consent form indicates that you have read this consent form (or have had it read to you), that your questions have been answered to your satisfaction, and that you voluntarily agree to participate in this research study. You will receive a copy of this document.

Zelalem Bezabih   Research Participant

Signature   ……….   Signature………….…

Date   …………...   Date………….…….