THE EFFECT OF BOARD DIVERSITY ON THE FINANCIAL PERFORMANCE OF
TRADING AND MANUFACTURING COMPANIES LISTED IN THE NAIROBI
SECURITIES EXCHANGE

BY

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DECLARATION

This Proposal is my original work and has not been submitted for examination in any other university.

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The research project has been submitted for examination with our approval as the University Supervisor.

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DEDICATION

This project is dedicated to my family members from whom I draw a lot of inspiration and encouragement. Thank you very much for your support, God bless you all.
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ABSTRACT

Scholars and researchers have in over the past two decades tried to determine the relationship between company board of directors’ attributes and the financial performance of firms listed in the securities exchange all over the world. Several studies show that companies with more diversified boards in terms of age, gender, education, board size, ethnic or racial orientation of the board members among other diversity variables have greater financial performance measured using the Return on Assets (ROA), Return on Equity (ROE) and Tobin’s Q. The objective of this study was to establish the effects of board diversity variables viz board average age, gender, education level, nationality, board independence and size of the firms and the financial performance of companies Listed in the Nairobi Securities Exchange. Financial performance was measured in terms of Return on Assets (ROA). Age attribute was measured by determining the log of the average age of the board members, gender was measured by the proportion of female to the total number of the board members, education levels of the board members were obtained by administering questionnaires designed to capture levels of education as either ‘O’-level / KCSE, diploma, graduate level, masters / post graduate, PhD and above. Dummy variables were used to measure the education attribute. Nationality was measured by the proportion of the non-Kenyan to the total number of the board members. Board independence was measured by the proportion of outside directors to the total number of the board members while company size was measured by the log of total assets. The findings show a strong positive relationship between board nationality and the financial performance. Also, board average age, gender, education, board independence and size of the firm had a weak positive relationship to the financial performance of the Trading and Manufacturing companies Listed in the Nairobi Securities Exchange.
CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

It is widely accepted that the composition of the corporate board could play a vital role in determining firm performance (Ujunwa, 2012). Scholars and practitioners as well as policy makers have for the last two decades debated on the role of boards of directors as one of the key pillars of corporate governance (Tricker, 2009). Some scholars have argued that different board of directors’ attributes impact organizational performance owing to different orientations. The most common board of directors’ attributes include board members’ age, education, gender and industry experience (Letting’, Aosa and Machuki, 2012). A board constituted under subjective circumstances serve or can fail to serve firm’s interests.

Corporate boards in Kenya are said to be male dominated since the appointments are done in an old boy network (Ekadah and Mboya, 2011) in which the male directors introduce their friends to boards before they retire. This type of appointment according to the institute of directors of Kenya denies majority of the women the chance to be selected to the corporate boards hence depriving the organization this important resource (Ekadah and Mboya, 2011).

A majority of studies conducted on the effects of board diversity on the financial performance of corporate entities in Kenya have not paid the required attention to the listed trading and manufacturing companies.

The study focuses on the trading and manufacturing companies listed at the Nairobi Securities Exchange (NSE) owing to the limited research in this sector of the economy and the fact that secondary data of the listed companies is readily available in the NSE websites.
and annual audited financial reports of the corporate websites and the NSE handbook.

1.1.1 Board Diversity

Board diversity is the proportion of women, ethnic, racial minorities (people who are not Anglo- Australians) on the board (Wang and Cliff, 2009). Board diversity in age distribution, gender, physically impaired, type of educational qualification and other forms of diversity on corporate boards world-wide has been a subject of debate and study for some time now. Numerous organizations have undertaken campaigns to increase the number of women, people of different ethnic, social or racial orientations and the younger age groups through a focus on corporate governance, diversity standards and metrics and networking for progress. There has been a steady, albeit incremental increase in the presence of women on corporate boards since 2008 (Chanavat and Ramsden, 2013).

Freeman (1984) examined board diversity from a gender and ethnic minority representation perspective and include diversity of board skills while Marimuthu (2008) explained that a diverse group is defined as being female, African American, Asian, and / or Hispanic which concurred with Freeman (1984). Corporate boards decide the mix of director attributes, experiences, diverse perspectives and skill sets that are most appropriate for the company. Core attributes of board directors should address accounting or finance, international markets, business or management experience, industry knowledge, customer-base experience or perspective, crisis response, leadership and strategic planning as well as address historically underrepresented groups on the board, including women and minorities. Freeman (1984) is of the view that diversified boards are more beneficial compared to the non-diversified ones.
1.1.2 Financial Performance

The term financial performance is used as a general measure of a firm's overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Cater et, al. (2010) measured financial performance using Return on assets (ROA) and Tobin’s Q whereas Wang and Cliff (2009) used the Return on assets (RoA) and return on equity (ROE). Van Ness, Miesing and Kang (2010), Marimuthu (2008) used ROA to measure financial performance on the basis that it is both a measure of profitability and asset utilisation. Aduda, Chogii and Obara (2013) used Return on Assets (ROA) and Tobin’s Q as measures of financial performance.

Higson (2010), Lasher (2011) noted the use of financial statements as an indicator of corporate financial performance. According to Lasher (2011) financial performance is measured through growth in sales revenue, growth in Earnings per Share (EPS) and decrease in debt. Hendriksen and Van Breda (1999), Orlitzky, Schmidt and Reynes (2003) argued that financial performance may be measured from the monetary (normally using accounting information) and the non-monetary information and noted that the non-monetary performance measure had become more acceptable in the recent times. According to Wilmott (1976), there is no reliable single yardstick of measurement of financial performance. Belverd et, al. (2008) analysed the companies listed in the Standard and Poor’s (S and P) 500 listing and concluded that high performance companies (HPC) display sustained and superior cash flow returns, asset growth and total shareholder returns.

1.1.3 Board Diversity and Financial Performance

Allen, Gail and Wheatley (2007) and Marimuthu (2008) are of the view that diversity provides positive performance benefits to organisations. Fan (2012) concur with the finding
that there is a positive relationship between gender, ethnicity and discipline of the study of the board members and Tobin’s Q as a measure of financial performance. Allen et, al. (2007) established that more specifically, diversity within the senior management and non-managerial levels of an organisation are most critical with respect to perceived organisational performance.

Prihatiningtias (2012) used Return on Assets (ROA) and Tobin’s Q to measure financial performance and noted that gender diversity had both negative and positive effects on the firm’s financial performance. This is contrary to Schwizer et, al. (2012) who studied the boards in Italy between the years 2006 to 2008 and found no statistical relationship between presence of female directors on the boards of companies listed in the Italian Stock Exchange and firm financial performance. Mwatsuma, Muchiri and Mrope (2012) noted a negative relationship between number of board members and financial performance of Agricultural companies in Kenya.

It is concluded that despite the general perception of the positive association between various forms of board diversity and firm financial performance, studies conducted worldwide have shown mixed findings. This calls for further research in this area especially in the African and particularly the Kenyan context where fewer research efforts have been directed to determine the relationship.

1.1.4 Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange

Hallisey (2012) explained trade or business as holding oneself out in offering goods or services to others with regularity, consistency and intent to make a profit. Section 2(a) of the Export Processing Zone Act, Cap. 517 of the Laws of Kenya of (1993) define manufacture to
include conversion of organic or inorganic material by manual, mechanical, chemical or biological means into a new product by changing the size, shape, composition, nature or quality of such material and assembly of parts into pieces of machinery or other products but excluding the installation of machinery or equipment for the purpose of construction or any process that is composed primarily of agriculture, pastoral, horticultural or sylviculture. Mason and Kachieng’a (2012) noted the objective of the Government in creating local employment, foreign exchange earnings and technology transfer by establishing the provisions for the manufacture under the Export Processing Zone (EPZ) and manufacture under bond (MUB).

The Customs and Excise Act, Cap. 472 of the Laws of Kenya define manufacture to include production of excisable goods, any immediate or uncompleted process in the production of excisable goods, the distilling, recycling, compounding or denaturing of spirits and the production of goods for export under bond referred to as manufacture under bond (Part IV (A) (1) of the Customs and Excise Act, Cap. 472 of the Laws of Kenya.

Mwarari and Ngugi (2013) explain that apart from the Kenyan branches or subsidiaries of the foreign based multinational corporations, the trading and manufacturing companies listed in the Nairobi Securities Exchange started as small business ideas from one or two people. Iraya and Musyoki (2013) explain the classification of the companies listed in the Nairobi Securities Exchange into ten independent market sectors which comprise agriculture, commercial and services, telecommunication and technology, manufacture and allied, banking, automobile and accessories, insurance, energy and petroleum, construction and allied and investment sectors.
According to Gakeri (2012), the Kenyan securities markets regulation paradigm is Government-led and is at variance with the envisaged self-regulation philosophy. Gakeri (2012) also underlined the preventive role of the Capital Markets Authority (CMA) in ensuring that players in the Nairobi Securities Market are persons and enterprises with good business history, practices and conduct. The Nairobi Securities Exchange Listing Guide (2011) place certain requirements on companies seeking to be listed in the Nairobi Securities Exchange. The companies that seek to be listed are required to appoint advisors such as stock brokers / investment banks, legal team, accountants and marketers to ensure that the company is ready to persuade the investors in Kenya and abroad to invest in it.

The Capital Markets Act, (Cap.485A) of year 2002, Gazette Notice Number 3362 issued guidelines on Corporate Governance Practices by Public Listed Companies in Kenya. It spells out a requirement that directorships in the listed companies be comprised of the executive and non-executive directors. The guidelines further state that the non-executive directors should be at least one third of the total number of Board members.

The Capital Markets Act, (Cap.485A) of year 2002, Gazette Notice Number 3362 also state that the independent Board member shall serve for a term not exceeding nine years and may thereafter be re-designated as a non-independent member. The Capital Markets Act (Cap 485A) of the laws of Kenya recommend that corporate Boards have a policy to ensure achievement of diversity in its composition and sets an age limit of 70 years as prescribed in the Companies Act Cap 486 of the Laws of Kenya although shareholders can in an Annual General Meeting allow a board member above 70 years upon approval to continue serving.
1.2 Research Problem

Following the 1997 Asian financial crisis and the spate of corporate frauds and accounting scandals such as Enron (Kulik 2005), WorldCom, Parmalat, Satyam and China Aviation Oil (Singapore), there has been considerable research about the effectiveness of the board of directors in the corporate governance of firms and a strong conceptual and business propositions for greater board diversity.

In Kenyan, corporate governance has gained prominence as it has in other countries (Ekadah and Mboya, 2011). The years 1980s and 1990s saw the collapse of a number of limited companies, State Corporations, banks and other financial institutions; some listed in the Nairobi Securities Exchange. The collapse and subsequent delisting of Uchumi Supermarkets Limited from the NSE in 2006 and Kenya Meat Commission 2004, the collapse of a number of medium size non-listed companies like the Kenya Bus Services Limited (2005) are just but a few local examples. Evidence is available to show that a majority of the failure cases especially of the state Corporations and Limited Companies were due to systematic failures by the Board of management.

Studies have been conducted on the effect of board diversity on the financial performance of the companies listed in the Nairobi Securities Exchange. For example, Letting, Aosa and Machuki (2012) looked at the effect of the boards on the performance of the microfinance institutions in Tanzania and Kenya while Neema and Olomi (2012) studied the effects of selected corporate governance characteristics on firm’s performance in Kenya.

Aduda et, al. (2013) conducted an empirical test on competing corporate governance theories on the performance of firms listed at the Nairobi Securities Exchange. Findings suggest that
there is a significant impact of the various board diversity attributes on company financial performance. The finding is of great significance for investors and policy marker and will serve as a guiding for better investment decision. No sufficient exploitation study has been done on effect of board diversity on the financial performance of trading and manufacturing companies listed at the Nairobi Securities Exchange. This study therefore seeks to fill in this gap by investigating effect of board diversity on the financial performance of trading and manufacturing companies listed at the Nairobi Securities Exchange. The study of board of director’s diversity and financial performance of companies listed in the Nairobi Securities Exchange would help various company shareholders, Government of Kenya, the Capital Markets Authorities (CMA) and foreign investors in the Kenyan equity market understand the relationship between diversity and organizational financial success.

1.3 Research Objective

The objective of this study is to determine the effect of board diversity on the financial performance of the trading and manufacturing companies listed at the Nairobi Securities Exchange.

1.4 Value of the Study

Previous studies carried out on the relationship between board diversity and financial performance has concentrated on the developed countries. In Europe for example, Germany and lately Italy, Australia and the U.S.A have passed legislation regarding the number of female board members. The findings of this study will contribute information about the board composition of firms in the developing countries like Kenya and the behaviour of these diversities in relation to shareholders’ objective of maximizing their wealth as measured using the measurement variables discussed in the study. This information will provide
financial institutions, consultants and entrepreneurs with the necessary tools to boost the financial performances of their businesses. The findings will provide information to act as a guide to the Kenyan Government in relation to the possible need for legislation for the gender composition in the corporate boards. It will also provide a basis for further research in corporate governance theories focusing on developing countries as most studies in this field have been concentrated in the developed countries.
CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter examines the literature relevant to the study. It follows the conceptual framework and incorporate scholarly works and theories.

2.2. Theoretical Review

The Kenyan Capital Markets Authority Act (CMA Act, 2012) define Cooperate Governance as the process and structure used to direct and manage business affairs of the company towards enhancing prosperity and corporate accounting with the ultimate objective of realizing shareholder long term value while taking into account the interests of the other shareholders.

2.2.1 Agency Theory

Agency Theory was founded by Jensen and Meckling (1976) who in their study introduced the idea of separating ownership from control and they also pointed out the possibility of conflict existing between owners and managers resulting into increase in agency costs. Jensen and Meckling (1976) define the Agency Theory as the relationship between the principle (owners) and the management (agents) as that of the principals engaging the agents who are selected on the basis of competitive tendering (Schillemans, 2012) to perform services on their behalf. As an agent of the principal, an executive is morally responsible to maximise shareholder utility (Davis, Schoorman and Donaldson, 1997). Agency Theory represents a system in which oversight and executive management roles are clearly stated and separated (Jensen and Meckling 1976). It foresees a fundamental problem arising from the anticipation of hidden knowledge arising from information asymmetry and hidden action by the self – interested agents (Schillemans, 2012) and suggests that principals should adopt a sensitive
combination of instruments to keep their self – interested agents in check.

Problems that result from asymmetric information and divergences of interest between the two parties include a limited ability to select a reliable agent and to monitor and censure his or her performance (Breton and Miller, 2009). Davis et, al. (1997), Berger and di Patti (2002) concur that the separation of ownership and control in a professionally managed firm may result in managers exerting insufficient work effort, choosing inputs or outputs that suit their own preferences or otherwise failing to maximise the value.

To counter such problems, Kulik (2005) in the Enron case, argued for the existence of agency culture that should be distinguishable from other cultures; where employees tend to explain their behaviour as controlled by governance mechanisms.

2.2.2. Stewardship Theory

Rather than being self-seeking individuals, stewardship perspective suggests that stewards are satisfied and motivated only when organisation success is attained. Developed by Donaldson and Davis (1989), the theory has its roots in sociology and psychology and explains a model of man who is a collectivist, pro-organisation individual with higher utility than the self-serving behaviour with interests coinciding with those of the organisation.

Davis et, al. (1997), Schillemans (2012) underline the key contribution of stewardship theory as in its questioning of agency theory's pessimistic assumptions about human nature. Breton and Miller (2009) explain that agency theory is a conflict theory in which managers serve their own self-interest, are extrinsically motivated and have high power distance, institutional use of power and an external management cycle. Stewards on the other hand are social, collectivists, trustworthy and pro-organisation managers (Breton and Miller, 2009).

2.2.3. Stakeholder Theory

Stakeholder theory is a contrast to the agency theory. It aims at striking a balance between the interests of a corporation’s stakeholders and their satisfaction and focuses on social relationships between a firm and its stakeholders rather that agency relationships. The stakeholder theory was originally developed by Edward Freeman in 1984. According to Freeman (1984), stakeholders include employees, customers, shareholders (owners) and managers (directors) described as members of the stakeholder family.

Al Mamun et, al. (2012) defined stakeholder theory in line with the Stamford Research Institute (SRI) 1963 as those groups without whose support the organisation would cease to exist or who are vital to the survival and success of the organization. In this view, stakeholders would include shareholders, employees, customers, lenders, suppliers, local charities, various interest groups and the Government. Freeman, Wicks and Parmer (2004) explain that the realization of economic value is created by people who voluntarily come together, corporate and hence improve everyone’s circumstances.

2.3 Determinants of the Financial Performance of Trading and Manufacturing companies

Farooque et, al. (2007) used two alternative measures of performance viz, Tobin’s Q and Return on Assets (ROA). Tobin’s Q reflects the firm’s performance as an indicator of the value of a firm as a going concern relative to the sum of the replacement cost of individual
assets and is expressed as \( Q = \frac{(MVE + BEDT)}{BVTA} \) where \( Q \) is the Tobin’s Q ratio, \( MVE \) is the market value of equity, \( BEBT \) is the book value of debt and \( BVTA \) is the book value of total assets. Aduda et al. (2013) described the Return on Assets (ROA) as an accounting measure and expressed it using the formula; \( (RoA) = \frac{\text{profit after tax or net income}}{\text{the book value of total assets}} \). The determinants of financial performance of the trading and manufacturing companies listed in the Nairobi Securities Exchange are listed below;

### 2.3.1 General Macroeconomic Conditions


According to Clair (2004), bank financial performance is influenced by the business cycle. Clair (2004) explained that during boom time, firms and households commit larger proportions of their income flows to debt servicing hence both demand for leverage and bank income will rise with the business cycle.

### 2.3.2 Company Size and Leverage

Malenya and Muturi (2013) pointed out that leverage beyond certain limits has significant negative effect on financial performance due to heavy interest costs. Malenya and Muturi (2013) identified company size and age to have positive effect on firm’s financial performance as large firms enjoy economies of scale as it experiences undergoes a “learning effect” and discovers new and better ways of doing things. Chuthamas et al. (2010) explain
that since most Small and Medium Size Enterprises (SMEs) in Thailand adopted Michael Porter’s Generic strategies of cost leadership, the most significant factors that affect business success of SMEs in Thailand are the SMEs characteristics, customer and market, way of doing business and corporation resources, finance and external environment. Uwuigbe, Jafaru and Anijesushola (2012) explain financial performance to be greatly influenced by the firm ownership structure and firm size.

Ongore and Kusa (2013) note that bank specific variables influenced profitability of the banks. The researchers explain the variables to be those under the control of the organization and include capital size, size of the deposit liabilities. Size and composition of credit portfolio, interest rate policy, labor productivity, state of information technology and the bank size. Mwangi, Muathe and Kosimbei (2014) assert that financial leverage has a statistically significant negative association with financial performance as measured by the Return on Assets (ROA) and Return on Equity (ROE).

2.3.3 Board Diversity


Erhardt, Werbel and Shrader (2003) studied the cognitive diversity variables i.e. age, gender, race, knowledge, education and ethnicity and noted a positive correlation between number of women on the Board and firm financial performance. Daunfeldt and Rudholm (2006) noted a
negative association between the gender diversity in the board room and the Return on Total Assets (ROTA) as a measure of financial performance.

2.3.4 Customer Loyalty and Networking, Dividends and Profitability

Malenya and Muturi (2013) assert that financial performance of a firm should be analysed in terms of dividends, profitability, growth, sales / turnover, asset base, capital employed among others and argued that on overall, a single factor cannot reflect every aspect of a company’s performance and therefore the use of several factors allow a better evaluation of the financial profile of firms. Gunasekaran and Ngai (2003), Chuthamas et al. (2010) explain that long term relationships with and loyalty of clients coupled with networking with people along the value chain to establish communication are key determinant of financial performance.

Uwuigbe et al. (2012) explained the significant association between performances of firms and the dividend payout of the sampled firms listed in Nigeria Securities Exchange. Amidu (2007) also found a positive association between Return on Assets (ROA), dividend policy and growth in sales in companies listed in the Ghana Stock Exchange (GSE).

2.3.5 Accounts Receivables / Accounts Payable Management

Muthuva (2010) argue that firms can improve financial performance and create value to their shareholders by reducing the number of days in accounts receivables, increasing their inventories to a reasonable level and delay payments to creditors in so far as it does not strain the relationship with the suppliers and gain competitive advantage through active and efficient utilization of resources via a careful reduction of the cash conversion cycle to its minimum.

While Duru, Chidiebere and Okpe (2014) found accounts receivables management to have a negative and non-significant relationship with profitability, Mengesha (2014) noted that
longer accounts receivables and inventory holding periods are associated with lower profitability and a significant negative relationship between cash conversion cycle and profitability.

2.4 Empirical Literature

Darmadi (2010) examined the association of the diversity between the board members and financial performance of firms listed in the Indonesian Stock Exchange (IDX). He determined three demographic characteristics of board members as gender, nationality and age as proxies of diversity. Analysing a sample of 169 firms listed in the IDX as at 31st December 2007 using ordinary least squares (OLS) regression, the study revealed that both accounting performance measured using Return on Assets (RoA) and market performance measured using (Tobin’s Q) had significant negative association with gender diversity while nationality diversity was found to have no influence on firm performance. Carter et, al. (2010) did not find significant relationship between gender or ethnic diversity and financial performance for a sample of major corporations in the United States but found the proportion of young members to be positively related to market performance providing evidence that young people in the board rooms are associated with improved financial performance. Also, foreign nationals holding board seats, women or age of the board members were found to have no influence on either accounting or market performance.

Wang and Cliff (2009) conducted a study of the relationship between the minority representation (non-Anglo- Australian males) in the Australian corporate Boards and the financial performance measured by Return on Assets (ROA) and Return on Equity (ROE). The study was conducted in 2003 among 243 Australian firms and concluded that the proportion of non-Anglo Australian male directors on the board did not present any
significant influence on the RoA and RoE. Wang and Cliff (2009) also found no strong link between racial and gender diversity on the firm financial performance. Van Ness et al. (2010) also found no association between boards with significant number of outside directors, gender and age of the Board members and financial performance.

Aduda et al. (2013) investigated the significance of Board size, proportion of outside directors, proportion of inside directors and the role of CEO duality as Board composition variables on firm financial performance. The study found a positive correlation between the board composition variables cited and the firm performance measured by the ROA and Tobin’s Q ratios. Von Bergen and Parnell (2005) tested the relationship between ethnic diversity and financial performance and noted that the minority friendly firms, as a portfolio significantly outperformed the market indicating in general that these firms are good for the employees, the organisation and the shareholders. Von Bergen and Parnell (2005) concluded that enhancing diversity may be an appropriate strategy that employers can use to enhance key financial considerations.

Marimuthu (2008) examined the extent to which ethnic diversity in top level management affects firm’s financial performance and examined the empirical relationship between ethnic diversity on boards and firm’s financial performance. Marimuthu (2008) used secondary data from the top 100 non-financial companies listed in the Main Board of Bursa Malaysia over a six year period from years 2000 to 2005. The top 100 companies were determined by ranking them based on their market capitalization. Ethnic diversity was measured by the percentage of non-Malaysian directors while financial performance was measured by the Return on Assets (ROA). Regression and correlation analysis were used to measure the relationships.
The findings showed that ethnic diversity was positively correlated to firm’s financial performance. The study findings are in line with the Agency Theory (Jensen and Meckling, 1976) that ethnic or other forms of diversity are an effective tool that should be imposed on board of directors for a greater performance. Ujunwa (2012) investigated the impact of corporate board characteristics on the financial performance of Nigerian quoted firms. Board characteristics comprised board size, board skill, nationality, board gender, board ethnicity and Chief Executive Officer (CEO) duality.

The researcher used a panel data of the 122 quoted firms in Nigeria between 1991 and 2008 and employed the random effect and fixed effect general least squares (GLS) to test the hypotheses formulated for the study while controlling the firm size and firm age. The study found that board size, CEO duality and gender diversity were negatively linked with firm financial performance whereas board nationality, board ethnicity and education i.e. number of board members with PhD qualification were found to impact positively on firm’s performance. The results of the robustness test with the same board characteristics for 160 small firms showed that CEO duality was positively linked to firm performance. These findings give a mix signal between alignments to the stakeholder and agency theory.

Cheong and Sinnakkannu (2014) investigated the relationship between board ethnic diversity, market and book measures of firm financial performance using Malaysian data. The researchers used a sample sourced from bloomerang database and annual reports for firms listed in the Bursa Malaysia’s main market base and came up with a sample of 634 firms and categorized them according to their level of ethnic diversity i.e. high, moderate and low. They defined ethnicity as being Chinese, Equal, Indian, Malay and others and measured ethnic diversity using Herfindahl Hirschman Index (HHI) and Return on Equity (ROE) to capture market perception against ethnic diversity. Financial performance was measured using
Tobin’s $Q$, Return on Assets and, Return on Equity and annual net income. Using the Ordinary Least Squares (OLS) regression analysis, the study found that firms with high ethnic diversity recorded high annual net income compared to the moderate diversity ones while lowest diversity firms recorded the lowest net income. Also, firms with high diversity recorded the highest mean Return on Assets followed by moderate and low diversity respectively. Role duality was seen to increase as ethnic diversity fell. The increase in the financial performance parameters as diversity increased concur with the Agency Theory i.e. more diverse boards have better ability to increase shareholders wealth due to ability to think more strategically.

Letting, Aosa and Machuki (2012) sought to establish the relationship between board of directors’ diversity and corporate performance in Kenya. The board diversity variables comprised board size, board meetings, gender diversity and more particularly and for the first time in Kenya, the impact of women board members on firm performance. The researchers used the diversity data collected from semi-structured questionnaire which targeted company secretaries or board chairmen for all the 47 firms listed at the Nairobi Securities exchange (NSE) as at 31st December 2010 and 40 firms or 85% response rate was achieved. The financial performance data was obtained from the readily available NSE annual publications, NSE hand book 2009 and firm’s annual reports.

The researchers used descriptive statistics to profile the board of the firms for the periods 2006-2009 and a financial year unit of analysis to examine the influence of board attributes on firm financial performance. Data analysis involving the application of both multivariate regression and descriptive univariate were applied to establish the relationship between board of directors’ attributes and firm financial performance. The study showed statistically significant positive relationship between Return on Assets (ROA) and age of the board
members, women on the board and education of the board members or professional specialization. Dividend yield (DY) and age of board members, Return on Equity (ROE) and age of board members and the Price Earnings Ratio (P/E) and age of the board members were also found to be significantly positively related. The study however showed statistically significant negative relationship between Dividend yield (DY) and the women on the board and board study specialization, ROE and the women on the board and educational qualifications. The study findings concur with the agency theory of corporate governance.

Wanyama and Olweny (2013) conducted a study to establish the effects of board size, board composition, CEO duality and leverage on the financial performance of listed insurance companies in Kenya. The researchers obtained the primary data source from the semi-structured (matrix) questionnaire consisting of both open and close ended questions. The questions were administered to two insurance firms listed at the NSE as at 31st December 2012 that qualified for data availability for the period 2007 to 2011. The researchers adopted a descriptive research design with a study population of all the insurance companies listed at the NSE as at 31st December 2012 and used primary data collected through administration of questionnaires to the staff of the listed firms.

The firm staff samples were obtained using stratified random sampling technique while secondary data was collected using documentary information from company annual accounts for the period 2007 to 2011, the researchers administered questionnaires to 40 employees of the firms listed firms under study and obtained replies from 32 employees representing 80% of the study sample. Whereas firm performance was measured using ROA and ROE, the board diversity proxies used in this study were board size, board composition and CEO duality. The researchers used Cronbach’s alpha model to carry out the reliability test and multiple linear regression to analyse the data.
The study found a strong relationship between board size, board composition, board composition, CEO duality and firm financial performance. In detail, board size was found to negatively affect the financial performance of insurance companies listed at the NSE with a positive relationship being noted between board composition and financial performance. The study also found that the separation of the roles of the CEO and the board chair positively influenced financial performance of the listed insurance companies. This finding concurs with the agency theory of Corporate Governance.

2.5 Summary of Literature Review

From agency theory perspective, managers or executives are entrusted with the duty of maximizing shareholders wealth and are perceived to be self-seeking and have conflict of interest (Davis et al., 1997), Schillemans (2012). This creates the need for an independent and diverse Board of directors entrusted with the function of monitoring and controlling managers or executives (Jensen and Meckling, 1976), Simpson (2003). Stewardship theory opposes agency theory pessimistic assertion (Schillemans, 2012) and argues that managers with dual roles will act as stewards in the interest of their principals (CEO duality). The Stakeholders theory holds the view that economic value is created by stakeholder (shareholders, employees, customers, suppliers, local authorities, governments and various interest groups who voluntarily come together, cooperate and hence improve everyone’s circumstances (Freeman, Wicks and Parmer, 2004).

Empirical reviews for studies conducted outside Kenya show both positive and negative association between board diversity variables such as board gender, ethnicity, nationality, CEO duality, age of board members among other variables measured against the financial performance measure variables. Few studies conducted in Kenya also showed mixed findings.
The aim of this study is to fill the gap that to date exist in the board diversity and financial performance literature in Kenya. Few studies that have been conducted had concentrated on the banks, insurance companies and other service industry firms with no similar studies being done in the trading and manufacturing companies listed at the Nairobi Securities Exchange. Also, studies in Kenya did not address board members education and the influence of foreign board members on the trading and manufacturing companies listed in the Nairobi Securities Exchange. This study addresses these study gaps.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the methodology and design of the study. It describes the source of data, method of collection and a summary of the analyses that were carried out.

3.2 Research Design

The study was carried out using descriptive research design, employing secondary quantitative data. The data was obtained from Nairobi Securities Exchange Handbooks and published financial statements and other corporate reports of the companies listed in the Nairobi Securities Exchange. Data was also obtained from the responses to the questionnaires administered regarding the board members age and the board members education attributes.

3.3. Population of the Study

The population for this study constituted the Trading and manufacturing companies listed in the Nairobi Securities Exchange. A census survey was carried out for the 37 Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange shown in appendix I.

3.4. Data Collection Method

Primary and secondary data was used in the study. Data relating to the age and education of the Board members was collected by administering questionnaires addressed to the Chairmen of the Board or Secretaries to the Boards of the target organisations. Data relating to the financial performance and the other Board attributes was collected by review of documents, annual reports and the published financial statements of the companies for four years from 2010 to 2013.
3.5. Data Analysis Techniques

Collected data was validated, coded and checked for any errors and omissions. Later the data was run through the statistical Package for Social Science (SPSS). The objective was met by computing the regression analysis of the variables.

The equation for the regression model was expressed as;

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

Where;

$Y =$ The financial performance and is measured by the Return on Assets (ROA) and was measured by profit after tax (net income) divided by the book value of total assets.

$\beta_i =$ The Constant term which defines the financial performance without inclusion of independent variables.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 =$ The coefficients for the individual influence of the respective diversity variables viz; $X_1, X_2, X_3, X_4, X_5, X_6$ on the financial performance of the trading and manufacturing companies listed in the Nairobi Securities Exchange (TMCs).

$X_1 =$The average age of the board members and was obtained by administering a questionnaire designed to capture the age attribute categorised into specific age brackets. The age attribute was measured by the log of the average age of the board members.

$X_2 =$The gender of the board members and was measured by the proportion of female Board members to the total number of the Board members.
\( X_3 = \) The education level of the Board members. The board members education level was obtained by administering a questionnaire designed to capture levels of education as either “O-Level / KCSE level, diploma, graduate level, masters / postgraduate, PhD and above. The education attribute was measured using dummy variables as follows:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“O-Level” or KCSE certificate</td>
</tr>
<tr>
<td>2</td>
<td>Diploma</td>
</tr>
<tr>
<td>3</td>
<td>University graduate</td>
</tr>
<tr>
<td>4</td>
<td>University graduate – Masters Level</td>
</tr>
<tr>
<td>5</td>
<td>University graduate – PhD and above</td>
</tr>
</tbody>
</table>

\( X_4 = \) The Board member nationality. (Board member is a Kenyan or non-Kenyan / foreigner). This was measured by the proportion of non-Kenyan to the Kenyan Board members.

\( X_5 = \) The Board independence. This was measured by the proportion of outside directors on the Board to the total number of Board members. Outside directors are directors with no material / pecuniary relationship with company or related persons except the siting fees. They do not own shares in the company.

\( X_6 = \) The size of the firm and was measured by the log of the total assets.

\( \varepsilon = \) The error term.

### 3.6. Test of Significance

The test of significance measure the probability that the relationship between the variables stated in the regression model above exist and if it does exist, how strong is the relationship.

As a measure of the strength of the relationship between the variables, an alpha (\( \alpha \)) value = 0.05 was chosen. Also, \( P \)-value is the probability of obtaining the observed sample results,
or "more extreme" results, when the null hypothesis is actually true. The $P$-value was set at 0.01 i.e. $P \leq 0.01$. 
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research design. The objective of this study was to determine the effect of board diversity on the financial performance of the Trading and Manufacturing Companies Listed at the Nairobi Securities Exchange. A census survey was carried out for the 37 Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange. The response rate was 70.2%, this response rate was considered sufficient and representative of the population under study. The data was thereafter analyzed using regression analysis.

4.2 Regression Analysis

The research study sought to establish the effect of board diversity on the financial performance of the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange. To obtain the financial performance of companies Listed in the Nairobi Securities Exchange, Return on Assets was computed for the 70.2% of the firms whose financial statements were accessed by the researcher and the questionnaires administered dully completed by the companies and returned to the researcher. On the other hand, age attribute was measured by determining the log of the average age of the board members, gender was measured by the proportion of female to the total number of the board members, education levels of the board members were obtained by administering questionnaires designed to capture levels of education as either ‘O’-level / KCSE, diploma, graduate level, masters / post graduate, PhD and above. Dummy variables were used to measure the education attribute. Nationality was measured by the proportion of the non-Kenyan to the total number of the
board members. Board independence was measured by the proportion of outside directors to the total number of the board members while company size was measured by the log of total assets.

The research findings indicate a weak positive relationship between the variables viz; a unit increase in average age of the boards leads to a 14.3% increase in financial performance, a unit increase in board gender leads to a 17.8% increase in financial performance, a unit increase in board education leads to a 19% increase in financial performance, a unit increase in board nationality leads to a 46.2% increase in financial performance, a unit increase in board independence leads to a 17.6% increase in financial performance while a unit increase in firm size lead to a 10.4% increase in financial performance as shown in the table of coefficients 4.2.1. When tested individually, only board nationality produces statistically significant values. From this model, it is evident that at 95% confidence level, the variables produce statistically significant values. The significance value is 0.0296 which is less than 0.05 thus the model is statistically significant in predicting how age of the board, board gender, board education level, board nationality, board independence and size of the firm affect the financial performance of the Trading and Manufacturing Companies Listed at the Nairobi Securities Exchange. The F critical at 5% level of significance was 2.04. Since F calculated is greater than the F critical (value = 6.310), this shows that the overall model was significant. The below model was used to determine the effect of board diversity on the Financial Performance of the Trading and Manufacturing companies Listed in the Nairobi Securities Exchange.

\[ \text{ROA} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon \]
After data analysis and multiple regression analysis was conducted to determine the relationship between financial performance and the six variables, the results obtained from the SPSS generated the equation below:

\[
\text{ROA} = 1.650 + 0.143X_1 + 0.178X_2 + 0.190X_3 + 0.462X_4 + 0.176X_5 + 0.104X_6
\]

The findings of the study are tabulated and discussed as below. They are as shown in the tables 4.2.0, 4.2.1 and 4.2.2 below:

Table 4.2.0 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2.829</td>
<td>5</td>
<td>.566</td>
<td>6.310</td>
<td>.0296b</td>
</tr>
<tr>
<td>Residual</td>
<td>9.501</td>
<td>22</td>
<td>.432</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12.330</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a). Dependent variable: ROA  
(b). Predictors – average age, gender, education, nationality, independence of the board and size of the firm.

Source: Research Data 2015

Table 4.2.1 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.650</td>
<td>1.851</td>
<td>1.184</td>
<td>.049</td>
</tr>
<tr>
<td>Board age</td>
<td>0.143</td>
<td>.234</td>
<td>.132</td>
<td>.543</td>
</tr>
<tr>
<td>B/Gender</td>
<td>0.178</td>
<td>.258</td>
<td>.172</td>
<td>.777</td>
</tr>
<tr>
<td>B/education</td>
<td>0.190</td>
<td>.113</td>
<td>.096</td>
<td>.424</td>
</tr>
<tr>
<td>B/nationality</td>
<td>0.462</td>
<td>.257</td>
<td>.269</td>
<td>1.407</td>
</tr>
<tr>
<td>B/independence</td>
<td>0.176</td>
<td>.206</td>
<td>.128</td>
<td>.640</td>
</tr>
<tr>
<td>F/size</td>
<td>0.104</td>
<td>.174</td>
<td>.317</td>
<td>1.573</td>
</tr>
</tbody>
</table>

Dependent variable: ROA; Source – Research data 2015
Table 4.2.2 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.919</td>
<td>0.845</td>
<td>0.789</td>
<td>0.6273</td>
</tr>
</tbody>
</table>

Source: Research Data, 2015

4.3 Summary and interpretation of the findings

Findings from the study indicate that apart from the board nationality with a strong positive relationship with ROA, age, gender, education, proportion of outside directors and company size had a weak positive relationship with the financial performance. The independent variables that were studied, explain only 84.5% of effect of board diversity on the financial performance as represented by the \( R^2 \). This therefore means that other factors not studied in this research contribute 15.5% of the effect of board diversity on the financial performance.

The positive relationship between the presence of foreign individuals on the boards and the firm financial performance is consistent with the findings of Ujunwa (2012), Daunfeldt and Rudholm (2006) who also noted positive correlation between nationality and firm financial performance. Marimuthu (2008) noted positive correlation between ethnic compositions on the boards and firm financial performance.
CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter aims at linking and applying the results obtained from the study to solve real life board diversity and financial performance paradox as described in the research problem statement. The chapter will also explain the policy recommendations that policy makers especially the Capital Markets Authority (CMA) and the investors in the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange can undertake in aligning the Board diversity variables and firm financial performance.

5.2 Summary of Findings

The main objective of the study was to establish the impact of Board diversity variables and the firm Financial Performance of the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange. To achieve the objective, the researcher sampled the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange that exhibited the characteristics for the study. Secondary and primary data was used in the study. Secondary data was collected by review of documents and annual reports of the sampled firms while primary data was collected by administering questionnaires to the sampled firms.

Board characteristics such as age of board members, women on boards and education levels of directors, board independence, nationality and firm size were first analyzed and related to firm financial performance. Findings show a strong positive relationship between performance, measured by ROA and board members nationality. However, there was a weak positive relationship between ROA and age, gender, education, board independence and firm size as shown in table 4.2.1. Coefficients. Also, the six independent variables that were
studied, explain only 84.5% of effect of board diversity on the financial performance as represented by the $R^2$. This means that other factors not studied in this research contribute 15.5% of the effect of board diversity on the financial performance.

5.3 Conclusions

There was significant positive correlation between ROA and the proportion of the board members nationality to the total number of board members. However, there existed weak positive correlation between ROA and board average age, proportion of female to the total number in the board, board independence and size of the firm. The six board diversity variables studied only explained 84.5% of the effect of board diversity on the financial performance as represented by the $R^2$. The significance value in table 4.2.0 is 0.0296 which is less than 0.05 thus the model is statistically significant in predicting how age of the board, board gender, board education level, board nationality, board independence and size of the firm affect the financial performance of the Trading and Manufacturing Companies Listed at the Nairobi Securities Exchange. The F critical at 5% level of significance was 2.04. Since F calculated is greater than the F critical (value = 6.310), this shows that the overall model was significant.

From this study, it would be safe to conclude that board diversity has positive effect on the financial performance of the Trading and Manufacturing companies Listed in the Nairobi Securities Exchange. The conclusion is supported by the results of the regression analysis and is consistent with the position of Marimuthu (2008) that more diversified boards provide more performance benefits.
5.4 Policy Recommendations

It was considered important for the capital market regulators such as the Government, the Capital Markets Authority (CMA), investors and shareholders of the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange to understand the impact of the Board diversity variables on the financial performance of these firms. This is evident from the study and the analysis results. The Capital Markets Authority in liaison with the Government should consider and introduce a board nationality proportion policy given the positive correlation between ROA and the proportion of foreign nationals on the company boards.

5.4.1 Inclusion of younger people in the boards

The conclusion that there is a positive relationship between age of the board members and the Return on Assets (ROA) leads to the recommendation that investors in the Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange should consider bringing younger people in their firms boards as part of the board succession planning.

5.4.2 Need for a gender policy on the boards

The positive finding and conclusion that gender or presence of women in the boards relates positively with the firm financial performance creates the need for a gender policy in the firm board composition. As a result of the outcomes of similar studies, Australia, Italy, Germany among other countries have placed legislation of the board gender composition.
5.4.3 Need for independent boards

There should be an independence policy on the board of directors. The finding and conclusion that board independence brings positive performance benefits concur with the Agency Theory (Jensen and Meckling, 1976).

5.4.4 Need for Mixed Nationality in the Boards

People of mixed nationalities bring in experiences from different geographical locations, social orientations and economic environments. The firms should establish appropriate mix of people from different nations in the boards.

5.5 Limitations of the Study

The major limitations related largely to primary and secondary data availability and collection and other limitations detailed below;

5.5.1 Inaccessible Secondary Data

Not all the secondary data for the Trading and Manufacturing Companies listed in the Nairobi Securities Exchange during the period 2010 to 2013 was readily available in the companies and the Nairobi Securities Exchange websites. This was noted for some of the companies categorised under Agriculture in appendix 1. However, the companies involved were insignificant in number in relation to the population under study.
5.5.2 Incomplete Secondary Data

Some Trading and Manufacturing Companies classified under the agricultural sector had only posted their profit and loss account and balance sheets in the websites and omitted certain information in relation to board members names, gender, age and nationality of the board members which were readily available and accessible in a majority of the companies studied. These were insignificant in number in relation to the total number of companies studied.

5.5.3 Unwilling / Slow respondents

The researcher had to send numerous reminders via emails and make phone calls to the respondents some of who needed to be paid to release data. Time constrains were overcome by selecting a representative small sample size as compared to the entire population size without compromising the validity and reliability of the research findings.

5.5.4 Information Security Challenges

As a result of the fear for their information security, some companies could not easily release the requested primary data. The companies needed more undertaking from the researcher regarding the confidentiality and security of their information. The researcher provided his original and copies of the national and student identity cards which were accepted by these companies in addition to the latter of introduction from the University of Nairobi.

5.5.5 Time Constraint

Time allocated for the study was not sufficient while in a full time job. The researcher however, made an ultimate effort and conducted the study within the specified time frame.
5.6 Suggestions for Further Studies

Arising from the study findings, the following directions for future research in finance were recommended;

5.6.1 Similar study to be conducted for companies listed in other sectors in Kenya

The study focused on the 37 trading and manufacturing companies listed in the Nairobi Securities Exchange. The researcher suggests that similar studies be conducted in the companies in the companies listed in the Nairobi Securities Exchange aligned to other sectors of the economy i.e. insurance, banking and investments categories among others to arrive at a conclusive position on the diversity variables and their effects on the financial performance.

5.6.2 Study should be conducted across time horizon

The researcher suggests that similar studies be replicated in a few years to come to assess if the impact of board diversity variables on the financial performance on the trading and manufacturing companies listed in the Nairobi Securities Exchange has changed. The period 2010 to 2013 was characterized by heightened political activities with consequences on the outcomes of economic performances by companies and the country at large.

5.6.3 Similar studies to be conducted using additional variables

The independent variables that were studied explained only 84.5% of the effect of board diversity on the financial performance as represented by $R^2$. This means that other factors not studied in this research contribute 15.5% of the effect of board diversity on the financial performance. Therefore, further research should be conducted to investigate the other factors (15.5%) that affect the financial performance of the trading and manufacturing companies listed in the Nairobi Securities Exchange. These could be board size, CEO duality and voluntary corporate disclosures among others.
5.6.4 Further studies to use other performance measurement variables

The financial performance of the trading and manufacturing companies listed in the Nairobi Securities Exchange was measured using the Return on Assets (ROA). The researcher suggests that similar studies be conducted using other performance measurement variables such as Tobin’s Q and Return on Equity (ROE) among others. The findings obtained should be compared with the findings of this research for consistency.

5.6.5 Further study to be conducted on a longer time duration

The researcher recommends that effects of board diversity on the financial performance of the trading and manufacturing companies listed in the Nairobi Securities Exchange be conducted for a longer period of time i.e. 10 years. The results obtained from this study would be more reliable than the shorter time period (2010 to 2013) studied.
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governance theories on the performance of firms listed at the Nairobi Securities


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APPENDIX I-Trading and Manufacturing Companies Listed in the Nairobi Securities Exchange grouped into sector categories.

**AGRICULTURE**

1. Eaagads Ltd  
2. Kapchorua Tea Company Ltd  
3. Limuru Tea Company Ltd  
4. Rea Vipingo Plantations Ltd  
5. Sasini Tea and Coffee Ltd  
6. Williamson Tea (K) Ltd  
7. Kakuzi Ltd

**COMMERCIAL AND SERVICES**

8. Express Ltd  
9. Kenya Airways Ltd  
10. Longhorn Kenya Ltd  
11. Uchumi Supermarkets Ltd  
12. Nation Media Group Ltd  
13. Standard Group Ltd  
14. TPS East Africa (Serena) Ltd  
15. WPP ScanGroup Ltd

**CONSTRUCTION AND ALLIED**

16. ARM Cement Ltd  
17. Bamburi Cement Ltd  
18. Crown Berger Ltd  
19. E. A. Cables Ltd
<table>
<thead>
<tr>
<th>No.</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>E. A. Portland Cement Ltd</td>
</tr>
<tr>
<td></td>
<td><strong>ENERGY AND PETROLEUM</strong></td>
</tr>
<tr>
<td>21</td>
<td>KenGen Ltd</td>
</tr>
<tr>
<td>22</td>
<td>Kenya Power &amp; Lighting Ltd</td>
</tr>
<tr>
<td>23</td>
<td>Total Kenya Ltd</td>
</tr>
<tr>
<td>24</td>
<td>Umeme Ltd</td>
</tr>
<tr>
<td></td>
<td><strong>AUTOMOBILE AND ACCESSORIES</strong></td>
</tr>
<tr>
<td>25</td>
<td>Car &amp; General (K) Ltd</td>
</tr>
<tr>
<td>26</td>
<td>Marshalls (E.A) Ltd</td>
</tr>
<tr>
<td>27</td>
<td>Sameer Africa Ltd</td>
</tr>
<tr>
<td></td>
<td><strong>MANUFACTURING AND ALLIED</strong></td>
</tr>
<tr>
<td>28</td>
<td>A. Bauman Company Ltd</td>
</tr>
<tr>
<td>29</td>
<td>BOC Kenya Ltd</td>
</tr>
<tr>
<td>30</td>
<td>British American Tobacco Ltd</td>
</tr>
<tr>
<td>31</td>
<td>Carbacid Investments Ltd</td>
</tr>
<tr>
<td>32</td>
<td>Flame Tree Group Holdings Ltd</td>
</tr>
<tr>
<td>33</td>
<td>East African Breweries Ltd</td>
</tr>
<tr>
<td>34</td>
<td>Eveready East Africa Ltd</td>
</tr>
<tr>
<td>35</td>
<td>Kenya Orchads Ltd</td>
</tr>
<tr>
<td>36</td>
<td>Mumias Sugar Company Ltd</td>
</tr>
<tr>
<td>37</td>
<td>Unga Group Ltd</td>
</tr>
</tbody>
</table>
APPENDIX II-Questionnaire-Effect of the age of the Board members on the financial performance of the TMCs

<table>
<thead>
<tr>
<th>Age brackets (years)</th>
<th>Number / Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36-65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66-70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total / average</td>
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APPENDIX III- Questionnaire-Effect of the Board members education on the financial performance of the TMCs

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Number / Frequency</th>
<th>Percentage (%)</th>
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<tr>
<td>“O-Level or KCSE certificate</td>
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<tr>
<td>Diploma</td>
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<tr>
<td>University Graduate</td>
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<tr>
<td>University Graduate-Masters Level</td>
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</tr>
<tr>
<td>University Graduate-PhD and above</td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# APPENDIX IV – Research Data

<p>| SECTOR / COMPANY       | YEAR | PROFIT AFTER TAX (KSHS) | BOOK VALUE OF TOTAL ASSETS (KSHS) | RETURN ON ASSETS - ROA (%) | AVERAGE AGE OF THE BOARD MEMBERS | LOG OF AVERAGE AGE | PROPORTION OF FEMALE TO TOTAL NUMBER IN THE BOARD | BOARD MEMBERS EDUCATION-AVERAGE OF DUMMY VARIABLES | LOG OF THE AVERAGE OF THE DUMMY VARIABLES | PROPORTION OF FOREIGN TO TOTAL BOARD MEMBERS | PROPORTION OF OUTSIDE DIRECTORS / INDEPENDENT DIRECTORS TO THE TOTAL NUMBER IN THE BOARD | SIZE OF THE FIRM-LOG OF TOTAL ASSETS |
|------------------------|------|-------------------------|-----------------------------------|-----------------------------|---------------------------------|-------------------|------------------------------------------------|---------------------------------------------------|---------------------------------|---------------------------------|------------------------------------------------|------------------------------------------------|----------------------------------|
| <strong>AGRICULTURE SECTOR</strong> |      |                         |                                   |                             |                                 |                   |                                                |                                                   |                                 |                                 |                                                |                                                   |                                  |
| 1 Rea Vipingo Plantations Ltd | 2010 | 67,355                  | 1,707,016                         | 0.03946                     | 59                              | 1.770             | 0.300                                          | 1.000                                            | '0'                             | 0.600                           | 0.600                                          | 6.232                                            |                                  |
|                        | 2011 | 467,196                 | 2,288,740                         | 0.20413                     | 60                              | 1.780             | 0.450                                          | 1.000                                            | '0'                             | 0.600                           | 0.714                                          | 6.360                                            |                                  |
|                        | 2012 | 380,433                 | 2,376,618                         | 0.16007                     | 61                              | 1.790             | 0.300                                          | 1.000                                            | '0'                             | 0.600                           | 0.667                                          | 6.376                                            |                                  |
|                        | 2013 | 190,752                 | 2,834,011                         | 0.06731                     | 60                              | 1.780             | 0.200                                          | 1.000                                            | '0'                             | 0.600                           | 0.667                                          | 6.452                                            |                                  |
| 2 Sasini Tea and Coffee Ltd | 2010 | 993,729                 | 9,060,061                         | 0.10968                     | 52                              | 1.717             | 0.222                                          | 1.800                                            | 0.255                           | 0.111                           | 0.222                                          | 6.957                                            |                                  |</p>
<table>
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<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
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<td>Williamson Tea (K) Ltd</td>
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<td></td>
<td></td>
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<tr>
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<td>7,003,367</td>
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<td>0.301</td>
<td>0.400</td>
<td>0.200</td>
<td>6.845</td>
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<td>7,134,123</td>
<td>0.00328</td>
<td>55</td>
<td>1.740</td>
<td>0.400</td>
<td>3.000</td>
<td>0.477</td>
<td>0.200</td>
<td>0.200</td>
<td>6.853</td>
</tr>
<tr>
<td>2012</td>
<td>123,098</td>
<td>6,067,123</td>
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<td>56</td>
<td>1.748</td>
<td>0.600</td>
<td>2.000</td>
<td>0.301</td>
<td>0.400</td>
<td>0.400</td>
<td>6.783</td>
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<td>7,098,098</td>
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<td>57</td>
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<td>3.000</td>
<td>0.477</td>
<td>0.400</td>
<td>0.200</td>
<td>6.851</td>
</tr>
</tbody>
</table>

|   |   |   |   |   |   |   |   |   |   |   |   |
| 4 | Kakuzi Ltd |   |   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |   |   |   |
| 2010 | 388,666 | 3,218,590 | 0.1208 | 67 | 1.826 | 0.0 | 1.600 | 0.204 | 0.333 | 0.400 | 6.508 |
| 2011 | 644,397 | 3,817,320 | 0.1688 | 67 | 1.826 | 0.0 | 1.600 | 0.204 | 0.500 | 0.500 | 6.582 |
| 2012 | 349,466 | 3,571,700 | 0.0978 | 69 | 1.839 | 0.0 | 1.600 | 0.204 | 0.444 | 0.667 | 6.553 |
| 2013 | 165,028 | 3,717,543 | 0.0444 | 66 | 1.820 | 0.0 | 1.600 | 1.600 | 0.500 | 0.375 | 6.570 |

**COMMERCIAL AND SERVICES SECTOR**

|   |   |   |   |   |   |   |   |   |   |   |   |
| 5 | Express Ltd |   |   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |   |   |   |
| 2010 | (28,091) | 1,139,508 | (0.0247) | 61 | 1.785 | 0.0 | 1.000 | 0.0 | 0.429 | 6.057 |
| 2011 | (229,088) | 769,296 | (0.2978) | 62 | 1.792 | 0.0 | 1.000 | 0.0 | 0.429 | 5.886 |
| 2012 | 239,000 | 1,345,890 | 0.1776 | 63 | 1.799 | 0.0 | 1.000 | 0.0 | 0.429 | 6.290 |
| 2013 | 227,320 | 2,678,400 | 0.0849 | 64 | 1.806 | 0.0 | 1.000 | 0.0 | 0.429 | 6.428 |

<p>| | | | | | | | | | | | |
|   |   |   |   |   |   |   |   |   |   |   |   |
| 6 | Kenya Airways Ltd |   |   |   |   |   |   |   |   |   |   |
|   |   |   |   |   |   |   |   |   |   |   |   |
| 2010 | 1,436,000 | 78,743,000 | 0.0182 | 59 | 1.771 | 0.333 | 3.000 | 0.477 | 0.625 | 0.444 | 7.896 |</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Longhorn Kenya Ltd</th>
<th>Uchumi Supermarkets Ltd</th>
<th>Nation Media Group Ltd</th>
<th>Standard Group Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>22,640</td>
<td>865,099</td>
<td>1,514,500</td>
<td>279,784</td>
</tr>
<tr>
<td>2011</td>
<td>23,460</td>
<td>690,340</td>
<td>1,957,300</td>
<td>147,345</td>
</tr>
<tr>
<td>2012</td>
<td>(22,465)</td>
<td>662,689</td>
<td>2,510,300</td>
<td>2,668,378</td>
</tr>
<tr>
<td>2013</td>
<td>99,918</td>
<td>685,019</td>
<td>2,533,200</td>
<td>3,512,257</td>
</tr>
</tbody>
</table>

The table above shows the sales data for Longhorn Kenya Ltd, Uchumi Supermarkets Ltd, Nation Media Group Ltd, and Standard Group Ltd for the years 2010 to 2013.
<table>
<thead>
<tr>
<th>Year</th>
<th>Company Name</th>
<th>Revenue (Ksh)</th>
<th>EBITDA (Ksh)</th>
<th>EPS (Ksh)</th>
<th>ROE (%)</th>
<th>P/E Ratio</th>
<th>Dividend Payout (%)</th>
<th>ROA (%)</th>
<th>ROIC (%)</th>
<th>Maturity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>TPS East Africa (Serena) Ltd</td>
<td>183,307</td>
<td>3,501,548</td>
<td>0.0524</td>
<td>64</td>
<td>1.806</td>
<td>0.125</td>
<td>1.600</td>
<td>0.204</td>
<td>0.500</td>
</tr>
<tr>
<td>2013</td>
<td>TPS East Africa (Serena) Ltd</td>
<td>189,493</td>
<td>4,162,469</td>
<td>0.0455</td>
<td>65</td>
<td>1.813</td>
<td>0.125</td>
<td>1.600</td>
<td>0.204</td>
<td>0.500</td>
</tr>
<tr>
<td>2010</td>
<td>WPP ScanGroup Ltd</td>
<td>549,000</td>
<td>12,400,970</td>
<td>0.0455</td>
<td>62</td>
<td>1.792</td>
<td>0.417</td>
<td>3.000</td>
<td>0.375</td>
<td>0.333</td>
</tr>
<tr>
<td>2011</td>
<td>WPP ScanGroup Ltd</td>
<td>615,891</td>
<td>13,131,840</td>
<td>0.0469</td>
<td>63</td>
<td>1.799</td>
<td>0.500</td>
<td>2.400</td>
<td>0.444</td>
<td>0.333</td>
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<tr>
<td>2012</td>
<td>WPP ScanGroup Ltd</td>
<td>493,588</td>
<td>11,438,115</td>
<td>0.0432</td>
<td>63</td>
<td>1.799</td>
<td>0.417</td>
<td>2.000</td>
<td>0.556</td>
<td>0.333</td>
</tr>
<tr>
<td>2013</td>
<td>WPP ScanGroup Ltd</td>
<td>668,530</td>
<td>13,994,187</td>
<td>0.0478</td>
<td>64</td>
<td>1.806</td>
<td>0.333</td>
<td>2.200</td>
<td>0.556</td>
<td>0.333</td>
</tr>
<tr>
<td>2010</td>
<td>ARM Cement Ltd</td>
<td>640,585</td>
<td>8,009,431</td>
<td>0.0800</td>
<td>62</td>
<td>1.792</td>
<td>0.125</td>
<td>1.200</td>
<td>0.079</td>
<td>0.333</td>
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<td>ARM Cement Ltd</td>
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<td>8,489,938</td>
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<td>1.300</td>
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<td>ARM Cement Ltd</td>
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<td>8,646,961</td>
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<td>63</td>
<td>1.799</td>
<td>0.125</td>
<td>1.200</td>
<td>0.079</td>
<td>0.333</td>
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<tr>
<td>2013</td>
<td>ARM Cement Ltd</td>
<td>866,265</td>
<td>12,949,665</td>
<td>0.0669</td>
<td>55</td>
<td>1.740</td>
<td>0.125</td>
<td>1.200</td>
<td>0.079</td>
<td>0.333</td>
</tr>
<tr>
<td>2010</td>
<td>Bamburi Cement Ltd</td>
<td>5,299,000</td>
<td>33,306,000</td>
<td>0.1591</td>
<td>61</td>
<td>1.785</td>
<td>0.287</td>
<td>2.000</td>
<td>0.857</td>
<td>1.000</td>
</tr>
<tr>
<td>2011</td>
<td>Bamburi Cement Ltd</td>
<td>5,859,000</td>
<td>33,502,000</td>
<td>0.1749</td>
<td>63</td>
<td>1.799</td>
<td>0.333</td>
<td>4.000</td>
<td>0.602</td>
<td>1.000</td>
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<tr>
<td>2012</td>
<td>Bamburi Cement Ltd</td>
<td>4,882,000</td>
<td>43,038,000</td>
<td>0.1134</td>
<td>64</td>
<td>1.806</td>
<td>0.333</td>
<td>3.000</td>
<td>0.444</td>
<td>1.000</td>
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**CONSTRUCTION AND ALLIED SECTOR**

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<th>Year</th>
<th>Company Name</th>
<th>Revenue (Ksh)</th>
<th>EBITDA (Ksh)</th>
<th>EPS (Ksh)</th>
<th>ROE (%)</th>
<th>P/E Ratio</th>
<th>Dividend Payout (%)</th>
<th>ROA (%)</th>
<th>ROIC (%)</th>
<th>Maturity (%)</th>
</tr>
</thead>
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<td>2011</td>
<td>ARM Cement Ltd</td>
<td>1,150,498</td>
<td>20,549,023</td>
<td>0.0560</td>
<td>65</td>
<td>1.813</td>
<td>0.556</td>
<td>3.000</td>
<td>0.714</td>
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<tr>
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<td>ARM Cement Ltd</td>
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<td>26,953,100</td>
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<td>67</td>
<td>1.826</td>
<td>0.444</td>
<td>3.000</td>
<td>0.714</td>
<td>1.000</td>
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<tr>
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<td>29,705,254</td>
<td>0.0454</td>
<td>72</td>
<td>1.857</td>
<td>0.444</td>
<td>2.400</td>
<td>0.714</td>
<td>1.000</td>
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<tr>
<td>2010</td>
<td>Bamburi Cement Ltd</td>
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<td>33,306,000</td>
<td>0.1591</td>
<td>61</td>
<td>1.785</td>
<td>0.287</td>
<td>2.000</td>
<td>0.857</td>
<td>1.000</td>
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<tr>
<td>2011</td>
<td>Bamburi Cement Ltd</td>
<td>5,859,000</td>
<td>33,502,000</td>
<td>0.1749</td>
<td>63</td>
<td>1.799</td>
<td>0.333</td>
<td>4.000</td>
<td>0.602</td>
<td>1.000</td>
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<td>43,038,000</td>
<td>0.1134</td>
<td>64</td>
<td>1.806</td>
<td>0.333</td>
<td>3.000</td>
<td>0.444</td>
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<td>Year</td>
<td>Firm</td>
<td>Shares</td>
<td>Market Value</td>
<td>P/E Ratio</td>
<td>Dividend</td>
<td>Dividend YLD</td>
<td>PE Ratio</td>
<td>Dividend Payout</td>
<td>Shares held</td>
<td>Market Value of Shares held</td>
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<td>--------</td>
<td>--------------</td>
<td>-----------</td>
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<td>----------------</td>
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<td>Crown Berger Ltd</td>
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<td>444</td>
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<td>250</td>
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<tr>
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<td>Company Name</td>
<td>Revenue</td>
<td>Gross Profit</td>
<td>Operating Expenses</td>
<td>Interest Expenses</td>
<td>EBITDA</td>
<td>Tax</td>
<td>Net Profit</td>
<td>ROCE</td>
<td>PE Ratio</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>-----</td>
<td>-------------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>2013</td>
<td>Kenya Power &amp; Lighting Ltd</td>
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<td>0.301</td>
<td>0.477</td>
<td>0.556</td>
<td>8.275</td>
</tr>
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<td>12,340,500</td>
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<td>62</td>
<td>1.792</td>
<td>0.429</td>
<td>0.477</td>
<td>0.556</td>
<td>7.091</td>
</tr>
<tr>
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<td>66,179,000</td>
<td>0.0562</td>
<td>53</td>
<td>1.724</td>
<td>0.200</td>
<td>0.301</td>
<td>0.556</td>
<td>7.821</td>
</tr>
<tr>
<td>2011</td>
<td>4,220,000</td>
<td>89,508,000</td>
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<td>54</td>
<td>1.732</td>
<td>0.200</td>
<td>0.301</td>
<td>0.556</td>
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<td>0.556</td>
<td>8.128</td>
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</tr>
<tr>
<td>2013</td>
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<td>177,157,755</td>
<td>0.0246</td>
<td>60</td>
<td>1.778</td>
<td>0.429</td>
<td>0.556</td>
<td>0.333</td>
<td>7.602</td>
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</tr>
<tr>
<td>2010</td>
<td>2011</td>
<td>(71,400)</td>
<td>35,198,200</td>
<td>(0.0020)</td>
<td>50</td>
<td>1.699</td>
<td>1.800</td>
<td>0.255</td>
<td>0.333</td>
<td>7.547</td>
</tr>
<tr>
<td>2012</td>
<td>202,100</td>
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MANUFACTURING AND ALLIED SECTOR

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<th>Shareholding 5 Years Ago</th>
<th>Dividend</th>
<th>Share Price</th>
<th>P/E Ratio</th>
<th>P/B Ratio</th>
<th>ROE</th>
<th>Dividend Payout</th>
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<td>EV (%)</td>
<td>Unit</td>
<td>Price (G)</td>
<td>Cane (G)</td>
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29 Mumias Sugar Company Ltd

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<th>Price (G)</th>
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<th>Unit</th>
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Source: Secondary and primary data sources.