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**RESPONSE STRATEGIES TO CHALLENGES  
POSED BY ELECTRONIC TRADING SYSTEM AT  
THE NAIROBI STOCK EXCHANGE: A SURVEY OF  
STOCK BROKING FIRMS**

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**A MANAGEMENT RESEARCH PROJECT  
SUBMITTED IN THE PARTIAL FULFILMENT OF  
THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION (MBA)  
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## DECLARATION

This Management Research Project is my original work and has not been submitted for award of a degree in any other University.

Signed Damaris A Angulu Date 26/10/2007

**Damaris A Angulu**

This Management Project has been submitted for examination with my approval as the University Supervisor

Signed Peter K'Obonyo Date 26/10/07

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## **DEDICATION**

This project is dedicated to my family: My dear husband Samson and beloved sons Denning and Wesley, for their unending perseverance, affection, comfort and most importantly, their constant understanding. To baby Pretty Rihanna, thanks for coming into my life with a purpose. You were the angel and princess of my heart towards completing my MBA studies; it was through your co-operation that I was motivated to finish the last few months of my studies.

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May God the Almighty bless you all.

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## ABSTRACT

Kenya is one of the first countries after Mauritius and South Africa in the African continent that have adopted electronic trading system in the stock market. Adoption of digital trading technology posed some challenges to implementation and this study which was a survey sought to investigate response strategies used by Stock Broking firms to counter these challenges. The objective was to establish response strategies used by Stock Brokerage firms in Nairobi to deal with challenges posed by electronic trading system. The population of study comprised of 18 active Stock Broking firms. A mail questionnaire was used in collecting the data. Data was analyzed using descriptive statistics such as percentages and arithmetic mean scores.

All Stock Broking firms were found to have adopted electronic trading system. Benefits of the system were found to be increased turnover of business as was reported by 65% of the respondents. This was attributed to the system's capability of enabling Stock Broking firms to handle increased number of clients. Electronic trading has contributed to increased customer satisfaction. 75% of the respondents reported that electronic trading system has helped improve efficiency in the order of execution and also saves time. Implementation challenges found by the study include suspicion by investors and internal system incompatibility to automated trading system.

Response strategies used by broking firms include upgrading of internal systems to reduce and manage internal challenges to electronic trading system. Other strategies include staff training program and investor education and installation of screens showing how trade is being conducted at the NSE.

The study recommends that Stock Broking firms engage the services of strategy specialist to enable them undertake a thorough environmental scanning and the eventual formulation, implementation and control of strategy. Further, it is recommended that future studies be carried on policy gaps which impede operations of stock broking firms.

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## CHAPTER ONE: INTRODUCTION

### 1.1 Background

Throughout the world, economic performance is arguably the key yardstick for measuring efficacy of government (Standard, 2002). From 1963 to mid 1980s, Kenya followed a policy of market economy with strong government interaction and public – sector led growth and development. Policy in the early years also focused on import substitution. Impressive progress was made both in the social and economic development during the first decade of independence. Maintaining high level of growth achieved in the first decade after independence became difficult partly due to external factors. Firstly, the 1973/ 74 steep oil price increases caused a crisis as prices of commodities escalated and balance of trade deteriorated. Secondly, the combined effect of the collapse of the East African Community in 1977 and world recession in 1979 contributed to further decline of the rate of growth. The economy also registered mixed performance in the 1980s and early 1990s due to prolonged drought; low aggregate domestic demand; foreign exchange shortage; and high inflation. The import substitution industrialization policies also had its limitations to, as it encouraged enterprises that would otherwise not be viable in an open market. From 1986, however, policy switched to one of decreased direct government presence in the economy, with government's main role being that of creating an enabling environment on which the private sector could flourish. In the recent years this has included a move to reform the entire economic system. In a bid to rectify some of the macroeconomic imbalances responsible for poor economic performance, the government introduced significant economic liberalization reforms since 1993. These reforms included liberalization of the financial markets.

The Nairobi Stock Exchange (NSE) has been playing an important role in driving economic growth and development of the country. Its strategic role of mobilizing financial resources for both the Government and the private sector can not be underestimated. The establishment of an efficient stock market is, therefore

indispensable for any economy that is keen on using scarce capital resources to achieve economic growth. In pursuance of its mission of providing a world class trading facility for wealth creation, the NSE switched to automated trading in 2006. Information Technology (IT) has been cited to have the potential not only to enhance operational efficiency and effectiveness, but also to change the way a business competes. Johnson and Vitale (1988) reported that IT created a strategic opportunity and redrew competitive boundaries. Competitive advantages are broadly expressed in terms of low costs, flexibility, quality and service delivery. NSE implemented live trading on the automated trading system on September 11, 2006. The automated trading system (ATS) is sourced from Millennium Information Technologies (MIT) of Colombo, Sri Lanka, who is also the supplier of the Central Depository System (CDS). MIT have also supplied similar solutions to the Colombo Stock Exchange of Mauritius (NSE, 2007).

To ensure that there were no significant departures from the overall trading principles in the Kenyan market, the NSE ATS solution was customized to uphold the spirit of the open outcry rules in an automated environment. Trading hours increased from two (10.00 a.m. – 12.00 p.m) to three hours (10.00a.m – 1.00 p.m) as much as the transaction lead time reduced. Other innovations included the removal of the block trade board and introduction of the functionality for the trading of rights in the same manner as equities. Besides trading equities, the ATS is also fully capable of trading immobilized corporate bonds and treasury bonds. The benefits of the new system include greater transparency in the placement of bids and offers. The system was also anticipated to improve market surveillance and transmit almost in real time, trading information relating to index movements and price and volume movements of traded securities. More current information will also become readily available to a wider constituency of stakeholders, facilitating the decision making process and lowering the risk of participating in the markets (NSE, 2007).

### **1.1.1 Strategy**

The concept of strategy can be traced to military where it was applied in war. The business world adopted this concept in the nineteenth century. Some scholars however,

think that the time when the term began to be employed to business is untraceable (Mulema, 2003). Strategy can be said to denote a general programme of action and deployment of emphasis and resources to attain comprehensive objectives. There is no one single definition of strategy. According to Chandler (1962), strategy is the determination of the basic long term goals and objectives of an enterprise and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Andrews (1965) defines strategy as a pattern of objectives, purpose or goals and major policies and plans for achieving these goals, stated in a way to define what business the company is in and the kind of company it is to be. In a competitive world where the success of the firm depends on its competitive advantage, strategy becomes a vital tool in exploiting opportunities, reducing weaknesses, enhancing strengths and managing threats. Porter (1980) argued that strategy is the central vehicle for achieving competitive advantage in the market place.

Strategy can also be defined as the matching of the resources and activities of the organization to the environment in which it operates (Johnson and Scholes, 2002). The notion of strategic fit is developing strategy by identifying opportunities in the business environment and adopting resources and competences so as to take advantage of these opportunities. In the fast moving world of the media and IT, customers might value providers who can give a range of services through a set of complementary channels such as Internet as well as physical retail outlets (Kimura, 1999).

Since the industrial revolution, the conventional wisdom has been that the private sector is better at managing and changing organizations than either the public or voluntary sectors (Burnes, 2004).

### **1.1.2 Technological changes**

The global business has brought changes in the way business is transacted in the world over. Technological changes can be viewed as the driver of modern businesses and firms which are strong in technological innovation to increase their global presence, quality of service provision and competitive position in the market. The digital

revolution has created an information age which promises to lead to more accurate levels of production, more targeted communications, and more relevant pricing (Kotler and Keller, 2007). Moreover, much of today's business is carried on over electronic networks: intranet, extranets, and the Internet. The NSE's technological shift from manual to electronic trading is a milestone in the financial markets in Africa. The change being implemented by stakeholders in financial market has several advantages which include reduction of costs, improved efficiency and better service delivery.

New technologies present both opportunities and challenges. The electronic trading system at the NSE came with several challenges. Documentation of these challenges however, has not been done by researchers and implementers but continue to be experienced by stakeholders within the industry. One such change includes computer literacy levels among the stakeholders and investors. Many Kenyans are not computer literate making implementation difficult. Moreover, a number of Kenyans have never believed the practicability of transacting business online without physical interactions with the other party and upholding physical title documents. The slow adoption of Automatic Teller Machines by customers of banking industry is an evidence of low computer literacy and the fear of technology itself among Kenyans. The high cost of both computer hardware and software are other challenges to electronic trading. In addition, high installation costs of the electronic trading system further compounded the difficulty to implementing electronic trading.

The risks of operations by fraudsters are another challenge to technological changes. With increased number of highly trained IT specialists in Kenya coupled with high incidences of crime, the system may be threatened by fraudulent operations by criminals. Hacking as a challenge had been reported by other players in the financial market, such as banks posing threat to the success of the system. Culture change problem among Kenyans also presents a challenge to technological changes. Many Kenyans are conservative and the fear of the unknown may slow down the speed of embracing electronic trading. Culture is a people's way of life and changing people's culture takes time depending on their circumstances and exposure to similar or related

technology. Culture defines how those in the organization should behave in a given set of circumstances. Culture legitimates certain forms of action and prescribes other forms (Burnes, 2004).

### **1.1.3 Response Strategies to Technological changes**

Organizations have developed response strategies to technological challenges. Building appropriate infrastructure for technology is one such response pursued by organizations in a dynamic environment. The Government of Kenya has put in place the necessary infrastructure to support IT and electronic trading. Improvement in the supply of electricity, and telephone services are measures which contribute to reducing implementation challenges of the technological change. The NSE has also embarked on staff training and sensitization programme to equip its manpower with the necessary skills which are required in the implementation of the trading system. Other responses to technological changes include education of all stakeholders about electronic trading system. The NSE has carried out awareness campaigns on the technological change. However, not much has been done to educate stakeholders about the electronic trading system.

### **1.1.4 The Nairobi Stock Exchange**

In Kenya, dealing in shares and stocks started in the 1920's when the country was still a British colony. There was however no formal market, no rules and no regulations to govern stock broking activities. Trading took place on a gentleman's agreement in which standard commissions were charged with clients being obligated to honor their contractual commitments of making good delivery, and settling relevant costs (NSE, 2007). The stock exchange is a market that deals in the exchange of securities issued by publicly quoted companies and the Government (Kimura, 1999). The major role the stock exchange has played, and continues to play in many economies is that it promotes a culture of thrift, or saving. The NSE was constituted as a voluntary association of stock brokers registered under the Societies Act. At the dawn of independence, stock market activity slumped due to uncertainty about the future of independent Kenya.

The concept of stock exchange like many other features of our modern financial system, including banking and insurance was imported from Britain (Munga, 1974). By the time the NSE had obtained its formal constitution in 1954, organized dealing in stocks and shares had been going on for well over 20 years. Dealing in shares was mainly undertaken as a sideline business, by estate agents who usually met in a bar of a local hotel to transact their business. By 1952, there were already 43 public companies whose shares were dealt with by the brokers. The shares were mainly owned by Europeans and Asians. By 1954, the Indian laws of transfer of titles had been received from England, and it was therefore as simple to transfer titles in East Africa as it was in England (Munga, 1974).

The NSE has for a long time been operating manually with business transacted on the floor for specified time of the day. The arrival of information technology (computers and telecommunications) has raised the prospect of radical change to this traditional way of trading. An electronic trading system which enables Stock Brokers and investors to transact business while in their offices was officially launched in 2006.

### **1.1.5 Stock Broking Firms**

Business at the NSE is transacted on behalf of investors by Stock Brokers who trade daily between 10.00 a.m. to 1.00 p.m. There are 18 registered and active Stock Brokers who are members of the NSE. The history of Stock Brokers in Kenya dates back to the colonial days. Until independence in 1963, trade in securities was a preserve of the Europeans in which Africans and Asians were forbidden (Kasinga, 2001). The NSE assumed a formal status in 1954 when it was set up as an association of Stock Brokers. According to Kasinga (2001) stock broking has moved from a sideline business to that which plays an important role in the Kenyan economy, especially in the privatization of state-owned enterprises. Stock Brokers act as intermediaries for buyers and sellers of financial securities at the stock exchange, for which they earn a prescribed commission. They can also be financial advisors to the government, institutions, and individuals.

Although Stock Brokers have been around for a while, they are commonly known to deal in only one instrument – equity. There is a general lack of awareness and information on the role, functions and operations of the exchange and the Stock Brokers (Kasinga, 2001). They are operating in a competitive and a complex environment. They are not only faced with fierce competition among themselves, but also from other financial advisors and banks. Stock Brokers are regulated by the NSE and the Capital Markets Authority (CMA).

## 1.2 The Research Problem

The NSE has great bearing on the realization of Vision 2030 formulated by the government of Kenya. Its pivotal role is mobilizing resources, reallocating resources to more rewarding ventures, contribution to wealth creation and employment, and reduction of poverty. The NSE has for a long time been operating manually with physical transaction of trade through Stock Brokers at the bourse. The manual system has been expensive, time consuming, cumbersome and demanding. A number of leading development agencies and organizations have identified commercial applications of Information and Communication Technology (ICT) as offering great potential to accelerate economic growth in developing nations (Wood, 2003).

The shift from manual to electronic trading system by the NSE is a major development in the financial market and has been considered by industry players as a step in the right direction. Kenya is one of the first countries in the African continent to adopt this technological strategic shift in the financial markets. The other African countries which have embraced electronic trading in the stock market include Mauritius, and South Africa ([www.cma.or.ke](http://www.cma.or.ke)). Despite its potential in revolutionizing financial sub – sector, implementation challenges of electronic trading system are likely to slow down the gains realized by Stock Brokers and other stakeholders in the financial sector. Lack of preparedness among key Stock Brokers, infrastructural problems, low computer literacy levels among Kenyans, lack of trust on the technology itself and cultural problems are some of the challenges to implementation that need strategic responses by the implementers of the system.



Previous studies by Gharavi *et al.* (2004) on diffusion of technology in stock broking firms found that stock broking firms have openly adopted ICT to improve their competitiveness and responsiveness to market conditions. The study was carried out in Australia and findings are less applicable in Kenya because implementation of electronic trading is at its initial stages. In addition, Kenyan infrastructural development is not comparable to Australia thus making the above mentioned research findings less applicable locally. Studies by Gekonye (1999); Ogwira (2003); Maingi (2005); Mumbi (2005); Albert (2006) on strategic change in various private and state corporations overemphasized macroeconomic trends, market and competitive changes and industry structure to the total exclusion of technological innovation. While not ignoring their findings, the proposed study aims to bridge existing knowledge gap by finding responses to the following question: What response strategies are Stock Brokers using to respond to implementation challenges posed by the electronic trading system?

### **1.3 Objective of Study**

To establish response strategies used by Stock Broking firms in Nairobi to deal with challenges posed by electronic trading system.

### **1.4 Importance of Study**

- i. The study will benefit the finance industry by gaining from tested strategies in overcoming implementation challenges by Stock Broking firms. This will improve volume of trade transacted by each Stock Broking firm.
- ii. The NSE will gain by identifying implementation gaps and bridging of the gaps. As a result, the new entrants in Stock Broking sector will be encouraged to fully automate their systems for efficient trading.
- iii. Investors will benefit from an improved and efficient stock market. In addition, findings will contribute to safeguarding the interests of investors by eradication of fraudulent activities.

iv. The findings will be useful to future researchers of the stock market operations.

## CHAPTER TWO: LITERATURE REVIEW

### 2.1 Introduction

Business oriented organizations are interdependent and typically interact, albeit indirectly, with one another or more industries and so are influenced by an array of environmental influences. Once the environment evolves, its members are required to adapt and respond to changes being imposed on them if they are to remain competitive and to survive (Gharavi *et al.*, 2004). In the Stock Broking industry, pressures to streamline processes and improve organizational and client profitability have resulted in the widespread adoption of ICT and a redefinition of the industry's structure (Baum and Korn, 1996).

In Australia, the Stock Broking industry is one of the most successful industries in the adoption and diffusion of ICT in its operations (Shankar, 2002). However, countries such as Kenya may have challenges in fully embracing electronic trading by the Stock Broking firms. The development of the internet and E-commerce has transformed the way firms operate in Australian Stock Broking industry, particularly since the latter part of the 1980s. Electronic trading has similarly altered the way of doing business by Stock Broking firms in Kenya. Stock Brokers that have adopted the technology have improved service to their clients and improved management of firm's resources for example by reducing operational costs.

### 2.2 The Concept of Strategy

Strategy is a much used and abused word, and means different things to different people and organizations. Like many other concepts in the field of management, there is no agreed all embracing definition of strategy. Strategy is an elusive and somewhat abstract concept. This must be expected when dealing with an area that is constantly developing (Ochanda, 2005). Different authors define strategy in different ways. According to Pearce and Robinson (2002) strategy is the set of discussions and actions resulting in formulation, and implementation of strategic designs to achieve the objectives of an organization. Strategy is the direction and scope of an organization over

the long term, which achieves advantage for the organization through its configuration of resources within a changing environment and to fulfill stakeholders' expectation (Johnson and Scholes, 2003). Chandler defined strategy as the determination of the basic long - term goals and objectives of an enterprise, and the adoption of the courses of action and the allocation of resources necessary for carrying out these goals (Burnes, 2004).

Strategy is a plan in some form of consciously intended course of action which is created ahead of events. Strategy can be seen as the matching of the resources and activities of an organization to the environment in which it operates (Johnson and Scholes, 2002). The notion of strategic fit is developing strategy by identifying opportunities in the business environment and adapting resources and competences so as to take advantage of these. In the fast - moving world of the media and IT, customers might value providers who can provide a range of services through a set of complementary channels such as Internet as well as physical retail outlets. Mintzberg argued that successful companies do not start with detailed strategic plans. Instead, their strategies emerge over time from the pattern of decisions they take on key aspects of their activities.

According to Jones (2004), an organization's strategy is a specific pattern of decisions and actions that managers take to use core competences to achieve a competitive advantage and outperform competitors. An organization develops a strategy to increase the value it can create for its stakeholders. Customers are likely to respond to a strategy that is based on the goal of offering high - quality products and services at appropriate prices.

### 2.3 Technological Change

Technology is the combination of skills, knowledge, abilities, techniques, materials, machines, computers, tools and other equipment that people use to convert or change raw materials into valuable goods and services (Jones, 2004). Inside an organization, technology exists at three levels: individual, functional or departmental, and

organizational. At the individual level, technology is the personal skills, knowledge, and competencies that individual men and women possess. At the functional level or departmental level, the procedures and techniques that groups work out to perform their work create competencies that constitute technology. The way an organization converts inputs into outputs is often used to characterize technology at the organizational level.

Jones (2004) argues that organizations taking the technical approach use technology to improve efficiency and reduce costs while simultaneously enhancing the quality and reliability of its products. Organizations use technology to become more efficient, more innovative, and better able to meet the needs and desires of stakeholders.

The rise of the Internet (electronic commerce (E-commerce)), since the advent of the World Wide Web (WWW), has provided an easy to use communication channel for businesses to contact current and potential customers. The emergence of the Internet as a general communication channel has also given rise to the possibility of widespread electronic commerce. Even though there is still much debate relating to electronic payment for commercial activities, this is clearly an area of growth.

It is difficult to say how large the Internet is. Hoffman & Novak (1996) quote a number of surveys (O'Reilly, FIND/SVP, Times Mirror and CommerceNet) which suggest that there are at least 10 million Internet users in the United States alone. The number of computers (hosts) connected to the Internet topped 9.47 million (Network Wizards, 1996) as of January 1996. Note that a single host supports anywhere from a single user to, in some cases, thousands of users.

As of March 21, 1996, 24,347 firms were listed in Open Market's (1996) directory of "Commercial Services on the Net," and there were 54,800 entries in the "Companies" directory of the Yahoo Guide to WWW (Yahoo, 1996), with the total number of Web sites doubling approximately every two months. Jim Clarke, the chairman of Netscape, estimated the Internet has 40 million users in 1995 with growth at 8% per month (Clarke, 1995). The Internet is only one aspect of technology. Businesses require information and supporting systems (processes) to handle the data - over time these

systems have become computerised hence IT. Modern information technology can both support the processes and help capture useful information for the enterprise.

#### **2.4 Organizational Response Strategies to Change**

Change has always been a feature of organizational life, though many argue that the frequency and magnitude of change are greater now than ever before (Burnes, 2004). Organizations develop response strategies for both planned and non planned change to manage challenges posed by the change. Planned change distinguishes change that is consciously embarked upon and planned by an organization, as averse to types of change that might come about by accident, by impulse or that might be forced onto an organization. Electronic trading system was planned change by NSE aimed at improving service delivery and efficiency of trade at the stock market. Three categories of change can be identified as *smooth incremental*, covering slow, systematic, evolutionary change; *bumpy incremental*, pertaining to periods where the smooth flow of change accelerates; and *discontinuous change*, which is similar to the punctuated equilibrium model (Burnes, 2004). Change can be seen as running along a continuum from small scale incremental change to large – scale and from operational to strategic. Planned change is considered suitable for relatively stable environments, while emergent change is better suited in more turbulent environments. Internal assessment of the firm's strengths versus weaknesses is necessary in preparing the organization to take advantage of opportunities and manage threats brought about by environmental changes. Some of the common response strategies adopted by organization include cost cutting, structural reorganizing and re-engineering, technological advancement, and right sizing. The NSE has adopted awareness creation to reduce implementation challenges of the electronic trading system.

#### **2.5 Diffusion of Innovation**

Rogers (1983) defined diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system. Rogers (1993) also suggested that diffusion patterns are influenced by characteristics of the

adopter and the influence of the opinion leaders. This resultant structuring of industry's associated with the development of inter-firm networks, that is, systems of relations between groups of firms that go beyond simple market exchanges and enable organizations to enter long - term contracting without the fear of opportunism. According to Rogers (1991, 1995), inter-firm networks occupy a position between the markets and hierarchies and therefore have a certain advantage in managing transaction costs.

Hannan and Freeman (1984) observed that, controlled change is problematic due to the unpredictability of future environmental states. The arguments of relative inertia and /or uncontrollability of organizational change imply that every match at a given point in time between the environment and organizational form can be considered as a series of selections from a number of options (Boone and Van Witteloostuijn, 1995). Langlois and Robertson (1995) have argued that the structure of the firm and the industry is affected by evolutionary change as firms are brought out from a series of routine processes and are put in a new framework that the environment has chosen to be optional for the present situation.

## **2.6 The Role of Stock Brokers**

Stock brokers are all registered as members of the NSE and licensed through the CMA. According to NSE (1998), 20 Stock brokerage firms are registered but only 18 of them are operational. At the NSE, Stock Brokers deal with each other as there is no division of labor. This is in contrast to the broker and jobber (or specialist) system which operates in London (or Wall Street). According to Munga (1974) Stock Brokers act as agents for their clients since they do not ordinarily deal in their own accounts. The Stock Brokers, through the NSE and CMA play an important role in the economy. The government has recognized the potential of this market to make long term capital available and to facilitate allocation of resources to corporations and industries (Sessional Paper No. 2). Through the selling and buying of shares, the Stock Brokers provide companies with facilities to raise capital, which can be used for expansion and other purposes. This further mobilizes savings among individuals and companies.

redistributes wealth, and improves corporate governance by having a wide and varied scope of ownership (NSE, 1998).

A study by Gharavi *et al.* (2004) in Australia's stock market showed that once businesses realized the strategic potential offered by the internet, some began experimenting with it. Stock Brokers adapted, by implementing the well known strategies of developing relationships specializing in the needs of particular niches and transforming themselves so that they met other needs of the customer. In this regard, several large brokerage houses saw the internet as a vehicle for disintermediation of smaller independent Stock Brokers as a way of gaining direct access to their clients and thereby reducing costs. These same large organizations realized that many of the functions they performed, like developing various finance related products, advising customers about stock options were not core to their business. These functions could be outsourced using the internet as a means of communication and electronic data interchange (Hareman, 1992; Chircu and Kauffman, 1999). While these actions robbed many small Stock Brokers of their business opportunities for those who could see them and hence variation in the industry.

The businesses that already provided the functions outsourced could expand by offering these services to the large organizations. Within each of the outsourced functions, businesses could offer a range of services from catering to specialty niches to being a general supplier.



## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Research Design**

The research design was a survey because data was collected from a cross section of Stock Broking firms at one point in time. Also a comparative analysis was done in line with the research objectives.

### **3.2 Population of Study**

The population of study comprised of active Stock Broking firms which currently are 18 in active practice, NSE (1998).

### **3.3 Data Collection**

Primary data was used. The research instrument for collecting the primary data was a questionnaire. The close - ended questions were constructed based on information gathered from literature review as well as information gathered from some of the members of the population of interest. A census was preferred because the number of the study units was small. The questionnaire consisted of three parts; Part A, B and C. Part A covered general information on Stock Broking firms, Part B covered the use of Electronic Trading System, while Part C covered Response Strategies used by Stock Broking firms to address implementation challenges of electronic trading system at the NSE. The respondents were Operations Managers.

### **3.4 Data Analysis**

The Data was analyzed using descriptive statistics such as percentages and arithmetic mean scores. Tables were the visual representations used to present the research findings.

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSIONS**

#### **4.1 Introduction**

This Chapter presents analysis and findings of the research as well as their possible interpretations. Out of the 18 Stock Broking firms, only 12 responded, representing 66.7% response rate.

#### **4.2 General Information**

The general information considered in this study included a number of permanent employees, age of the Stock Broking firms, and target market.

##### **4.2.1 Number of Permanent Employees**

As per table 1, the number of permanent employees varied from one firm to the other. The highest number of employees in a single firm was 120 while the lowest number was 12. The mean number of employees was 56. The number of permanent employees showed that Stock Broking firms were large enterprises with a diversified workforce in terms of background and experience.

**Table 1: Number of Permanent Employees**

Number of employees	Frequency	Percentage
Below 20	1	8.3
20 - 49	3	25
50 - 79	5	41.7
80 - 109	2	16.7
110 and above	1	8.3
Total	12	100

**4.2.2 Age of Stock Broking Firms****Table 2: Age of Stock Broking Firms**

Age (in years)	Frequency	Percentage
upto 5 yrs	0	0.0
5-9 yrs	1	8.3
10-14 yrs	2	16.7
15-19 yrs	2	16.7
20-24 yrs	3	25.0
25 yrs & above	4	33.3
Total	12	100.0

Table 2 above shows that one third (33.3%) of the Stock Broking firms were aged 25 years and above and only one firm (8.3%) was aged between 5 – 9 years. An equal representation (16.7%) was revealed in the number of firms aged between 10 – 14 years and 15 – 19 years. 58.3% of the firms had over 20 years in Stock Broking business. The results show that Stock Broking has been taking place in Kenya for over 25 years and that majority of the Stock Broking firms have many years experience in the business. Dyer and Blair Investment Bank, which was established in 1954, has over 50 years experience in stock broking business.

### 4.2.3: Target Market

Table 3: Target Market

Market category	Frequency	Percentage
Individual	3	25.0
Corporate	0	0.0
Both Individual and Corporate	9	75.0
Total	12	100.0

As shown in table 3 above, out of the twelve (12) respondents, 9 representing 75% of the population targeted both individual and corporate investors, while Stock Broking firms targeting individual investors alone were represented by 25%. There was no Stock Broking firm that targeted corporate investors only. These are consistent with the nature of Stock Broking in Kenya where both individual and corporate investors actively participate in investments.

### 4.2.4 Monthly Turnover in Sales

The results in table 4 below indicate that a majority of Stock Broking firms (91.7%) handle over five million shillings monthly and only one firm representing 8.3% handled between four to five million shillings monthly. The findings clearly demonstrate that Stock Broking is a big business in Kenya as also confirms why performance of the stock market is used as an indicator of economic growth and performance in Kenya.

Table 4: Monthly Turnover in Sales

Monthly turnover (Kshs)	Frequency	Percentage
less than 500,000	0	0.0
500,000 – 1,000,000	0	0.0
1,000,000- 2,000,000	0	0.0
2,000,000- 3,000,000	0	0.0
3,000,000- 4,000,000	1	8.3
5,000,000 and above	11	91.7
Total	12	100.0

### 4.3 Use of Electronic Trading System

As evidenced from table 5 below, all Stock Broking firms (100%) use electronic trading system, indicating that adoption of electronic trading by Stock Broking firms has been 100% successful. This shows that either the gains of digital trade or requirements of the CMA have influenced adoption of digital trade by the Stock Broking firms. The findings also show that diffusion of technology is fast among Stock Broking firms. Despite the earlier use of manual system by Stock Broking firms, the quick adoption of electronic trading system suggest that most firms had the necessary facilities such as computers and Internet facilities which were key requirements for adoption of the automated trading. In addition, the results are an indication that Stock Brokers had personnel who had the knowledge and capacity of converting to automated trading.

**Table 5: Use of Electronic Trading System**

Year of adoption	No. of firms	Percentage
2005	12	100
2006	0	0
2007	0	0

As contained in Table 5 and 6, all the Stock Broking firms have adopted the electronic trading system mainly in the year 2005. This was the year that electronic trading system was implemented by the NSE. The timing of adoption strongly indicates that Stock Broking firms were required by the regulatory bodies to switch from manual to automated trading and this was complied with.

**Table 6: Trading System Currently In Use by the Stock Broking Firms**

Trading system	Frequency	Percentage
Manual	0	0.0
Digital (Electronic Trading System)	12	100.0
Both manual and digital	0	0.0
Total	12	100.0

### 4.3.1 Benefits of Electronic Trading System

As shown in Table 6 above, all Stock Broking firms reported that they had benefited from electronic trading system. Increased turnover of business was reported by 65% of the respondents as being a major benefit of electronic trading system. This gain was attributed to the system's capability of enabling Stock Broking firms to handle increased number of clients. As compared to the previous manual trading system, the new trading system had enabled Stock Brokerage firms to handle hundreds of clients in a day. It was reported that the system had reduced the challenges of managing Initial Public Offer (IPO) significantly due to its ability to hasten the process, high level of accuracy and reliability. These benefits could contribute to increased clients' loyalty to particular Stock Broking firms.

It was revealed that electronic trading system had contributed to increased customer satisfaction. Respondents reported that adopting electronic trading system had reduced the number of customers' complaints by a great margin and that it had further achieved clients' satisfaction. Customer satisfaction is the bedrock of a firm's competitiveness and since electronic trading had increased the levels of customer satisfaction, it could reliably be argued that electronic trading system had improved Stock Broking firms' competitiveness. This finding concurs with literature in 2.2 above and Porter's arguments on the contribution of technology to a firm's competitive position in the market.

Many respondents (70%) reported that electronic trading system had helped to improve efficiency in the order of execution and was also time saving. This implied that investors could place orders and buy shares within a shorter time than expected. Other benefits mentioned by the respondents included improved transparency in trading. The system had drastically reduced cheating within the sub-sector. The reduction of costs of transacting business was also mentioned as a significant benefit of electronic trading. The above findings suggested that despite high installation costs, the digital trading technology could significantly reduce operational costs which in turn directly contributed to cost savings and higher profit margins for Stock Broking firms. The cost

advantage by Stock Broking firms could be used to improve the firm's competitiveness and increase customer attraction and loyalty when the cost saving gains were shared with the investors through reduced brokerage fees.

#### **4.3.2 Staff Computer Literacy**

Respondents were asked to indicate whether they had trained their staff on electronic trading system and all the Stock Broking firms (100%) reported that there existed staff training programme that was ongoing. The training had been systematically carried out beginning with senior managers and rolled down to junior staff. 75% of the respondents indicated that their staff was 100% computer literate while 25% reported that only 75% of their staff was not computer literate. The variations in staff computer literacy depended on the size of the Stock Broking firm, and physical and financial resources available. Firms with larger number of staff took a longer period as would be expected than those with lean staff to fully train their personnel on electronic trading system. Similarly, Stock Broking firms which had adequate computers and financial resources took a shorter time to take their staff through the training on electronic trading system, while firms which had inadequate computers and inadequate financial resources took longer to train their staff.

Computer literacy among members of staff was seen as a major milestone towards improving service provision, increasing competitive position of the firm and reducing employee redundancy. Consequently, all firms had embarked on a continuous staff training program aimed at imparting new skills within the members of staff and improving the skills which employees had in relation to electronic trading.

#### **4.3.3 Electronic Trading System Implementation Challenges**

The new technology of electronic trading came with a number of challenges during the implementation phases. The challenges were dichotomized into clients' based and organizational based.

Clients' based challenges included suspicion by investors that Stock Broking firms would manipulate the system to the firms' advantage. This slowed down investors' interest since most of them were not computer literate and did not understand how trade could remain transparent without controlling it in the advent of high technology digital age where fraud was inevitable. This made it very difficult for Stock Broking firms to sensitise investors that their orders were executed by the system without any form of manipulation and that the system would enable them buy low and sell high. The semi and illiterate investors had also initially resisted the system as they trusted the certificate as a tangible title rather than holding a CDS account as evidence of equity ownership. This perception had persisted to date by several investors clinging on their share certificates.

Organizational based challenges included internal system incompatibility to the central automated system. Internal systems of most Stock Broking firms were not compatible with the new electronic trading system thereby posing interfacing challenges. In addition, there was confusion among majority of Stock Broking firms as a result of direct changeover. The changeover was quick without adequate provision of time given to Stock Brokers to make the necessary adjustments in readiness for electronic trading.

The high cost of implementation slowed down the pace of adoption of the electronic trading system since most Stock Broking firms had to procure hardware with high processing speed as much as to install compatible software that were pricey. In addition, installation costs associated with internet facilities were high, creating implementation challenges. The high cost of staff training further made implementation challenging since most Stock Broking firms were not prepared for the radical changes.

25 % of the respondents mentioned culture change as an implementation challenge to electronic trading system. Firms found it difficult to change employees' culture in favor of electronic trading. Since some employees lacked the requisite skills necessary for operating the system, there was fear of redundancy. This fear created slight resistance to adoption of electronic trading system. Internal challenges experienced by Stock Broking



firms included system failure. The system is internet based and slow speed or failure of the internet results to system failure. The system also failed to indicate the time when the order was executed. External challenges to automated trading system experienced by Stock Broking firms included investor belief that there existed room for manipulation by Stock Broking firms using the electronic trading system.

#### **4.4 Response Strategies used by Stock Broking Firms**

The study found that Stock Broking firms were using a number of strategies to respond to both internal and external challenges to electronic trading. These strategies are discussed in the following sections:

##### **4.4.1 Strategies used by Stock Broking Firms to respond to Internal Challenges to Electronic Trading System**

Most respondents were continuously upgrading their internal systems to reduce and manage internal challenges to electronic trading system. This has been and continues to be done through constant modification of the internal system. Purchase and installation of the latest computers with high processing speed was also used by Stock Broking firms to respond to internal challenges to electronic trading. Stock Broking firms now had staff training programmes aimed at up scaling computer skills possessed by employees and also geared towards introducing new and better skills to the workforce. Whereas these strategies had been put in place by Stock Broking firms, their success had only been to a moderate extent. No respondent mentioned that the strategies implemented had been successful to a large extent. This implied that in addition to existing response strategies, Stock Broking firms needed to identify superior response strategies to internal challenges.

##### **4.4.2 Strategies used by Stock Broking Firms to respond to External Challenges to Electronic Trading System**

Investors' education was a major response strategy used by Stock Broking firms to respond to external challenges to electronic trading system. This had been implemented through sharing information with clients through mass media, internet, email etc. A

number of Stock Brokers had also installed screens which demonstrated to investors how trade was being conducted at the NSE at any particular time. The screens showed bids and offer prices; this was intended to eradicate investor suspicion and, improve transparency in Stock Broking business. An open ended question was posed seeking to assess the extent of success of response strategies used by Stock Broking firms to respond to external challenges faced by Stock Broking firms and it was revealed that investor education through the mass media and installed screens had been successful to a great extent.

Stock Broking firms such as Dyer and Blair Investment Bank, which had installed these screens, had recommended to NSE to ensure that all Stock Broking firms install screens and TVs in their offices to demonstrate to visiting investors what was happening in the market at any one particular time.

To improve adoption of electronic trading system, it was found that CMA and NSE needed to carry out thorough training of investors and Stock Brokers on electronic trading. CMA and NSE also needed to post weekly bulletins on their websites with information on electronic trading system. Other Stock Broking firms were of the view that CMA should license non Stock Brokers (agents) to the automated system to enhance adoption of electronic trading system.

#### **4.5 Information and Communication Technology (ICT) Policy Gaps**

Respondents' views were divided on whether there existed policy gaps in the implementation of the new electronic trading system. 42% of the respondents were of the opinion that there was no policy gap, whereas 58% of those interviewed said that there existed ICT policy gaps. However, firms which observed that there existed policy gaps could not verify their information or identify the specific ICT policy gaps. Respondents felt that the Government needed to formulate policies that would reduce tax charged on Stock Broking firms to enable faster adoption of electronic trading.

Respondents also observed that the Government needed to formulate policies which enhanced transparency in trading and which improved ICT infrastructure

To reduce costs associated with implementation and use of electronic trading, respondents observed that there should be a universal system to all the Stock Brokers. Sharing information with the investors through seminars, staff retention and increased investment products were identified as tactics that Stock Broking firms should use to enhance their competitiveness.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This Chapter presents a summary of the findings of the study as well as conclusion gathered from analysis of the data. Findings have been summarized alongside the objectives of the study, conclusions have been drawn and recommendations given.

#### **5.2 Summary of Findings**

From the study findings, it was found that majority of respondents had implemented staff training programme to impart new skills to employees of the Stock Broking firms. Most Stock Broking firms were continuously modifying their internal systems so as to improve compliance with the automated system. Purchase and installation of computers with higher processing speed is also used as a response strategy to implementation challenges. Firms have further embarked on investor education to eradicate investors' suspicion about electronic trading system. Brokers that had installed screens showing how trade was conducted argue that it is a very successful strategy in handling external challenges to electronic trading.

#### **5.3 Conclusion**

From the findings and discussions above, it is evident based on the extent of success that most Stock Brokers lacked good strategies to address internal challenges to address electronic trading system. However, the strategies employed in handling external implementation challenges of the electronic trading have been successful to a large extent.

#### **5.4 Recommendations**

From the study findings, it is clear that most Stock Broking firms are not aware of policy gaps which may restrain their efficient operations. It is recommended that Stock Broking firms engage the services of strategy specialists to enable them undertake thorough environmental scanning and the eventual formulation, implementation and control of strategy. It is further recommended that Stock Broking firms need to lobby for policy formulation such as zero tax on computer hardware and software to reduce the implementation and operational costs of their business. The study recommends that future studies be carried out on policy gaps which impede operations of Stock Broking firms. A study similar to the current one may also be carried out in other industries such as the manufacturing sector.

#### **5.5 Limitations of the Study**

The low response rate limited the generalizability of the findings. Had all Stock Broking firms responded, the results would have been different. Lack of awareness of policy issues by Stock Broking firms was also a limitation to the findings because no specific policy gaps were identified.

## REFERENCES

- Andrews, D., Haborg, A., and Rose, C. (2001), **Marketing Principles and Practice**, Pearson Education, U.K.
- Baum, J.A.C and Korn, H.J (1996), "Competitive Dynamics of interfirm rivalry", **Academy of Management Journal**. Vol.39. No. 2 pp 255 – 91
- Bernard Burnes (2004), **Managing Change**, 4<sup>th</sup> ed. Prentice – Hall
- Boone, C. and Van Witteloostuijin, A (1995), "Industrial organizations and organizational ecology: the potential for cross fertilization", **Organizational Studies**. Vol.16. No. 2, pp 265 – 98
- Chandler Alfred R. (1962), **Strategy and Structure**. M.I.T. Press.
- Chircu, A.M and Kauffman, R.I. (1999), "Strategies for internet middlemen in the intermediation/ disintermediation/ reintermediation cycle", **The International Journal of Electronic Commerce and Business media**. Vol. 9. No. 2, pp 109 – 17
- Fujan Lai, Xiande Zhao and Qiang Wang (2006), "The impact of information technology on the competitive advantage of logistics firms in China", **Industrial Management and Data Systems**. Vol. 106, No. 9 pp. 1249 - 1271
- Gareth, R Jones (2004), **Organization Theory, Design, and Change**. 4<sup>th</sup> ed. Pearson – Prentice hall
- Gerry Johnson and Kevin Scholes (2002), **Exploring corporate strategy**, 6<sup>th</sup> ed. Prentice Hall Inc.

**GOK, (1996), Industrial Transformation to the year 2020, Sessional Paper No. 2**

**Haveman, H.A. (1992), "Between Rock and hard place: Organizational change and performance under conditions of fundamental organizational uncertainty". *Administrative Science Quarterly*, Vol. 37, No. 1, pp 48 - 75**

**Hosein Gharavi, Peter, E.D Love and Eddie, W.L. Cheng (2004), "Information and communication technology in the stockbroking industry: An evolutionary approach to the diffusion of innovation", *Industrial Management and Data Systems*. Vol.104, No. 9, pp 756 - 765**

**Johnstone, H R. and Vitale, M R. (1988), "Creating competitive advantage with interorganizational information systems", *MIS Quarterly*, Vol. 12, No. 2 pp 153 - 65**

**Kasinga, S.. (2001). *Strategy Practices of Stock Brokers In Kenya*, Unpublished MBA Research Project, School of Business, University of Nairobi.**

**Kimunya, J., (1999), *Impediments to the growth of the Nairobi Stock Exchange*, IPAR Discussion Paper, DP No. 018/ 99**

**Kotler Philip and Keller Kevin Lane (2007), *Marketing Management*. Pearson Prentice - Hall. 8<sup>th</sup> edition.**

**Langlios, R.N. and Robertson, P.L. (1995), *Firms, markets and economic change*, Routledge, London**

**Mulema, N (2003). *Responses to changes in the external environment in the service industry. A case study of Teachers Service Commission*. Unpublished MBA Research Project, School of Business, University of Nairobi.**

Munga, D. N., (1974), **The Nairobi Stock Exchange, Its History, Organization and Role In the Kenyan Economy**. Unpublished MBA thesis, University of Nairobi

Nairobi Stock Exchange Limited (2007), **Market Fact File**.

Nairobi Stock Exchange, (1998), **Handbook**

Porter, M.E., (1980), **Competitive Strategy**. The Free Press, New York.

Rogers, E.M. (1983), **Diffusion of Innovation**, 3<sup>rd</sup> ed. The Free Press, New York, N.Y.

Rogers, E.M. (1991), "The critical mass in the diffusion of interactive technologies in organizations", in Kraemer, K.L. (Ed), "The information systems research challenge: Survey research methods. Vol. 3, **Harvard School Research Colloquium**, Boston, M.A. pp. 245 – 71

Rogers, E.M. (1995), **Diffusion of Innovation**, 4<sup>th</sup> ed. The Free Press, New York, N.Y.

Shankar, G.D. (2003), "Impact of e – business in stockbroking (accessed 2003)

Wood, C. M., (2003), Marketing and e – commerce as tools of development in the Asia – Pacific region: a dual path. **International Marketing Review**, Vol. 21, No. 3

[www.cma.or.ke](http://www.cma.or.ke) (accessed on August 22, 2007)



## APPENDIX I

### LETTER OF INTRODUCTION

University of Nairobi,  
School of Business,  
P.O. BOX 30197,  
Nairobi.

*Insert date*

Dear Respondent,

#### **RE: COLLECTION OF RESEARCH DATA**

I am a postgraduate student in the above mentioned University undertaking a Management Research Project on “**Response Strategies to Challenges posed by electronic trading system at the Nairobi Stock Exchange: A survey of Stock Broking Firms.**”.

You have been selected to form part of this study. You are kindly requested to assist in data collection by responding to the questions in the accompanying Questionnaire. The information provided will exclusively be used for academic purposes only and will be treated with utmost confidence.

You will also be provided with a copy of the final report upon your request.

Your cooperation is highly appreciated.

Yours faithfully,

Damaris A. Angulu.

## APPENDIX II

### QUESTIONNAIRE

RESEARCH TOPIC: RESPONSE STRATEGIES TO CHALLENGES POSED BY ELECTRONIC TRADING SYSTEM AT THE NAIROBI STOCK EXCHANGE: A SURVEY OF THE STOCK BROKING FIRMS.

Tick Where Applicable

#### PART A: STOCK BROKING FIRMS' GENERAL INFORMATION:

1. Name of the firm .....
2. Number of Permanent employees.....
3. How old is the firm?
  - (a) Less than 5 yrs.
  - (b) 5 - 9 Years
  - (c) 10 - 14 Yrs.
  - (d) 15 - 19 Years
  - (e) 20 - 24 Years
  - (f) 25 Yrs and above
4. What is your target market?
  - (a) Individual investors
  - (b) Corporate investors
  - (c) Both corporate and individual investors
5. Monthly turnover in sales (in K.sh.)
  - (a) Less than 500,000
  - (b) 500,000 - 1,000,000
  - (c) 1,000,000 - 2,000,000
  - (d) 2,000,000 - 3,000,000
  - (e) 3,000,000 - 4,000,000
  - (f) 5,000,000 and above

## PART B: USE OF ELECTRONIC TRADING SYSTEM

6. Which trading system do you currently use?

- (a) Manual  (b) Digital (Electronic Trading System)  (c) Both

7. When did your firm adopt electronic trading system?

- (a) 2007 (b) 2006  (c) 2005  (d) 2004

8. What are some of the benefits your firm has gained from electronic trading?

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.....  
.....  
.....

9. Do you have a staff training programme on electronic trading system?

- (a) Yes  (b) No

10. What proportion of your staff is computer literate?

- (a) 0%  (b) 25%  (c) 50%  (c) 75%  (d) 100%

11. What are the challenges that your firm has experienced when implementing the electronic trading system?

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## SECTION C: RESPONSE STRATEGIES USED BY STOCK BROKING FIRMS

12. What are the internal challenges to electronic trading faced by your firm?

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13. What are external challenges to electronic trading faced by your firm?

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14. What strategies are being used by your firm to respond to the internal challenges (specified in Q.13 above ) to electronic trading by your firm?

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.....  
.....  
.....

15. To what extent have the strategies mentioned in Q. 14 above been successful in addressing implementation challenges to electronic trading?

*(Tick where appropriate).*

- (a) To a great extent
- (b) To a moderate extent
- (c) To a small extend
- (d) Not at all

16. What strategies are used by your firm to respond to external challenges to electronic trading?

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17. To what extent have the strategies mentioned in Q. 16 above been successful in addressing implementation challenges of electronic trading?

*(explain the extent to which each of the mentioned strategy has been successful).*

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18. What do you think the Nairobi Stock Exchange should do to enhance better use of electronic trading by Stock Broking firms?

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19. What strategies should the Capital Markets Authority use to improve higher adoption of electronic trading by stock brokers and investors?

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.....

20. Are there any Information and Communication Technology policy gaps which hinder speedy implementation of electronic trading in the stock market?

(a) Yes  (b) No

21. Mention any policy gaps in ICT which hinder speedy implementation of electronic trading in the stock market.

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22. Which policies should the Government of Kenya formulate and implement to enable faster adoption of electronic trading in the stock market?

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23. What do you recommend Stock Broking firms should do to cut down costs associated with implementation and use of electronic trading system?

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24. What tactics should the Stock Broking firms use to enhance their competitiveness in the stock exchange business?

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***Thank you very much for your time and cooperation.***

## **APPENDIX III**

### **LIST OF REGISTERED STOCK BROKERS**

1. CFC Financial Services Limited
2. Ashbhu Securities Limited
3. Crossfield Securities Limited
4. Dyer & Blair Investment Bank Limited
5. Francis Drummond & Co. Limited
6. Kestrel Capital (East Africa) Limited
7. Nyaga Stockbrokers Limited
8. Standard Investment Bank Limited
9. Suntra Investment Bank Limited
10. African Alliance Investment Bank Limited
11. Apex Africa Investment Bank Limited
12. Discount Securities Limited
13. Faida Securities Limited
14. Ngenye Kariuki & Co. Limited
15. Reliable Securities Limited
16. Sterling Securities Limited
17. Solid Investments Securities Limited
18. Renaissance Capital