

**THE EFFECT OF CROSS LISTING ON THE LIQUIDITY OF SHARES
LISTED ON THE NAIROBI SECURITIES EXCHANGE**

BY

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DECLARATION

This research project is my original work and has not been presented for the award of any other degree in a university.

Signature.....

Date.....

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D61/63359/2011

This research project has been presented for examination with my approval as the university supervisor.

Signature Date

Dr. Sifunjo E. Kisaka

DEDICATION

I dedicate this research project to my ageing parents Mr. and Mrs. Areba and all my family members for their encouragement to me in my studies.

ACKNOWLEDGEMENT

I thank the almighty God for His wonderful wisdom granted to me throughout the entire study. I also give my special thanks to my supervisor Dr. Sifunjo for taking time to guide me in writing this project. My appreciation also goes to all my family members who also contributed in one way or the other to ensure that I was able to carry out this research.

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LIST OF ABBREVIATIONS

- ATS – Automatic Trading System
- CDS – Central Depository System
- CMA – Capital Markets Authority
- CMDC – Capital Markets Development Committee
- CMSA - Capital Markets and Securities Authority
- DSE – Dar Es Salaam Stock Exchange
- EAC – East Africa Community
- EASBA – East African Stock Exchange Brokers Association
- EASEA – East African Stock Exchanges Association
- EASRA – East African Securities Regulatory Association
- IPO – Initial Public Offer
- JSE – Johannesburg Securities Exchange
- NSE – Nairobi Securities Exchange
- NSX – Namibia Stock Exchange
- ROTCE–Rwanda Over The Counter Trading Exchange
- RSE – Rwanda Stock Exchange
- USE – Uganda Stock Exchange

ABSTRACT

For a company that is already listed on an exchange, an alternative route is to cross list. Cross listing is where a firm lists its shares for trading on at least two stock exchanges located in different countries. Listing of a company's equity in foreign markets brings the opportunity to enhance corporate image, advertise trademarks and products, get better local press coverage, and become more familiar with the local financial community in order to raise working capital locally, establish a secondary market for shares used to acquire other firms in the host markets. The purpose of this study was to establish the effect of cross listing on liquidity.

The study adopted a descriptive research design and secondary data was collected for 4 Kenyan companies that are cross listed in other security exchange markets in East Africa. Regression and correlation analysis were used to establish the effect in terms of nature and magnitude.

The findings from the study indicated that cross listing explains 62.2% of the variance on share liquidity among the cross listed companies in Kenya. It was also clear that there exists a moderate positive correlation between the price of cross listed shares and the volume of the share that are traded at the securities market.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Listing of a company's equity in foreign markets brings the opportunity to enhance corporate image, advertise trademarks and products, get better local press coverage, and become more familiar with the local financial community in order to raise working capital locally, establish a secondary market for shares used to acquire other firms in the host markets, i.e. companies offer their shares as partial payment and it is considerably more attractive if those shares have a liquid secondary market. When firms cross list and sell their shares in a foreign market, they aim to accrue some of the benefits as observed by Romana (2006), which include improving the liquidity of its existing shares and support a liquid secondary market for new equity issues in foreign markets. Firms from countries with small illiquid capital markets often outgrow those markets and are forced to raise new equity abroad. In order to maximize liquidity, the firm ideally should cross-list and issue equity in a more liquid market, secondly firms will cross list to increase its share price by overcoming mispricing in a segmented and illiquid home capital market, thirdly is to increase the firm's visibility and political acceptance to its customers, suppliers, creditors, and host governments Romana (2006).

The main purpose of listing is because many companies depend on equity capital to finance their businesses. A company will raise equity capital through the sale of stock by issuing shares to the public by listing the shares on a stock exchange through an initial public offer (IPO). Through an IPO a company will be valued and an opening price will be set for its shares. The amount of capital that can be raised through the IPO will depend on perceived value of the shares and also on how much interest there

is in the shares when they are issued. An IPO will offer a company that has reached a certain size and has a strong reputation, a good route to raising a large sum of capital that will enable it to expand or invest in assets that will enable it to grow in the future. Another advantage of going public is that it results in share liquidity. Shares are considered liquid if they can be easily converted into cash. An IPO leads to share liquidity because, thereafter, the company's shares will trade on a public market, in this case the NSE.

1.1.1 Cross listing

For a company that is already listed on an exchange, an alternative route is to cross list. Cross listing is where a firm lists its shares for trading on at least two stock exchanges located in different countries, it has gained significance over the past few years since the signing of the East Africa Community treaty in 1999. The geography of cross listing has changed considerably with Nation Media Group, Kenya Airways, Kenya Commercial Bank, Jubilee Holdings, Equity Bank and East African Breweries, which are Kenyan firms, listing in Uganda, Tanzania and Rwanda (Mwanza, 2006).

According to Onyuma et al. (2012) Cross border listing in East Africa has been used by regionally recognized firms such as, Kenya Airways and East African Breweries Limited to increase their visibility and distinguish themselves from others. However this trend has changed with more firms cross listing such as Nation Media Group and Equity Bank which are cross listed in the Dar es Salaam Stock Exchange and Uganda Stock Exchange respectively citing more monetary and non-monetary benefits that will accrue to them if they cross list in the EAC market.

The EAC is the regional inter governmental organization of the Republics of Kenya, Uganda, the United Republic of Tanzania, Republic of Rwanda and Republic of

Burundi with its headquarters in Arusha, Tanzania. The treaty of establishment of the East African Community (EAC) was signed on November 1999 and entered into force on 7th July 2000 following its ratification by the original three partner states, Kenya, Uganda and Tanzania. The Republic of Rwanda and Republic of Burundi acceded to the EAC treaty on 18th June 2007 and became full members with effect from 1st July 2007.

The EAC market currently has four securities exchanges which include the NSE, USE, DSE and Rwanda Stock Exchange. The NSE is the largest securities exchange in East Africa as discussed earlier. The DSE is the second largest securities exchange in EAC which was incorporated in September 1996 and trading started in April 1998. Trading takes place weekly from Monday to Friday between 10:00 am and 12:00 noon. It is monitored and supervised by the Capital Markets and Securities Authority (CMSA). There are currently five firms cross listed from the NSE to the DSE; Nation Media Group, Kenya Airways, Kenya Commercial Bank, Jubilee Holdings, and East African Breweries.

The third securities exchange in the EAC is the USE founded in June 1997. It is operated under the jurisdiction of Uganda's CMA which in return reports to the Bank of Uganda. The exchange's doors opened for trading in 1998 and trading occurs Monday to Friday. There are currently 14 listings, seven of which are cross listed from the NSE.

1.1.2 Share liquidity

Liquidity refers to the ease of dealing in a security whether shares, options, warrants or some other instrument and turning them into cash. It can also refer to how easily shares can be bought and sold without significantly distorting the price. There a

number of different reasons as to why firms cross list from the domestic market according to Rosenboom and Van Dijk (2009), which include market liquidity where cross listing on deeper and more liquid equity markets could lead to an increase in the liquidity of the stock and a decrease in the cost of capital.

Liquidity is seen as a major motivator for firms to cross list. This is because before cross listing the firm has to contend with the liquidity in the home market which may not satisfy the firm's financing needs. Mittoo (1992) indicates that managers of overseas companies indeed cite increased liquidity through increase in traded volume as a primary factor in their decision to list in the U.S.; this is no different in the EAC market. With mass cross listing taking place in East Africa cross listing firms will be interested to know whether they will achieve this objective by cross listing.

1.1.3 Effects of Cross Listing on Share Liquidity

The reason why so many firms list their shares for trading on more than one stock exchange is a segmentation of capital markets. According to Moffett et al. (2003), national capital market is segmented if the required rate of return of securities in that market differs from the required rate of return of comparable expected return and risk that are traded on other national securities markets. Segmentation is a market imperfection and occurs because of information asymmetry, taxes, high securities transactions costs, foreign exchange risks, political risks and regulatory barriers. As per the above mentioned definition, the degree of market segmentation has an influence on a firm's marginal cost of capital and therefore affects the decision on the location of share listings as well as share liquidity.

Shares listed in the NSE may become illiquid after trading for some time in the home market, the firms cross list in other markets in the EAC to try to make their shares more liquid and attract new investors. Increasing trading volume to improve share liquidity is considered one of the main motivations for firms to cross list. This suggests that before cross listing, the firm's ability to raise funds is limited by the liquidity available in its primary market which may not satisfy the firms need for external financing.

1.1.4 Cross Border Listing in Kenya

In Kenya, there are many companies that have achieved cross listing of their equity in the East African security markets such as Uganda, Tanzania and recently Rwanda. The Nairobi Securities Exchange (NSE) offers a platform for companies to list their shares in Kenya. The NSE was formed in 1954 and is one of the most active capital markets in Africa and the fourth largest sub-Saharan Africa security exchange with 58 listed companies and 24 brokerage firms. Trading takes place on Mondays through Fridays between 10.00 am and 3.00 pm. NSE was a regional security market up to 1972 when it lost its regional character following the nationalization, exchange control and other inter-territorial restrictions introduced in neighboring Tanzania and Uganda. Currently the ceiling on foreign investments is 40% for institutions and 5% for individuals Mwanza (2006). The security exchange was characterized by low activity until the 1990's. The most spectacular performance was exhibited in 1994 when the turnover rose by 620% from Kshs 378 million in 1992 to Kshs 2.7 billion in 1994. Over the same period, the traded volume increased by 180% from 15.3 million shares to 42.8 million shares. Due to share price appreciation, market capitalization surged from Ksh. 25 billion to Ksh. 137 billion during the period, (Mbaru, 2007). Over the last 5 years, turnover at the NSE has grown phenomenally from Sh2.9 billion

in 2002 to Sh95 billion in 2006 while the number of CDS accounts that have been opened have in the last 2 years increased from 80,000 in 2005 to over 1,000,000 investors to date (www.nse.co.ke).

The NSE is regulated by the capital Markets Authority (CMA) under the jurisdiction of the ministry of Finance. CMA strives to ensure that companies disclose to investors all they need to know before admitting them to the bourse and on a continuous basis after listing and has the following as its goals; to achieve a large and efficient capital market, allowing for wider diversification of risks and greater and more efficient allocation of resources, develop adequate regulations that provide the market with freedom for development and help protect investors and markets from financial fraud and crimes, to develop a deep and vibrant capital market through education of investors.

CMA also stresses on good corporate governance to influence entry of investors into the capital markets as this gives investors confidence. It introduced an Automated Trading System (ATS) in 2006 which ensures that orders are matched automatically and are executed on a first come first serve basis. Delivery and settlement is done script less via an electronic Central Depository System (CDS) which was introduced in 2005. Seven (7) firms have cross listed from the NSE to other markets in the region. Listing on NSE provides qualifying companies with the broadest access to investors, greatest market depth and liquidity, cost-effective access to capital, highest visibility, fairest pricing, and investor benefit

The RSE is the youngest stock exchange in the region and opened doors for business on 31st January 2011 succeeding from the operations of the Rwanda over the Counter exchange (ROTCE) opened in January 2008. There are currently 2 firms cross listed

from the NSE; Nation media Group and Kenya Commercial Bank in 2009 and 2010 respectively (Onyuma et al, 2012). The integration of East African Stocks has eased and encouraged firms to cross list in the region which will be finalized once the appropriate regulatory framework is in place. The markets in the region aim to facilitate the availability of listed securities in the four markets and cross listing is seen as a key activity to achieving this objective.

1.2 Problem Statement

During the last two decades there has been acceleration towards financial globalization represented by an increase in cross-country foreign assets. This has been the consequence of the international liberalization of capital flows as well as of the technological progress. These developments have seen the reduction of barriers among individual national capital markets even though the geographical aspect still remains relevant. Obstacles to international capital flows such as legal restrictions and costs associated with trading and acquiring information on firms listed abroad still exist. These barriers are creating incentives for corporate managers to adopt financial policies such as international cross-listing, whereby a firm lists its shares for trading on at least two stock exchanges located in different countries.

Kenya has also not been left out in this development. Firms in Kenya have been increasingly cross-listing in the USE, DSE and RSE such as the Nation Media Group, Kenya Airways, Kenya Commercial Bank, Jubilee Holdings, Equity Bank and East African Breweries where they hope to attract investors from the region and also enjoy other benefits associated with cross-listing. A study carried out by Roman (2006) on the effects of cross-border listings on the development of emerging markets in the Czech Republic, established that cross listings could be the necessary incentive for

future development of the Czech capital market. Another study by Melvin and Tonone (2003) confirmed that international cross listing gives firms a competitive advantage over rivals. Onyuma, Mugo and Kuraiya (2012) indicated that cross border listing sought to improve financial performance of cross listing firms.

Whereas evidence exists on the effect of cross border listing on financial performance and firm value, there is scanty literature on how cross border listing may affect market fundamentals of the cross listing firm. This study therefore was done to determine whether cross border listing affects the share liquidity of a cross border listed firm. The study sought answers to the following question: what is the effect of cross border listing on share liquidity of firms listed in the NSE that have cross listed in the EAC market?

1.3 Objective of the Study

To determine the effects of cross border listing on share liquidity of firms listed in the Nairobi Stock Exchange that have cross listed in the East African Community market.

1.4 Value of the study

The findings of this study was useful to managers and shareholders of firms already cross listed in East Africa and also those that wish to cross list to know whether cross border listing affected on the liquidity of their stock and if that effect helped the firm achieve it's liquidity goals for cross listing.

The study also bridged the knowledge gap on effect of cross border listing on the liquidity of stock. It was be useful to future researchers as it formed part of their empirical literature on cross border listing.

Competitors are keen to know the rationale behind a particular firm's decision to cross list. This is important in order for them to compete effectively if they can access the advantages that a cross listed competitor enjoys.

The study also provided useful information to the East Africa market's stock exchange regulators that could enable them formulate policies that could lead to greater capital market integration within the region. Well-formulated policies could effectively create more conducive investment atmosphere for both investors and listed firms.

Finance directors and corporate treasurers need information to explain changes in their competitors' agility, profitability and value. Since cross listing affects these variables positively, then it was an incentive for other firms to cross list.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter the relevant literature on cross border listing which has been growing at a fast rate will be reviewed to better understand the research objectives and to establish research gaps. Section 2.2 presents theories that support listing or trading in stocks; section 2.3 examines the empirical review; cross listing of stocks, share liquidity, a relationship between cross listing and share liquidity; 2.4 presents cross listing in Africa and 2.5 a summary of the entire chapter.

2.2 Theoretical Review

There are a number of theories that seek to explain the relationship between cross listing of stocks and liquidity. This study will focus on three main theories that are relevant. These theories explain why investors engage in purchase and sale of shares and stocks. The theories include: the efficient markets theory that talks of information efficiency; the behavioral finance theory which suggests that investment market returns are believed to follow a random walk pattern and the greater fool theory that suggest that investors purchase stocks with the hope that they will sell them at a higher price to a “greater fool”.

2.2.1 The Efficient Markets Theory

The efficient market hypothesis is one of the most. The origins of the EMH can be traced back to the work of two individuals in the 1960s: Fama and Samuelson. Remarkably, they independently developed the same basic notion of market efficiency from two rather different research agendas. These differences would propel

them along two distinct trajectories leading to several other breakthroughs and milestones, all originating from their point of intersection, the EMH.

The EMH was first given form by Samuelson (1965), whose contribution is neatly summarized by his article. In an informationally efficient market, price changes must be unforecastable if they are properly anticipated, that is, if they fully incorporate the information and expectations of all market participants. Having developed a series of linear-programming solutions to spatial pricing models with no uncertainty, Samuelson came upon the idea of efficient markets through his interest in temporal pricing models of storable commodities that are harvested and subject to decay. Samuelson's abiding interest in the mechanics and kinematics of prices, with and without uncertainty, led him and his students to several fruitful research agendas including solutions for the dynamic asset allocation and consumption-savings problem, the fallacy of time diversification and log optimal investment policies, warrant and option-pricing analysis and, ultimately, the Black and Scholes (1973) and Merton (1973) option-pricing models.

The EMH's concept of informational efficiency suggests that the more efficient the market, the more random the sequence of price changes generated by such a market, and the most efficient market of all is one in which price changes are completely random and unpredictable. This is not an accident of nature, but is in fact the direct result of many active market participants attempting to profit from their information Black and Scholes (1973). Driven by profit opportunities, an army of investors pounce on even the smallest informational advantages at their disposal, and in doing so they incorporate their information into market prices and quickly eliminate the profit opportunities that first motivated their trades. If this occurs instantaneously,

which it must in an idealized world of ‘frictionless’ markets and costless trading, then prices must always fully reflect all available information. Therefore, no profits can be garnered from information-based trading because such profits must have already been captured.

2.2.2 The Behavioral Finance Theory

The models within the traditional finance paradigm assume that investors act rationally and consider all available information in the decision-making process. Hence, investment markets are efficient and security prices reflect the true intrinsic values of the assets. That investors act promptly to new information and update prices correctly within a normatively acceptable process. Investment market returns are believed to follow a random walk pattern; hence considered not predictable. Underlying all these is the theory of arbitrage, which suggests that rational investors undo price deviation away from the fundamental, values quickly and maintain market equilibrium. As such, ‘prices are right’ reflecting all available information and there is no ‘free lunch’: no investment strategy can earn excess risk-free rate of return greater than that warranted by its risk (Fama, 1965).

The Modern Portfolio Theory (MPT), Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT) are the quantitative models that underpin the rational expectations based theories (Markowitz, 1955; Sharpe, 1964; Ross, 1976). Unfortunately, there is a large amount of research which could not confirm this theory in the available investment data. For example, Fama and French, (1993, 1996) and others have shown that the basic facts about the aggregate stock market, the cross-section average returns and individual trading behaviour are not easily understood in this framework. As such, the behavioural finance paradigm has emerged in the

response to the difficulties faced by the traditional paradigm. In essence, it argues that investment choices are not always made on the basis of full rationality, and it attempts to understand the investment market phenomena by relaxing the two doctrines of the traditional paradigm, that is, agents fail to update their beliefs correctly and there is a systematic deviation from the normative process in making investment choices.

2.2.3 The Greater Fool Theory

The bigger fool theory or greater fool theory (also called survivor investing) is the belief held by one who makes a questionable investment with the assumption that they will be able to sell it later to a bigger fool; in other words, buying something not because one believes that it is worth the price, but rather because it will be sold to someone else for an even higher price. It might be on some occasions a valid method of making money in the stock market however, the market participants eventually realize that the price level is too outrageous and the speculative pops (Markowitz, 1995). The bigger fool theory relies on market optimism concerning a particular stock, an industry, or the market as a whole. The opposite of the bigger fool theory is value investing, which tries to discount market psychology. Value investors such as Warren Buffett believe that it is corporate profits which are the normal returns from stock investments, and any higher return is only possible due to the bigger fool theory. The bigger fool theory holds for any pure value transaction, not just speculative ones. When a commodity with a universal value is traded then, no matter how the situation is interpreted, either the seller or the buyer has made a mistake.

2.3 Empirical Review

2.3.1 Reasons for Cross Border Listing

Firms will cross list for different reasons as shown by available literature. D'Souza et al. (2005) observed that firms will cross list for various reasons such as; to gain liquidity and avoid cross border barriers of investment, to have access to capital from another market and also bond themselves to markets with stronger shareholder protection. Investor protection is poor in many countries as shown by La Porta et al. (1998) which carries significant economic consequences such as low external finance, share prices and under developed financial markets. This motivates firms in markets with poor investor protection to cross list in other markets which bonds them to better investor protection (Stulz, 1999). Reese and Weisbach (2002) note that firms from countries with weak investor protection regimes are more likely to cross-list in the US, while firms that have a large controlling shareholder are less likely to cross-list (Dojidge et al., 2006).

With Kenya having weak investor protection laws Kenyan firms will cross list in markets that have better investor protection such as Rwanda which has best economy in terms of investor protection in the region. Onyuma et al. (2012) notes that cross listing is also beneficial for the firm and country of secondary listing. In addition to increasing stock market liquidity, cross listing also; provides an avenue for portfolio diversification for a wider investor base, improves employment levels through gains from the expansion in operations in the country of secondary listing, enhances both the business reputation of the cross listed firm and other national listed firms, reduces spreads on interest rates and debt securities by increasing the number of investors in the stock market thereby reducing the concentration of investors in the money market,

increases the availability and accuracy of public information and lowers information asymmetries and enhances corporate governance, market transparency and quality.

Adelegan (2009) using event study methodology found that there are positive abnormal returns around the date of the regional cross-listing of stocks. The positive announcement period effect, together with the normal post cross listing performance shows that regional cross listing increases firm value and that firm benefit from listing outside their home market. This shows that firms in the region will be encouraged to cross list hoping to increase their value. Cross border listing in Africa is also influenced by policy, for instance many South African companies listing on the Namibia Stock Exchange has been motivated by the imposition of capital controls on portfolio flows and by the domestic investment requirements set by the Namibian authorities in an attempt to keep the large surpluses of the country's pension and insurance funds invested in Namibia. By cross listing, South African firms were able to qualify as Namibian investments. Similarly, the cross listing of East African Breweries on the Ugandan and Tanzanian exchanges was linked to ensuring market access for beer trade throughout the EAC. Other policies that can act as incentives for firms to cross list include reductions in the transaction and approval costs of regional cross listing and relaxation of stringent cross listing requirements.

Liquidity is another reason why firms cross list as it is seen as a major motivator for firms to cross list because before cross listing firms have to contend with the liquidity in the primary market which in this case is the NSE which may not satisfy the firms financing needs and thus cross listing to broaden its shareholder base and access to funds from more than one market. Mitoo (1992) surveyed 78 managers from Canadian firms listed on different stock exchanges around the world and reports that

increasing liquidity through increase in traded volume is regarded as the most targeted benefit from cross listing.

Studies have proposed other benefits and reasons for cross listing such as access to more developed capital markets such as listing in the U.S. capital markets. Since the U.S. capital markets are deep and liquid, foreign firms can raise funds at a lower cost than at home. Lins et al. (2003) show that firms that list in the U.S. become less credit constrained in that their new investment depends less on their cash flow after the U.S. listing than before. Thus firms that expect to raise funds would be likely to list though this is not the situation in EAC since the NSE is the most liquid market in the region yet all cross listed firms in the EAC have NSE as their primary listing.

Financial performance of a firm is expected to improve after cross listing. Onyuma et al. (2012) shows that although profitability and gearing ratios improve in absolute terms; this improvement is not statistically significant. Overall their findings provide some evidence that firms may benefit from cross listing in terms of liquidity and investor confidence.

Cross listing will provide a firm with an opportunity to improve its corporate governance according to Michael et al. (2004). Cross listing is a vehicle through which a firm's management can 'bond' themselves to a legal system with more protections against management self-dealing or excessive consumption of private benefits of control, Burns and Bill (2006). Cross listing, helps improve on corporate governance. This is true for firms that originate from relatively less-developed country with weaker institutions. For instance, firms from Africa that cross-list on the American market have to maintain the standards of the American system. This in essence will improve their governance practices. The higher standards lead to more

disclosure and better information, which give the shareholders greater influence and protect minority shareholders more fully-thus improving the ability to create value for shareholders (Mugo, 2010).

2.3.2 Cross Listing and Traded Volume

Trading volume is regarded as a measure of liquidity of a given stock by measuring changes in trading volume of the stock. Although volume is a very simple measurement, the average person or novice investor may not understand how useful this information can be. Trading volume is a powerful market tool that is used for technical analysis and movements in volume may indicate investor sentiment, important events taking place in the market such as cross border listing of a stock or institutional trading of the security.

Increasing trading volume to improve share liquidity is considered one of the main motivations for firms to cross list. The theory suggests that before cross listing, the firm's ability to raise funds is limited by the liquidity available in its primary market which may not satisfy the firms need for external financing. Cross border listing reduces segmentation, that is, ownership restriction and enables the firm to improve its trading volume and thus liquidity of the stock by enlarging its shareholder base and accordingly raising funds on more than one market, particularly if the firm cross lists on a market with higher liquidity than its home market (Abed et al., 2011).

Karolyi (1998) found that there is overwhelming evidence that the total volume of trading increases following cross listing. Bancel and Mitoo (2001) also report that, on the basis of survey done with Canadian and European firms that cross listing increases the total trading volume of the share of the firm. Based on existing literature the increase of trading volume after cross listing also occurs in the primary market, which

in this study is the NSE. Although most studies show that increase in trading volume after cross listing in the secondary market is accompanied by increase in the primary market (Forester and Karolyi, 1993), there also exists contradictory evidence as shown by Schmukler (2003).

The change in trading volume after cross listing can be attributed to several factors. Doidge (2004) shows that the impact in trading volume is a function of the changes in ownership that occur after cross listing, while Halling et al. (2004) shows that the ratio between home and trading is a function of the characteristics of the cross listed firm such as industry affiliation, foreign sales and the characteristics of the primary and secondary markets such as differences in investor protection and information disclosure.

2.3.3 Cross Listing and Share Liquidity

Liquidity is the lifeblood of financial markets. Its adequate provision is critical for the smooth operation of an economy. Its sudden erosion in even a single market segment or in an individual instrument can stimulate disruptions that are transmitted through increasingly interdependent and interconnected financial markets worldwide (Rico, 2004). If there is no liquidity at all in the market, no trading can take place. In a liquid market there exist at least one bid and one ask quote that make a trade possible and it is also possible to trade a certain amount of shares with little impact on the quoted price. Liquidity is important to stock exchanges and investors because it enables the following; time trading which is the ability to execute a transaction immediately at the prevailing price, tightness defined as the ability to buy and to sell an asset at about the same price at the same time, depth which is the ability to buy or to sell a certain amount of an asset without influence on the quoted price and lastly, resiliency which

is the ability to buy or to sell a certain amount of an asset with little influence on the quoted price.

Companies value share liquidity for a number of reasons as observed by William (2009). First, liquid stock can be used as currency for acquisitions. This allows a public company to pursue an acquisition even if it lacks sufficient cash or borrowing capacity. Second, a company can use liquid stock as a component of employee compensation. Liquid stock is attractive to employees because it can be easily valued and converted into cash, and it provides tax benefits and upside potential. These considerations aid in employee recruitment and retention and better align the interests of employees and shareholders. Third, fluctuations in the price of a company stock in a liquid market aids management because it provides immediate feedback as to the market consensus on the company's strategy and performance.

When shares of a firm become illiquid either due to low trading volume or a wide spread the firm will ideally cross list to increase the share liquidity of its stock. Karolyi (1998) looked at why companies list abroad and reported that liquidity of shares improves overall but depends on the increase in total trading volume, the listing location and the scope of foreign ownership restrictions in the primary market. Important liquidity effects are observed with cross listing. Typically stocks experience an increase in total trading volume and a decrease in home market spreads due to in large part to the competition from the new market captures. The extend of liquidity enhancement, however depends on the proportion of total trading volume the new market captures and the trading restrictions imposed on foreigners in those stocks prior to cross listing Karolyi (1998).

Amihud and Mendelson (1989) indicate that investors require higher returns to hold stocks with lower liquidity to compensate them for higher transaction costs. This will negatively impact on the stock making it expensive and thus undesirable to investors. By cross listing the firm should be able to increase the liquidity of its stock which in turn brings down the price and makes the stock more attractive to investors in both the primary market and secondary markets. Increased liquidity, other factors held constant, should translate into a lower cost of equity capital because it reduces the costs of trading for investors and therefore reduces the required illiquidity premium, Brennan et al., (1998); Jacoby et al, (2000).

There are other factors that affect share liquidity other than cross border listing as noted by Shuenn (2007), who looked at factors affecting stock liquidity and identified firm size, concentration of ownership structure, level of information asymmetry, utilization rate of margin trading, absorbed stocks of investors, and the entire market's liquidity as the factors affecting liquidity. He reported that, the firm size is positively related to liquidity, the more scattered ownership structure is, the higher the liquidity will be, the more critical information asymmetry is, the lower the stock liquidity will be, the higher margin trading utilization is, the higher the stock liquidity will be, the liquidity of an individual stock is positively related to the liquidity of the entire market and the more investor's perceptions are absorbed, the higher the stock liquidity will be.

2.3.4 Measures of Liquidity

Cross listing provides an expanded trading base for a firm. The improved trading base results in greater volume therefore indicates improved liquidity. Consequently, many previous empirical papers in cross listing and liquidity literature examine volume of trade before and after a firm cross lists. The evidence shows that there is an increase

in trading volume, for example, Karolyi (1998) found that there is overwhelming evidence that the total volume of trading increases following cross listing as does Bancel and Mitoo (2002).

Dennis and Strickland (2002) used turnover as a measure of liquidity as used by Lakonishok and Lev (1987). Turnover is defined as the monthly volume divided by the number of outstanding shares in the month in which volume of trade is measured. Turnover standardizes volume into a statistic that is consisted for large and small firms and it controls for the change in the number of publicly available shares around the day of cross listing. Turnover is a good proxy for liquidity since high turnover increases competition between market makers and also lowers the fixed, inventory and adverse selection costs of the market maker (Easley, O'Hara, Kiefer and paperman (1996) and Hu (1997)).

2.4 Cross Listing in Africa

Cross border listing has existed in Africa for a while, although this is usually done regionally. Adelegan (2009) observed that cross listing was started by the Johannesburg Securities Exchange (JSE) of South Africa when it cross listed on the Namibia Stock Exchange (NSX) on the first day of trading of the NSX in October 1992. Subsequently, South Africa has cross-listed 28 firms on the NSX. There has also been regional cross-listing between stock markets in Botswana and South Africa since 1997; Malawi and South Africa in 1999; Nigeria and South Africa first in 2001 and later in 2006; Zambia and South Africa in 2003; and Ghana and South Africa in 2004. Triple listing of stocks has also commenced, with the three East African Exchanges of Kenya, Uganda and Tanzania in 2004; and Ghana, Nigeria, and WAEMU (Bourse Régionale des Valeurs Mobilières) exchanges in 2006.

Regional cross-listings in sub-Saharan Africa have been associated with expansion and the setting-up of operations in the host countries. In almost all cases, firms are large with a strong base in their home countries, and they first established operations in their host countries before deciding to cross-list. Many cross-listings are undertaken to expand operations in the host countries. Almost all the firms that are cross-listed (about 98 percent or 42 out of 43) have set up operations in the host countries. For example, East African Breweries, with Kenya as the home country, has a subsidiary Uganda Breweries Ltd in Uganda, its host country of cross-listing. Jubilee Insurance of Kenya has subsidiaries in Uganda and Tanzania; Kenya Airways owns 49 percent of Precision Air of Tanzania; Eco bank Transnational has operations in the Cote D'Ivoire the home country and in Ghana and Nigeria, the host countries; Investec and Ellerine have operations in South Africa and Botswana; and the 28 firms that are cross-listed in South Africa and Namibia have an operational base in both countries. Cross-listing in sub-Saharan Africa has been generally accompanied by an initial public offering and/or secondary market listing.

In the EAC cross listing across national stock exchanges in Kenya, Tanzania, Uganda and Rwanda is seen as a means to regional integration. Integration of the capital markets means that investors will buy and sell securities in any East African stock market without restriction; participants in capital markets will freely offer their services throughout East Africa and those identical securities will trade at essentially the same price across markets after foreign exchange adjustments. The exchanges of these countries operate under the umbrella of East African Stock Exchanges Association (EASEA). EASEA is a member of Capital Markets Development Committee (CMDC) of the EAC. Other members of the CMDC include East African Securities Regulatory Association (EASRA) and East African Stock Exchange

Brokers Association (EASBA). The three associations have the common objective of integrating the three markets in order to achieve growth of the market with the ultimate aim of economic union in the EAC. The three markets are aiming at achieving this objective in a systematic, coordinated manner that will facilitate the availability of listed securities in the three markets simultaneously. To this end EASEA has determined mass cross listing as the key activity that will achieve this objective (Onyuma et al, 2009).

2.5 Summary

A number of theories have attempted to explain the investment activities in shares. For instance the efficient markets theory by Paul Samuelson (1965) which suggests that price changes must be unforecastable if they are properly anticipated in an efficient market. The behavioral finance theory by Fama (1965) also suggests that rational investors undo price deviation away from the fundamental, values quickly and maintain market equilibrium. Studies have equally been conducted on cross listing such as Adelegan (2009) who observed that cross listing was started by the Johannesburg Securities Exchange (JSE) of South Africa when it cross listed on the Namibia Stock Exchange. Lakonishok and Lev (1987) also confirmed that turnover is defined as the monthly volume of stocks traded.

Whereas evidence exists on the effect of cross border listing on financial performance and firm value, there is scanty literature on how cross border listing may affect market fundamentals of the cross listing firm. This study therefore was done to determine whether cross border listing affects the share liquidity of a cross border listed firm. The study assisted to seek answers on the impact of cross border listing on share liquidity of firms listed in the NSE that have cross listed in the EAC market.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives the methodology that was used to accomplish the already established research objectives and questions. Here, section 3.2 presents the research design, 3.3 presents target population and 3.4 the sampling design, 3.5 presents the data collection techniques and 3.6 examines the data analysis.

3.2 Research Design

Research design is described as the linkage and organization of conditions for collection and analysis of data in a manner that aims at combining relevance to the research purpose with economy in the procedure (Rajendra, 2008). Vaus (2005) concurred with Rajendra (2008) and argue that research design focuses on the structure of an enquiry, which leads to the minimization of the chance of drawing the wrong casual inferences from the data. Three main types of research- descriptive research, observational research and experimental research were considered.

This study made use of descriptive research design. Descriptive research design was appropriate since the researcher intends to take information about the variables over some period of time without necessarily manipulating them. It also enabled the researcher to work with both qualitative and quantitative data.

3.3 Population of the Study

According to Panneerselvam (2004) a total population is the entire spectrum of a system or process of interest. This description is in tandem with that of Johnston and VanderStoep (2009) which defines a population as the universe of people to which the

study can be generalized. According to Mugenda and Mugenda (2003), population is a complete set of individuals, cases or objects with common observable characteristics

The target population consisted of all companies listed in the NSE that have been cross listed to other EAC stock exchanges. At the moment there are seven (7) companies that are cross listed. These seven companies formed the target population for the study.

3.4 Sample Size

This study focused on stocks cross listed in the EAC markets from the NSE in the last five years where data on traded volume and prices is available for a year before and a year after cross listing. Due to the small size of cross listed firms in the EAC a census study was carried out covering all companies that are cross listed in the last five years from the Nairobi Securities Exchange.

3.5 Data Collection Techniques

Time series secondary data was used in the study. The data included prices of stocks for cross listed companies and volume of stocks traded for duration of two years (a year before and a year after cross listing). The data was collected from the NSE. A data collection sheet was used to show particulars of data relevant to the study.

3.6 Data Analysis

The data collected was analyzed using regression analysis. Regression analysis assisted in establishing the relation that exists between the dependent variable and the independent variables. The following equations were used to represent the relationship between the variables:

3.6.1 Conceptual Model

$$L_d = f(x) \quad (1)$$

The above model indicates that share liquidity is a function of the price of the stocks being traded. L_d is Share liquidity and was measured using the volumes of traded stocks after cross listing whereas price was measured using the prices of the stocks of companies already cross listed. The study assumed that the liquidity of the shares after cross listing largely depends on the price of the shares being traded.

3.6.2 Analytical Model

$$L_d = a + bx \quad (2)$$

L_d = Share liquidity

a = L_d intercept when x is equal to zero

b = is the regression weights attached to independent variable and

x = the price of the traded stocks after cross listing.

The study relied on regression analysis findings to be able to determine the strength of the relationship between the dependent and independent variables i.e. the relationship between the volumes of shares traded and their prices before and after cross listing. A correlation coefficient was also obtained to show the magnitude and direction of the relationship that exists between the variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses data analysis and results. 4.2 examine summary statistics, 4.3 presents estimated model, 4.4 presents the discussions of the chapter while 4.5 presents the summary.

4.2 Summary Statistics

Correlation analysis was conducted between the average price of the shares traded between June 2008 to June 2010 and the volume of shares that were traded for each of the four companies that were involved in the study. The findings from the correlation analysis are discussed next.

Table 4.1: Equity Bank Limited Correlations

Variables	Correlation Coefficient
Average Price of shares	-0.7597
Volume of shares traded after cross listing	

Source: Research data

The study sought to establish how the Equity Bank Limited Share prices are correlated with the volumes traded after cross listing. In order to attain this, the average share price of Equity Bank Shares was correlated with the volume of shares traded after cross listing. The results in Table 4.1 above indicate that there is a correlation coefficient of -0.7597. This is an indication that there is a negative or inverse relationship between the volume of shares traded and the average price of the shares. This result implies that as the volume of shares traded after cross listing increased, the share price continued to decrease. However this position was brought as a result of the splitting of the Equity Bank share in April 2009 which saw the share

price reduce to Ksh 15.21 per share. A correlation analysis from the time of splitting the share in April 2009 to June 2010 provides a coefficient of 0.6527. This is a strong direct relationship between the average price and the volume of shares traded after cross listing.

Table 4.2: Kenya Commercial Bank Correlations

Variables	Correlation Coefficient
Average Price of shares	0.5523
Volume of shares traded after cross listing	

Source: Research data

The correlations conducted between the volume of shares traded and average share price for Kenya Commercial Bank Limited for the duration June 2009 to June 2010 indicates that there is a correlation coefficient of 0.5523 as illustrated in Table 4.2 above. This implies that there is a moderate direct relationship between the volume of shares traded and the average prices after cross listing. The findings therefore confirm that both the volume of shares and share price of Kenya Commercial Bank Limited Shares increase after cross listing though not at the same magnitude. This increase therefore has an impact on the liquidity of the shares being traded.

Table 4.3: Centum Investment Bank Correlations

Variables	Correlation Coefficient
Average Price of shares	0.7222
Volume of shares traded after cross listing	

Source: Research data

The correlation between the volume of shares traded and the average price for Centum Investment Bank Limited showed the strongest correlation results in the study. It is evident from the findings in Table 4.3 above that the correlation coefficient for Centum is 0.7222. This is an indication that the volume of shares traded and the

price of the shares increase or reduce at almost the same rate. The findings also confirm that both the volume and the price continued to increase steadily after cross listing, an indication of greater liquidity due to cross listing of the shares within the East Africa region's security exchange markets.

Table 4.4: Nation Media group Correlations

Variables	Correlation Coefficient
Average Price of shares	0.0859
Volume of shares traded after cross listing	

Source: Research data

The study also sought to establish the correlation between Nation Media Group's volume of shares traded and the share price after cross listing of the shares. It is clear from the findings illustrated in the table above that there is a very weak positive correlation between the price of the shares and the volume of the shares traded by Nation Media Group after cross listing. This is an indication that Nation media Group's share liquidity has not been affected in a significant manner due to the cross listing of the shares.

4.3 Estimated model

The study sought to establish the effect of cross listing on share liquidity. The share liquidity was measured using the volume of shares for cross listed companies that are traded after cross listing was done. Hence the cross Listing was the dependent variable while the share price was the independent variable. The findings from the simple linear regression conducted are discussed next.

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.729(a)	.622	.610	15614099.001	.622	20.151	1	98	.000

Source: Research data

From the results illustrated in Table 4.6 above, it is clear that the linear regression produced an R squared value of .622. This is an indication that the price of the shares being traded explains 62.2% of the variance in the liquidity of the cross listed shares. The assumption that was first made in this study was that the liquidity of the cross listed share will depend on its price. The results have confirmed that the share price can explain 62.2% of the liquidity of a cross listed share. It was evident from the findings that cross listing of shares leads to a significant improvement of the share price which eventually leads to enhanced share liquidity. It is evident that other than the cross listing that improves on the share price, there are some other factors that explain approximately 37.8% of the remaining variance on share liquidity after cross listing.

Table 4.6: Overall Correlations

Variables	Correlation Coefficient
Average Price of shares	0.4130
Volume of shares traded after cross listing	

Source: Research data

The researcher sought to establish the overall correlations for the four companies that were involved in the study. All the volume of shares traded from June 2009 to June 2010 was correlated against the shares prices for the specific periods. The results as

indicated in the table above confirm that there is a moderate direct relationship between the volume of the shares traded and the price of the shares after cross listing. This is an indication that when a firm cross lists its shares, there are chances that the volume of shares traded and the price of the shares are likely to increase.

Table 4.7: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4912841499130210.000	1	4912841499130210.000	20.151	.000
	Residual	23892408585502580.000	98	243800087607169.200		
	Total	28805250084632790.000	99			

Source: Research data

The findings from table 4.7 above also indicate that the results from the regression analysis have a high significance as can be confirmed by the value of .000. This is an indication that the results can be relied upon to explain the variance on the liquidity of cross listed shares.

Table 4.8: Model coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9145129.139	2130837.672		3.985	.000
	Price of shares	13548.724	20839.554	.729	1.489	.000

Looking at the results in Table 4.8 above it is clear that the dependent variable of the study is the volume of shares traded and this was used to measure the liquidity of the shares. The liquidity of the shares was assumed to be a function of the change in the share price after cross listing. The study has since confirmed that 62.2% of the variance in the liquidity of the cross listed shares can be explained by changing share prices. From the table above it is therefore possible to form an equation that can

reflect the relationship between the price of a cross listed share and the liquidity. The study thus adopts a model in the form of $L_d = 9145129.139 + 13548.72x$. This is the model that can be used to establish the effect of cross listing on share liquidity of the cross listed firms in Kenya.

4.4 Discussion

The study established that there is a moderate positive correlation between the average price of shares after cross listing and the volume of shares traded at the securities exchange market. This is an indication that cross listing leads to increase in share price and subsequently to an increase in the volume of share that are traded. This same position is also held by Rico (2004) who agrees that cross listing provides the liquidity that is important to stock exchanges and investors because it enables the following; time trading which is the ability to execute a transaction immediately at the prevailing price, tightness defined as the ability to buy and to sell an asset at about the same price at the same time, depth which is the ability to buy or to sell a certain amount of an asset without influence on the quoted price.

The regression results from the study indicate that cross listing of shares explains more than 60% of the variance in share liquidity among the cross listed Kenyan firms. This is an indication that cross listing actually enhances the price of the shares and also increases the volume of the shares that are traded at securities market. This is a confirmation that cross listed Kenya firms value share liquidity hence the reason why they prefer to cross list in order to increase their share liquidity. William (2009) also agrees with this view that companies' value share liquidity for a number of reasons such as liquid stock can be used as currency for acquisitions. This allows a public company to pursue an acquisition even if it lacks sufficient cash or borrowing

capacity. Second, a company can use liquid stock as a component of employee compensation. Liquid stock is attractive to employees because it can be easily valued and converted into cash, and it provides tax benefits and upside potential

4.5 Summary

It was clear from the results presented above that cross listing of shares in other security exchange markets have the potential of enhancing the price of the share and also increasing the volume of the shares being traded. All these developments have an impact on the liquidity of the shares since at increasing prices, more and more people are willing to purchase as others dispose their shares in order to make profits by selling at higher prices.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

The aim of this study was to establish the effect of cross listing on share liquidity. The study focused on companies that are listed in the Nairobi Securities Exchange that have also cross listed their share in the other security exchange markets within the East African Region. In this chapter 5.2 presents summary of findings, 5.3 the conclusion, 5.4 views the recommendations where as 5.5 gives suggestion for further research.

5.2 Summary of the Study

The purpose of this study was to establish the effect of cross listing on the share liquidity of shares listed on the Nairobi securities exchange. Secondary data was collected from four Kenyan companies that are cross listed in other security exchange markets within the East African Region. These companies include: Kenya Commercial Bank Limited; Equity Bank Limited; Nation Media Group Limited and Centum Investment Bank limited. The data was obtained from the Nairobi Securities Exchange. The data was in quantitative form and of historic nature since it involved prices of stocks for the four companies and volumes traded since June 2008 to June 2010. The study targeted data for 7 companies that are cross listed but complete data was available for only 4 companies. This implies that the study achieved a response rate of 57% in data collection

It was established that there is a positive relationship between the liquidity of shares and cross listing among three of the companies that participated in the study. The results from one of the companies indicated a strong direct relationship; another

company indicated a moderate direct relationship between share liquidity and cross listing whereas results for the third company with positive correlation had a very weak direct relationship. This is an indication that share liquidity is affected by cross listing which usually leads to change in price of the shares in question. However it was evident that one of the companies had a strong inverse relationship between its liquidity and cross listing of its shares. The study established that this happened due to splitting of the company's share that saw its price drastically reduce to very low levels thus causing an inverse relationship. A correlation analysis conducted for the company after share split confirms that there is a strong positive correlation between share liquidity and cross listing.

The findings from a simple linear regression conducted where share liquidity was the dependent variable and price of the share after cross listing was the dependent variable indicate that cross listing of shares increases the price of the shares and this in turn leads to an increase in the volume of shares traded. The study established that cross listing explains 62.2% of the variance in share liquidity for cross listed firms while the remaining 37.8% of the variance is explained by other factors outside this study. It was clear from the findings that cross listing of shares in other security exchange markets has the potential of enhancing the price of the share and also increasing the volume of the shares being traded. All these developments have an impact on the liquidity of the shares since at increasing prices, more and more people are willing to purchase as others dispose their shares in order to make profits by selling at higher prices.

5.3 Conclusion

The research findings have confirmed that there is generally a moderate positive or direct correlation between the liquidity of a share on one hand and their prices on the other. From the study it is clear that whenever a share is cross listed, its price tends to increase and this leads to high volumes of the same being traded and this eventually translates to higher share liquidity. The regression findings affirm that a greater percentage of the variance in the liquidity of a cross listed share largely depends on its prices. Cross listing makes share prices to increase and this translates to better returns to investors.

5.4 Recommendations of the Study

The study has so far established that cross listing of shares has a significant impact on the liquidity of that share. It will be important for most of the Kenyan companies to be encouraged to cross list their shares in the regional securities exchange market. This will be a sure way of enhancing the liquidity of their shares as the others have managed to do.

It is also clear from correlation results that there is a positive relationship between the price of cross listed shares and the volume of shares traded. It will be important for Kenya companies to be encouraged to focus on having their shares cross listed since this will assist them improve their share price as well as increase the volume of shares that are traded. It will also enable them to provide a wider market for trading of their shares within the region.

5.5 Limitations of the Study

The study focused on only a few companies since obtaining the relevant data from the Nairobi stock exchange is relatively costly. This also dictated the duration that was covered for this study.

Some information on some of the cross listed companies was not available for the years under consideration and this made it impossible for them to be included in the study.

5.6 Suggestions for Further Research

The results from regression analysis have indicated that a variance of 37.8% on the share liquidity can not be explained by cross listing. This is an indication that there are other factors that can explain this variance. It will be prudent to carry out a study on the other factors that explain this variance.

It will also be important to conduct a comparative study on the effect of cross listing on the liquidity of Kenya cross listed companies with companies from other countries that are cross listed in multiple security exchange markets. This will assist in establishing any similarities and differences that may exist.

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APPENDIX I: NSE CROSS LISTED FIRMS

Company	Primary Listing	Date of Cross Listing	Bourse where cross listed
EABL	NSE	27th March 2001	USE
Kenya Airways	NSE	28th March 2002	USE
Kenya Airways	NSE	1st October 2004	DSE
EABL	NSE	29th June 2005	DSE
Jubilee Insurance Holdings	NSE	14th February 2006	USE
Jubilee Insurance Holdings	NSE	27th June 2006	DSE
KCB	NSE	29th Nov. 2008	USE
KCB	NSE	8th June 2009	RSE
Equity Bank Ltd	NSE	18th June 2009	USE
Centum Investments	NSE	11th February 2010	USE
Nation Media Group	NSE	2nd November 2010	RSE
Nation Media Group	NSE	19th October 2010	USE
Nation Media Group	NSE	21st February 2011	DSE

APPENDIX II: DATA COLLECTION SHEET

Name of Company.....

Month	Trade Volumes	Share Price
-12		
-11		
-10		
-9		
-8		
-7		
-6		
-5		
-4		
-3		
-2		
-1		
0		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		