STOCK PRICE RESPONSE TO EARNINGS ANNOUNCEMENTS AT THE NAIROBI SECURITIES EXCHANGE.

BY:

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DECLARATION

I declare that this is my original work. This work has not been presented for award of a degree in this university or any other university, neither has part of this work been reproduced, reprinted or made available to others in any form.

Sign…….. Date…….

Kipronoh Patrick

D63/63859/2013

This project has been submitted for examination with my approval as the supervisor.

Sign…….. Date……

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DEDICATION

To my parents, that epitome of hope, hard work, patience and kindness. Their unparalleled parental love and advice gave me moral strength to complete my studies. I also dedicate this thesis to my brothers and sisters who have provided me with a strong love shield that has always surrounded me.

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ABSTRACT

The Efficient market hypothesis EMH concept states that a market is efficient if security prices immediately and fully adjust to reflect all available information. Therefore, no excess returns can be made from buying and holding a given stock based on new information in the market, since that information is already reflected in current prices. However, perfect market conditions seems not to exist in the real world and thus efficiency can only be achieved in certain efficiency can only be achieved in certain measures. Emerging Security markets, Kenya included, tend to exhibit high price volatility, and may therefore offer opportunities for investors to obtain abnormal returns based on market speculations which are inconsistent with the efficient markets hypothesis.

The Nairobi Securities Exchange has witnessed certain cases of extreme price volatility, which point to the possibility of underlying inefficiencies which impacts on the shareholder values. This study examined the stock market response earnings information releases using daily price data from the Nairobi Securities exchange for a two year period (2012 to 2013). The event window was set to be 90 days; 45 days before and 45 days after the event date and the event date represented by 0. The researcher used event study methodology to test the responsiveness of prices to earnings information releases for a sample of five companies in the 20-share index. There was evidence of significant abnormal price reaction around the earnings announcement periods suggesting that earnings announcements do contain relevant information.

It was found that abnormal returns seems to dominate 25 days before the date of earnings release suggesting that there is no general reactions witnessed in the market. The changes evident only are attributed to a few individuals who might be having private and insider information. There is however a drift in the cumulative abnormal returns, 25 days after the announcement, which contradicts the efficient markets hypothesis suggesting that Nairobi securities market, does not efficiently adjust prices to earnings information based on the sampled firms within the two year period of study.

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LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

ALTX	Alternate Exchange
AR	Abnormal Return
ATS	Automated Trading System
CAR	Cumulative Abnormal Return
CDS	Central Depository System
CMA	Capital Market Authority
EMH	Efficient Market Hypothesis
KCB	Kenya Commercial Bank
NASI	Nairobi Stock Exchange All Share Index
NSE	Nairobi Securities Exchange
PEAD	Post Earnings Announcement Drift

CHAPTER ONE
INTRODUCTION

1.1. Background of the Study

The theory of stock market efficiency and how stock prices adjust to reflect new information in the market has been one of the fundamental arguments in finance literature. Efficient market hypothesis EMH concept states that a market is efficient if security prices immediately and fully adjust to reflect all available information. Stock market response to information disclosure is immense and covers a wide range of information disclosures such as dividend announcements, stock splits, merger announcements and macroeconomic policy changes. The influence of earnings information release on security prices has received considerable attention. There is however a large consistency with the EMH amongst researchers that earnings announcements do contain value-relevant information and the stock markets react quickly and efficiently to this information.

Capital markets react to various corporate announcements, and one such significant announcement is the earnings announcement. In an efficient market, if the announcement conveys vital information, then it is assumed that such information will be reflected by stock price movements as soon as the information is publicly released to the market (Hussin et al. 2010). Earnings are considered an interesting occurrence to observe, because they carry inside information about the company's future prospects (Aharony & Swary 1980). The literature argues that earnings announcements are one of the important signaling devices used by managers to transmit information to the public about the firm's future prospects (Lonie, Abeyratna, Power & Sinclair 1996).

Earnings announcements are thus one of the critical components of testing market efficiency. Management further uses earnings information to inform both shareholders and investors about the state of health of a firm. In other words, earnings announcements provide a yardstick that can be utilized by the market to assess the wealth and profitability of a firm. If the market is efficient, then any new information released is instantaneously reflected in the share price. Therefore, as earnings are publicly announced, the share price should immediately reflect this announcement and therefore deny investors any above-average risk-adjusted profits.

Several studies have been conducted in this area with greater focus on developed nations majorly the United Kingdom (UK) and the United States (US). Empirical evidence from these studies seems to largely proof the theory of efficient market hypothesis. Developing countries especially in African emerging markets may show contrary findings that do not necessarily support the documented evidence. Alford et al (1993) argued that varying information environments and accounting standards in across markets have a likelihood of impacting differently on the behavior in which stock markets in different countries and regions react to new information disclosures. Olowe (1999) found out that Nigerian market conforms to weak form efficiency. He argued that poor flow of information and communication systems cast doubts on the ability of the market to pass higher efficiency hurdles.

According to Osei (2002), developed markets are highly regulated, uses sophisticated technology and have sound financial management systems contrary to emerging markets characterized with low liquidity levels, poorly informed investors, weak legal, regulatory and institutional framework, low levels of technology and unreliable accounting standards. Afego (2011) and Osei (2002) concluded that both Nigeria and Ghana's stock markets are not efficient in relation to adjusting to new information on earnings announcements. According to Stiglitz (1981) capital markets in developing countries are characterized with low volumes of transactions. He argued that the reaction of stock prices to the release of new information may not be immediate and thus prices may not fully reflect all available information.

1.1.1 Stock Price

A share or stock price is the price of a single share of a number of saleable stocks of a company, derivative or other financial assets. Stock prices rise above and fall below their long-term trend contemporaneously with similar patterns in reported earnings (Halsey 2000). The price of a company's shares is often used as an indication of the overall strength and health of a company. If a share price has continuously risen over time, the company and its management are considered to be doing a good job. If the share price lags or even falls down there is a risk of takeover and the management likely to be fired. Compensation packages are determined based on the share prices where stock options can be used to align the executive and shareholders' interests.

Stock prices are usually driven by expectations of corporate earnings. If stock traders think the company's earnings are high, or will rise further, they are willing to bid up the price of the stock. One way that stockholders make a return on their investment is when they buy a stock low, and sell it high. Conversely, if the company does poorly, then the shares decrease in value, and the stockholders lose part or sometimes all of their investment when they sell. In capital markets with information asymmetries, the market participants try to explain correctly the managers' announcements of dividends and earnings, in order to make beneficial choices. Both dividends and earnings announcements affect the share prices. However, earnings announcements have a more significant impact on them than dividend announcements (Lonie et al. 1996)

1.1.2 Earnings Announcements

Earnings are defined as the net benefits derived from a firm's operations over a specified period of time usually reported quarterly, semi-annually or annually in the financial statements. They are the main determinants of the share price as they act as an indicator of the firm's long-run potential and profitability. Earnings have attracted a lot of attention to both managers and investors creating conflicts of interests in the firm. The managers aim at managing earnings through manipulating financial reporting using different accounting techniques. Earnings management is achieved through management actions to deliver desired earnings levels (Cheol 2012). The market reacts strongly to positive earnings than to negative earnings; this is according to Mlonzi et al (2011).

Earnings have attracted the attention of many researchers for decades, and different approaches have been explored to define their importance to various stakeholders. According to Aharony and Swary (1980), company managers use earnings as a signaling tool to convey information about the prospects of a company and that like dividends, if earnings convey useful information, this will be reflected in stock price changes immediately following a public announcement. In addition to this Black (1980) highlighted that users of financial statements expect earnings to be used as a measure of value.

Company earnings provide critical information to shareholders as far as the company's past performance is concerned, and are also used extensively in forecasting future performance and valuations of equity. The primary role of reported earnings is to provide some predictive information about future earnings, and this information should at least be useful for both present and potential investors in making rational investment decisions regarding the company. In regard to this, Barker and Imam (2008) highlighted that a company experiencing high earnings is viewed more favorably by users of financial statements including investors than a company with low earnings. The management performance, competencies, competitiveness in profitably running a company and their ability to deliver value to shareholders can also be measured through earnings. Hence, a response to earnings announcements is regarded as an interesting subject for study.

Dey and Radhakrishna (2008) in their study who profits from trading around earnings announcements concluded that institutional investors do not earn excess returns from trading before or after the announcements. They found that individual investors do earn significantly weak positive excess returns just hours after the announcements, but they also suffer significantly negative excess returns on the day after the announcement. Louhichi (2008) showed that intraday analysis of earnings announcements is more precise than the daily studies and thus price reaction to earnings disclosures begins very quickly, therefore supporting Share price response to earnings announcement. Bernard and Thomas (1989) supported the concept with a proof that new information exerts its full influence on the stock price within an hour after announcements.

Mendenhall (1991) found that stock price reaction to semi-annual earnings announcements yielded abnormal returns during both the pre-announcement and post-announcement dates, but Pathak et al (2008) found no evidence of significant abnormal returns around quarterly earnings announcements. They highlighted that it could not be established that the share price drifts positively in the case of good announcements or negatively in the case of bad announcements, meaning that these announcements carry little information value for investors. However Lev (1989) argues that there is only a weak correlation between stock markets and earnings announcements; he claims that less than 10% of market returns around annual earnings announcements can be explained by the information release.

1.1.3 Stock Prices and Earnings Announcements

There is a general observation that considerable price volatility and increases in trading volumes are evident during earnings announcement periods. The stock prices around these periods usually rise. Owen Lamont and Andrea Frazzini (2007) hypothesized that predictable rise in stock prices is driven by the predictable rise in volume generated by earnings announcements. They provided evidence to show that the premium is strongly correlated with the concentration of trading activity around previous earnings announcements, and those stocks with high volume around earnings announcements in particular, subsequently have both high premiums and high imputed buying by individual investors. This suggests that, at least for some stocks, prices are boosted around announcement dates by demand from individual buyers.

Barber and Odean (2004) hypothesized about attention grabbing where individual investors both have limited attention, and rarely sell short. They are more likely to buy the stocks that grabs their attention compared to those that does not grab their attention predicting that individual investors are likely to be net buyers of any stock in the news, whether the good or bad. They found that these stocks subsequently underperform; suggesting that individual investors pushed up prices too high or prevented prices from falling sufficiently in response earnings announcements. Some securities attract small attention constrained investors around earnings announcement dates and since they rarely sell short, the predictable rise in earnings boosts prices around announcement dates, thus generating a seasonal component in the stock's expected return.

Stock prices adjust to significant economic events including earnings and dividends releases. They are rationally and efficiently determined by such fundamental considerations as earnings, interest rates, dividend policy and the economic environment. Changes in these variables are quickly reflected in a security's price (Reilly and Brown 2006). However earnings surprises may occur when a company reports actual earnings that differ from the estimated earnings. Positive earnings surprises occur when reported earnings are above the forecasted earnings while negative earnings surprises occur when reported they are below the earnings expectations. Price changes resulting from an earnings surprise can be felt immediately where firms with significant positive earnings surprises show above average performance, while those with negative surprises have below average performance.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange was constituted in the year 1954 as a voluntary association of stockbrokers registered under the Societies Act (NSE 1997). This was due to the desire to have a formal market that facilitated floating of locally registered government loans which would be unattractive without a stock exchange. The NSE was charged with the responsibility of developing the stock market and regulating trading activities (Muragu 1994). Through the NSE, the first privatization of 20% government stake in Kenya commercial Bank (KCB) was realized. But since then there has been significant changes in terms of structure, trading rules and technology in the NSE.

In 2006 NSE commissioned an Automated Trading System (ATS) which marked a significant step towards enhancing liquidity in the market and the speed of executing financial transactions by the players. With the system providing a link between Central Bank of Kenya (CBK) and Central Depository System (CDS), trading of government securities became easier. NSE all share index (NASI) was introduced in 2008 as an alternative index to indicate overall market performance. It incorporates all the traded shares of the day thus providing general market view rather than individual stocks performance. Capital Markets Authority (CMA) acts as a regulator to the NSE. Its mandate is to provide a trading platform for listed securities and overseeing listed firms. It also approves Initial Public Offers (IPO) and other security listings in the country.

The Nairobi Stock Exchange Limited changed its name to the Nairobi Securities Exchange Limited in the year 2011.The change of name reflected the strategic plan of the Nairobi Securities Exchange to evolve into a full service securities exchange which supports trading, clearing and settlement of equities, debt, derivatives and other associated instruments. In the same year, the equity settlement cycle moved from the previous T+4 settlement cycles to the T+3 settlement cycle. This allowed investors who sell their shares, to get their money three (3) days after the sale of their shares. The buyers of these shares will have their CDS accounts credited with the shares, in the same time.

1.2. Research Problem

Capital markets play an important role in facilitating economic development by allocating resources within the economy. The Kenyan capital markets have undergone drastic financial policy, institutional and technological changes that have taken place that calls for further research on the efficiency and responsiveness to information disclosures. This study will use daily stock prices to investigate whether considerable abnormal returns can be achieved in the Kenyan stock market during earnings announcement period. It will assess whether earnings announcements may lead to an increase or decrease in stock prices or whether they remain unchanged. Finally it will identify the period of earnings announcements effect on stock prices. The aim therefore, is to determine the degree of efficiency of the Kenyan stock markets rather than focusing on the total support or rejection of the EMH.

Several studies done especially in developed markets shows mixed reaction of stock behavior around earnings announcements. Aga and Kocaman (2008) argued that markets reacts positively to high earnings announcements and negatively to low earnings announcements. The release of new economic data signifies change of stock returns (Gakuru 2004). The expectation of information released by investors leads to anticipation of a higher level of volatility on the day the news are released, investors process the newly received information thus leading to rise in market volatility after the announcement day (DeGoeji and Leuven 2002). However, Bernard and Thomas (1990) argued that stock prices do not fully reflect the adjustments of current earnings to project future earnings and prices partially reflect a naive earnings expectation.

Nyamolo (2010) examined the information content for annual earnings announcement for firms listed at the NSE. He concluded that the earnings announcement for the sampled firms had no information content. Wamweya (2012) investigated whether post earnings announcement drift exist at NSE. In his finding, stock returns for firms that report bad news tend to move downwards for a period of at least 60 days from earnings announcement clearly showing post earnings announcement exist at NSE. Francis (2013) found evidence that an announcement of increase in dividend payments tends to be related with increase in stock price and announcement of decrease in dividend payments tends to be associated with decrease in stock price around the time of dividend announcement causing dividend announcement effect.

This study attempts to answer the following question: Is the Nairobi Securities exchange efficient in adjusting stock prices during earnings announcements periods?

1.3. Objectives of the Study

1.3.1. The main Objective

The main objective of this study was to establish the stock price responsiveness to earnings announcements in firms quoted at the Nairobi Securities exchange.

1.3.2. Specific Objectives

1. To investigate how the market responds to earnings announcements at the Nairobi Securities Exchange.
2. To determine whether earning announcement of the firms listed at the NSE generate abnormal returns.
3. To identify the number of days it takes for stock prices to fully adjust to earnings announcements.

1.4. Value of the Study

The study of stock price adjustments to earnings announcements would be of significance to investors, regulators, policy makers, researchers and academicians. Portfolio managers and investors who are devoted to increasing their returns through diversification have a great interest in identifying and analyzing positive net present value (NPV) opportunities to increase their wealth. They achieve this through timing information release dates here they trade to obtain abnormal returns in their portfolios. Investment advisors and stockbrokers will find this research beneficial since it enables them to obtain reliable information and findings that would be key in their advice to their clients in deciding which stocks to buy and which to sell based on the stability of earnings.

Policy makers and regulators are concerned with the capital markets efficiency to ensure proper allocation of resources. Therefore this study stands to enable them formulate policies geared towards optimal utilization of resources in the economy. The price adjustments with relevance to earnings announcement will enable the companies to decide on whether to adopt an earnings policy or not in their valuation processes.

The empirical evidence obtained from evaluating the stock price reaction to earnings announcements will be of great significance to researches and academicians. The study would bring more insights on whether the theory of efficient market hypothesis is supported or contradicted. This will extend the literature that will be reviewed in future thus providing a basis of development of new theories.

CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

This chapter presents various theories and empirical studies on the stock price responses to earnings announcements. The first part of the chapter deals with the theoretical review followed by empirical studies and finally general literature review.

2.2. Review of Theories

The aim of this section is to review theoretical expositions on the responses of stock prices to earnings announcements. The main theoretical perspectives that have affected the development of stock price responses to earnings announcement are; the random walk theory, efficient market hypothesis, and the signaling theory.

2.2.1. Random Walk Theory

Random walk is a stock market theory stating that the past movements or direction of the price of a stock or overall market cannot be used to predict its future movement. Maurice Kendall (1953), a British statistician presented a controversial paper on the behavior of stock commodity prices. Kendall had expected to find regular price cycles but to his surprise they did not seem to exist. Each series appeared to be a 'wandering one ' almost as if once a week the demon of chance drew a random number and added it to the current price to determine the next week's price. In other words the stock and commodity prices seemed to follow a random walk. Thus when he made a suggestion that the stock prices follow a random walk, he implied that the price changes are independent of one another just as gains and losses experienced in tossing a coin.

The theory gained popularity in the year 1973 when Barton Malkiel published a book 'A Random Walk down Wall Street'. He constantly stated that long terms buy and hold strategy is the best and that individuals should not attempt to time markets. He concluded that any attempts based on technical, fundamental or any other analysis are futile. His evidence showed that most mutual funds fail to beat benchmark averages like the S&P 500. A follower of random walk believes it is impossible to outperform the market without assuming additional risk. In his book Malkiel argued that both technical analysis and fundamental analysis are largely a waste of time and are still unproven to outperform the market.

2.2.2. The Efficient Markets Hypothesis

The efficient market hypothesis was developed by Eugene Fama in the early 1970s. It states that a market is efficient if security prices immediately and fully adjust to reflect all available information. Efficiency here means informational efficiency not operational efficiency. This implies that if the market fully reflects information, the knowledge of that information would not allow anyone to profit from it because security prices already incorporates the information. In an efficient capital market, security prices fully reflect all available information in a rapid and unbiased fashion and thus providing unbiased estimates of the underlying values (Basu 1977). Supporters of this model believe it is pointless to search for undervalued stocks or try to predict trends in the market through technical analysis or fundamental analysis.

Most early work related to efficient capital markets were based on the random walk hypothesis which contended that changes in stock prices occurred randomly. This early work contained extensive empirical analysis without much theory behind it. Fama attempted to formalize the theory and organize the growing empirical evidence. He presented the efficient market theory in terms of a fair game model, contending that investors can be confident that a current market price fully reflects all available information about a security and the expected return based upon this price is consistent with its risk. In his original article he divided the overall EMH and the empirical tests into three sub-hypotheses depending on the information set involved: the weak form EMH, Semi-strong form EMH and the Strong form EMH.

The weak form EMH asserts that the current stock prices fully reflect all security information including , historical price sequences, rates of returns, trading volume data and any other market-generated information such as block trades and transactions by exchange specialists. From its assumption that current prices already reflects all past returns and any other security market information, it implies that past rates of returns and other historical market data should have no relationship with future stock prices. This contends that one should gain little or no value from using any trading rule that decides whether to buy or sell a security based on past rates of returns or any other past market data. The randomness of stock price adjustments thus seems to be supported by this form of market efficiency.

The semi-strong form EMH asserts that security prices adjust rapidly to the release of all public information and thus current security prices fully reflect all public information. This hypothesis encompasses the weak form EMH since all market information considered by the weak form is public. Public information also includes; dividends and earnings announcements, price earnings P/E ratios, stock splits, dividend yield D/P ratios, macro-economic news and political views. This theory therefore, implies that no group of investors should derive above average risk adjusted profits from their transactions because new public information is already reflected in security prices. Most empirical evidences are in support of this theory. Dolvin et al (2012) noted that in a semi-strong form efficient market the share price reflects all publicly information.

This strong form EMH contends that stock prices fully reflect all public and private information. This implies that no group of investors has monopolistic access to information relevant to the discovery of stock prices. Thus no one should be able to consistently derive above average risk-adjusted rates of returns. The strong form EMH extends the assumption of efficient markets in which prices adjusts rapidly to the release of new public information to assume a perfect market in which all information is cost free and available to everyone at the same time. The theory seems to be satisfactory in theoretical sense however; it has a lot of shortcomings in its practicability due to existence of insider trading.

2.2.3. Signaling Theory

The essence of signaling theory is that strong form EMH does not hold and insiders in a firm have information the market and outside investors do not have. It assumes that information is not equally available to all parties at the same time and thus there exists information asymmetry. The MM dividends irrelevance theory assumed that everyone has identical information regarding the firm's future and dividends. In reality, however, different investors have different views on both the level of future dividends payments and the uncertainty inherent in those payments and managers have better information about future prospects than public stockholders. It has been observed that an increase in dividends is often accompanied by a stock price increase while a fall leads to stock price decline.

Modigliani and Miller noted that corporations are reluctant to cut dividends, hence do not raise dividends unless they anticipate higher earnings in future. They argued that a higher than expected dividend increase is a signal to investors that the firm's management is forecasts good earnings in future. On the other hand a dividend reduction or smaller than expected increase is a signal that management forecasts poor earnings in future. Therefore, MM concluded that investor's reactions to changes in dividend policy do not necessarily show that investors prefer dividends to retained earnings. Rather they argue that price changes following dividends announcements simply indicates that there is important information or signaling content in dividends announcements.

2.3. Review of Empirical Studies

A strong body of evidence supports weak form efficiency in the major U.S. securities markets. Locally Dickinson and Muragu (1994) examined the bid, ask and the market price series from the Nairobi Stock Exchange, and they concluded that the results were consistent with the weak form efficiency. The test results suggest that technical trading rules do not produce superior returns after adjusting for transaction costs and taxes. Evidence strongly supports the notion of semi-strong efficiency, but occasional studies like those identifying market anomalies including the small-firm effect and the January effect and events (e.g., stock market crash of October 1987) are inconsistent with this form of market efficiency. Black suggests that most so called anomalies result from data mining.

However, empirical evidence does not support the existence of strong form EMH. If this form was to hold then prices would fully reflect all information, although a corporate insider might exclusively hold such information that might enable them earn excess returns (Frank K. Reilly and Keith C. Brown). Evidence shows that corporate officers have access to pertinent information long enough before public release that enables them earn above average returns from trading on this information. Fama (1970) summarized the early random walk theory and concluded that the evidence is strongly in support of the weak form EMH.

2.3.1. Developed Markets

The validity of the efficient markets hypothesis (EMH) has been questioned as several recent studies have reported evidence that significant abnormal returns can be generated by trading on the basis of public information. Some have found evidence of slow post announcement stock price adjustment to earnings disclosures. Sponholtz (2005) examined the information content of annual earnings announcements in the Danish stock and found significant abnormal price reactions in the period surrounding the announcements. Contrary to the EMH, the abnormal price reactions persist several days after the announcement, suggesting that the Danish stock market may not be information efficient. Kausar and Taffler (2006) found that stocks of UK firms in distress that have a publicized going concern audit report tended to experience significant negative price reactions ranging between -24% and -31%.

Gupta (2006) in his study, Impact of earnings Announcements on stock prices, researched on the stock market reaction in relation to earning announcements in the Indian market, and to test whether these prices posses any information content. He found out that the Average Abnormal Return (AAR) for good announcement is greater than zero on the announcement day and is less than zero for bad news. It was evident that the price reaction in the case of bad news is larger than in the case of good news. This study concluded that earning announcements contain important information which causes stock prices to adjust rapidly in the market. Higher than expected earnings announcement leads to a rise in the conditional mean of stock returns on days before news announcements and fall after news are announced (Kong and Taghavi 2006)

Higgs and Worthington (2004) examined 20 European markets, 16 of which are regarded as developed while the rest as emerging, with daily data between (1988 -2003). They used a wide range of tests belonging in three different procedures, in order to avoid the case that some spurious outcome to influence the results. According to their conclusions, among the developed markets only Germany, Ireland, Portugal, Sweden and the United Kingdom satisfied the most stringent random walk criteria, with France, Finland, the Netherlands, Norway and Spain meeting at least some of the conditions, while the rest namely Austria, Belgium, Denmark, Greece, Italy and Switzerland did not meet any of the requirements. Among the emerging markets, only Hungary satisfied the above criteria.

Rom and Seiler (1997) examined the NYSE index from the period (1885 -1962) using daily returns for a total of 22.474 observations. They concluded that for all this period, the price changes were completely random. They also used the same data to investigate whether there is a month or a day of a week that presents any non-uniformly distributed returns. They found that in a monthly basis January, July and August, and in a weekly basis Wednesday, Friday and Saturday presents somewhat increased earnings, while Monday presents significant negative returns. They concluded that there seems to be a weak evidence of non-uniform return distribution as early as 1885, but it is not enough to enable models to successfully forecast future returns.

MacKinlay (1988) investigated the NYSE index, as well as various portfolios with stocks and showed evidence that strongly rejected the random walk hypothesis for the entire sample period and for all sub-periods, mostly because of the behavior of small stocks. He noted that although the findings may be interpreted as a rejection of some economic model of efficient price formation, there may be other plausible models that are consistent with the empirical findings. Borges (2008) used daily data, for the period (1993-2007), France, Germany, UK, Greece, Portugal and Spain where she rejected the hypothesis for Greece and Portugal. However, she noted that if weekly data were used then all countries would have followed the random walk hypothesis.

Kaul and Estimates (2007) examined the effects on stock prices when companies provided earnings preannouncements versus when earnings surprises occurred. The data was divided into two categories positive preannouncement (surprise or preannouncements) and negative preannouncements (surprise or preannouncements). Positive preannouncements resulted in an upward price movement 70% of the times, and average price change was 5.19% rise. Negative preannouncements resulted in a downward price movement 73% of the times, and average price change was a 7.43% drop. The study concluded companies tended to fare significantly better when they provided positive preannouncements. Ball and Brown (1968) noted the evidence of post earnings announcement drift in the direction indicated by an earnings surprise.

The reaction of stock prices to dividend announcements and the adjustment of stock prices in response to both earnings and dividend releases have received a lot of attention. (Patell and Wolfson (1984) examined the effects of news releases of earnings and dividend announcements on mean, variance and serial correlation in consecutive price changes. They concluded that prices respond much to earnings announcements than they do to dividends announcements. Marcus et al. (1985) examined the abnormal stock returns associated to earnings and dividend announcements in order to determine how the investors perceive both announcements in the market. They found that investors give great importance to both of them in evaluating their investment portfolios.

2.3.2. Emerging Markets

Many studies for Efficient Market Hypothesis were conducted in emerging markets in an effort to examine the effectiveness of this hypothesis in these markets. Padhan (2009) studied 33 companies from different categories of Bombay stock exchange where he found out that stock prices support random walk hypothesis in the long run but was not evident in the short run. He also stated that stock prices follow random walk theory mainly due to firm specific factors, apart from economic and financial factors. Clark et al (2005) observed that there is an autocorrelation on Thai stock Market especially during the post crisis period therefore making a conclusion that the emerging stock market is inefficient. This inefficiency is caused by lack of improper regulations and policy issues.

Mollah and Vitali and (2001) over a period (1999-2009) investigated the weak-form of market efficiency in Africa by testing the Random Walk Hypothesis through various approaches, including, auto-correlation unit root, run and variance ratio test on daily price indices of certain countries. The countries were; Kenya, Mauritius, Morocco, Nigeria, South Africa, Egypt and Tunisia. The empirical evidence from this study rejected the Random Walk Hypothesis for all stock markets indices over the whole sample period with the exception of South Africa over the second sub-period (2007-2009). Therefore they observed that only South Africa supported the weak form hypothesis and rejected it in the other countries. However, Dickinson and Muragu (1994) contradict these findings by concluding that Kenyan market portrays weak form EMH.

Nyamute M.N (1998) in her study sought to analyze whether or not macroeconomic factors affect the performance of the Nairobi Stock Exchange. The macroeconomic variables taken into account were inflation rate, money supply, interest rates and exchange rates. The performance of the stock exchange was represented by the movement in the stock price index. The evidence indicated that macroeconomic variables do indeed impact on the performance of the stock prices. Olouch (2003) sampled eighteen blue chip companies listed at NSE investigated if the delay in earnings announcement could be attributed to the news reported and the effects of the reporting lag on share prices. He found out that there is no relationship a firm's earning and timing of the release of the annual report.

Maina (2009) investigated stock returns and trading activity reactions around annual earnings announcements for listed companies at the NSE to verify whether these announcements possess informational value. He found out that the average abnormal returns and average abnormal volume on announcements days are significantly larger than zero as compared with the non event period. This study concluded that stock returns and trading activity of quoted companies' shares at NSE react to earnings announcements. Njuru (2007) sought to test for existence of under-reaction anomaly at NSE using stock dividend announcements. He observed a continuation of positive returns in the days following the stock dividends announcement date. The evidence proofed an existence of under-reaction to stock dividend announcements at NSE.

Onyango 2004 through his sample of 48 listed companies at NSE covering the period (1998 – 2003) concluded that announcements contain relevant information to investors which are fully impounded in the stock prices prior the announcement dates. He proved that NSE shows presence of semi-strong EMH. However, since then technological, institutional, policy and regulatory framework has changed bringing about major reforms in the capital markets. Ondigo 1995 in his study, the information content of annual report and accounts for blue chip companies listed at the NSE focused on the behavior of share prices before and after the release of annual reports. He concluded that there is no information content on the annual reports of the sampled companies.

Somoye et al. (2009) examined the factors influencing equity prices in the Nigerian stock market for the period 2005-2007. They employed simple linear regression model to examine the impact of earning per share, GDP, interest rate, dividend per share and oil price on equity price. The empirical results showed the variable dividend per share, earning per share and GDP exerts a positive correlation to stock prices but are not significant determinants of share price. A similar approach was used by Olatundun (2009), who carried out a study on price reaction to dividend announcements on the Nigerian Stock Exchange. The results from the study showed that the cumulative excess return for companies paying dividends tends to be positive. The cumulative abnormal return was found to be significant until thirty days after the announcement date.

Nyamolo (2010) carried out a study to examine the information content for annual earnings announcement for firms listed at the NSE. He sampled 20 firms that had been consistently listed at the exchange for the five year period beginning 2005 to the 31st December 2009. The results indicated that the in all the weeks of the five year period, the mean return on the report period was less than both the pre and post announcement weeks. Hussein (2010) concluded that the earnings announcement for the sampled firms had no information content. In his study he suggested that earnings announcements have an impact on the shareholders value and found abnormal earning before and after earnings announcements. He considered the abnormal return before the earnings announcements as leakage of information into the market.

Njau 2011 in his study the impact of profit warning announcements on share prices at the NSE examined share returns following unexpected corporate announcements that are described as profit warnings. He tested whether there are abnormal returns on share prices after the announcement of profit warnings. This research used the eleven day event window where five days are prior and five days are after the profit warning announcement. The result of this research indicates that profit warning has impact on the stock return in the NSE and the impact is negative and significant for the period of pre-warning and post-warning and on the day of actual announcement. There are also indications of information leakages where there were abnormal returns a day before the profit warning announcements.

Stock prices react positively to the announcements of dividend information, especially a few days before the last day of trading. This is attributed to the fact that most investors normally try to dispose of the nonperforming shares and acquire those shares that show more promise to pay

dividends at a later stage. Furthermore, only those investors who are in possession of dividend promising shares before the last day of trading will benefit from the dividend. Evidence shows that stock prices tend to start rising beyond the event date. Accordingly, therefore, the study concluded that the Namibian stock market exhibits a semi-strong form, although not perfectly efficient to the announcement of dividends. (Iiyambula 2014).

Beaver (1998) postulated that current period earnings provide information to predict future period's earnings. The future periods' earnings provide information to develop expectations about dividends in future periods. This in turn provides information to determine share value and hence the share price. Udhaya R (2014) studied Semi strong capital market efficiency with reference to the annual earnings announcement. This study is based on the secondary market price data of the Bombay Stock Exchange, India. The data for the calendar years 2009 to 2013 was analyzed and to identify the stock price reaction to annual results announcements. The sample size was 150 annual results announcements of the companies in BSE. The analysis has shown that the BSE and the sectors analyzed have reflected semi strong efficiency.

2.4. Chapter Summary

The efficient markets hypothesis dates back to several years, this has lead to different opinions through empirical studies on whether to agree or disagree with the theory. A review of literature found that some of the research support and some reject this hypothesis even within the same country or region. Though during the reviewed period the scope was almost the same, the test and research techniques have changed and currently more sophisticated ways are being used. There is however, no ultimate conclusion that either support or reject the Efficient Market Hypothesis. It is evident that there is no general agreement between researchers concerning market efficiency in all markets, where country differences, market maturities, technological advancements and the degree of liberation is seems to be highly considered before making a conclusion.

The Kenyan stock market as part of developing markets is faced with problems attributed to the emerging markets. Therefore it was expected to show a mixed behavior as far as market efficiency is concerned as was evident from the above literature. Most of the most reviewed studies on informational efficiency of the Kenyan stock market relied on the use of annual, monthly and weekly price data and were conducted in the period prior to the introduction of

major financial reforms on the NSE. This study fills the gab by using daily prices to investigate whether abnormal returns can be realized during earnings announcements period. To take into account the recent reforms in the market the study will assess the direction stock prices reacts to earnings releases and determine the period of earnings announcement effect.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1. Introduction

This chapter provides a description of the procedures and methods used in carrying out the study. The methodology was guided by the study objectives that had been laid down in chapter one. It explains the location of study and describes the instruments for data collection and analysis. The rest of the chapter is outlined as follows; Research design, population, sample design, data collection and data analysis.

3.2. Research Design

This study adopted a descriptive design. According to Mugenda (2009), descriptive design explains the relationship between two or more variables. Thus the research design establishes whether there is a relationship existing between stock prices and earnings announcements. The event date, when the market learns of relevant new information was identified and the event window, which is the number of trading days preceding and following the event date, was then defined to capture the release and time needed for data to effectively reach the market place. This study used daily data to set the event window at forty five (45) days before and forty five (45) days after the earnings announcement day. The announcement day represented by day zero (0).

-45, -44, -43, -42, -41, ... -3, -2, -1, 0, +1, +2,+3 ... +41, +42, +43, +44, +45

A wide event window of (-45 to +45) was chosen in order to come up with normal market returns and to capture possible pre-event reaction. This is due to the due to the abnormal nature of the information environment in developing stock markets, where there is a possibility for the markets to start reacting long before the actual announcements.

3.3. Population

The target population for this study was all the 59 companies listed at the Nairobi Securities exchange between the two year (2012 and 2013) study period. Listed firms were preferred because they are required by the Capital markets Authority (CMA) to publish their yearly audited financial statements and thus this information is available at the NSE.

3.4. Sample

The study used a sample of 5 companies from listed companies at the NSE. A simple random sampling technique was used to pick the sample from companies in the NSE 20-share index. The sample selection was based primarily on the criteria that only firms continuously listed and with the required financial and market information during the period 2012 to 2013 were included in the study. Thus stocks with insufficient data points, either as a result of non-trading or lack of financial and market information were excluded from the sample. The companies were to have daily stock prices throughout the entire study period and had to announce earnings at least once a year. The sample period was considered sufficient for any annual earnings announcement effects to be detected and analyzed.

3.5. Data Collection

This study used secondary data from the Nairobi Securities Exchange database. The stock prices and earnings were obtained from the NSE 5 year final handbooks that provide listed companies financial performance information for a period of five years. This method of data collection was chosen because stock prices of listed companies are readily available at the NSE library. According to Sekaran (2003) secondary data sources saves on time and cost of acquiring information that may become obsolete with time.

3.6. Data Analysis

The data collected for this study was analyzed using the market model. Market model, according to MacKinlay (1997) is more widely used in empirical research and its assumptions are statistically and empirically reasonable. Thus the model is specified as:

$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$

Where R_{it} is the actual returns on stock i at time period t, R_{mt} is the returns in the market at time t and ε_{it} is the error term. Abnormal returns (AR) were estimated before, during and after the announcement time to test for market reaction to the earnings announcements. This was obtained as: $AR_{it} = Rit - R_{mt}$

The abnormal return is the percentage change in share price below or above what would normally be expected to occur. The firms will be grouped into two; those whose earnings decreased and those whose earnings increased. Average ARs will be obtained across all the observations to improve the reliability of the analysis using the model:

$$ARt = \sum \frac{AR}{m}$$

Where m is the number of firms in every category. The ARs were tested for statistical significance using the t-statistic:

$$tAR = \frac{\text{ARt1}}{\text{SD (ARt)}}$$

Where SD (ARt) is the standard deviation of ARt calculated over the estimation window. To make generalizations and to draw an overall conclusion for the market response to earnings announcements, this study analyzed the cumulative abnormal returns (CARs) for the 90-day event window, from the start of the event period t-45 up to day + 45 as follows:

$$CAR_t = \Sigma \frac{1}{N \Sigma \text{ARit}}$$

The CARs for each security were obtained by summing abnormal returns (ARs) over the event window. The total CARs will be summed up to obtain the cumulative mean abnormal returns and then test for statistical significance using a similar t-statistic to the one adopted for testing the statistical significance of abnormal returns. The new t-statistic was calculated as:

$$\text{tCAR} = \frac{\text{CARt}}{\text{SD (CARt)}}$$

Where SD (CARt) is the standard deviation of CARt calculated over the event window. The data collected for this study will be analyzed using the Statistical Package for Social Science (SPSS). This package is preferred because of its ability to cover a wide range of the most common statistical and graphical data analysis and is very systematic. It will be used to generate market returns, abnormal returns and statistical values to test significance. Tables and graphical presentations as appropriate will also be used to present the data collected for ease of understanding and analysis.

CHAPTER FOUR
DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents data analysis, presentation and findings, within the framework of the research questions and objectives of the study. The main objective of this study was to establish the stock price responsiveness to earnings announcements in firms quoted at the Nairobi Securities exchange. Secondary data was collected from the Nairobi Securities Exchange and the Capital Markets Authority databases. Data was analyzed in relation to the study's objectives and the findings are presented in the various categories below.

4.2. Data presentation

4.2.1 Closing daily share prices and their corresponding 20-share indices

For each of the sampled firms, the researcher identified and recorded earnings announcement dates based on the reports obtained from the NSE and the CMA. The closing stock prices from the announcement date and from 45 days (-45) before and 45 days (+45) after was also recorded. The table 1 below is a sample of data collected from Jubilee Holdings limited (also see tables A-E in appendix II)

Table 1

DAY (T)	SHARE PRICES	NSE 20-SHARE INDEX	MR (Points)
T-45	149	3202.34	14.11
T-40	155	3196.70	-19
T-35	154	3160.51	3.63
T-30	150	3182.14	27.68
T-25	156	3248.40	39.77
T-20	163	3229.16	17.01
T-15	160	3401.60	7.31
T-10	177	3318.95	-7.40
T-5	184	3312.85	18.94
T-1	184	3360.12	-7.1
T 0	178	3366.89	6.67
T+1	173	3363.72	-3.17
T+5	171	3396.83	-3.66
T+10	173	3461.19	17.26
T+15	180	3381.33	10.12
T+20	180	3541.07	-5.58

T+25	180	3585.93	-13.25
T+30	180	3655.07	17.99
T+35	185	3678.02	5.66
T+40	170	3626.07	-1.56
T+45	164	3651.27	16.45

Source: Research data

4.2.2 Descriptive Statistics

The descriptive statistics for each of the sampled stocks returns in the study were presented. The mean, minimum, maximum, standard deviation, and skewness were calculated using SPSS package for each of the 5 stocks over the two-year period and are reported in table 2 below. The returns for all the 3 stocks showed significant negative skewness while the other two showed positive skewness.

Table 2

Descriptive Statistics for Sampled Stock Returns

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
NMG	71	-28.00	7.00	.4490	4.71953	-3.413	.285
JUBILEE	91	-11.00	10.50	.8599	3.84585	-.310	.253
TRANCENTURY	91	-2.00	5.38	1.4773	1.78104	.277	.253
EAP	91	-.27	1.20	.5156	.31836	-.947	.253
EAC	91	-.08	2.88	1.3475	.80454	.261	.253
Valid N (listwise)	71						

Source: Research data

The summary of the descriptive statistics for all the sampled stock returns over the two year period of study shows both positive and negative skewness. The returns for three stocks; Nation Media Group, Jubilee Holdings and East African Portland Cement showed significant negative skewness of -3.413, -0.310 and -0.947 respectively. This indicates that there is a high probability that distributions of returns of these stocks will be negative. However, the returns for the two stocks; East African Cables and Trans-Century Limited showed positive skewness of 0.261and 0.277 respectively thus indicating that their returns distributions have a high probability of being positive.

4.2.3 Calculations for abnormal returns (ARs) and CARs

The behavior of abnormal returns (ARs) for the sampled firms is presented in Table 3. Theoretically, a stock market is informationally efficient with respect to earnings disclosures if no one can earn abnormal returns by trading on the basis of new information contained earnings announcement. This implies that the market quickly adjust prices in anticipation of changes in earnings prior to announcement dates. Therefore, there should exist no abnormal returns around disclosure dates since prices fully reflect all available information.

Table 3 Abnormal Returns and Cumulative Abnormal Returns

Day (T)	AR	AR %	p-value	CAR
-45	-.88	-.44	.607	-6.786
-40	-1.61	-.73	.351	-8.565
-35	-1.94	-1.07	.086	-8.432
-30	-.68	-.38	.628	-8.679
-25	-.26	-.18	.961	-8.788
-45	-.21	-.12	.897	-8.654
-20	-1.09	-.65	.396	-9.481
-15	1.43	-.82	.143	-8.825
-10	-.67	-.31	.649	-8.933
-5	-1.21	-.70	.267	-9.759
-1	-.54	-.28	.514	-9.835
0	-1.13	-.47	.304	-10.325
+1	-.64	-.36	.543	-10.561
+5	.57	.39	.326	-10.098
+10	.85	-.50	.492	-10.499
+15	-.08	-.04	.823	-10.547
+20	-.82	-.40	.350	-11.048
+25	-1.05	-.66	.401	-11.863
+30	1.74	.94	.145	-10.978
+35	.16	.08	.576	-10.734
+40	1.48	0.99	.265	-10.912
+45	.41	.13	.495	-11.096

Source: Research data
Key: AR = Abnormal returns; CAR = Cumulative abnormal returns

The mean ARs and CARs from the above table seem to be significantly ranging from zero to negative. Hence the researcher based on that evidence from the sampled firms concludes that there exist abnormal returns during event day period and thus can never be zero.

From the observation the presented results ARs and CARs are significantly negative tend to stay significantly negative 45 days before the announcement date. The CAR on day 20 is significantly negative at -6.786%. The CAR then continues to drift in the same direction from day 45 up to the event day (T=0), which has a negative cumulative abnormal returns of -10.325%.

After the announcement date (event date), the cumulative abnormal returns then drifts from -10.325% to -11.096% 45 days after the announcement date. The negative cumulative abnormal returns that are significantly portrayed from the sampled firms suggest that earnings announcements have information content that is utilized by the market in adjusting security prices. The consistent drift of CAR 45 days after earnings announcement implies that the market does not adjust stock prices to new information quickly as put forward by the efficient market hypothesis. Therefore, based on the sampled firms, trading on information contained in earnings announcements can generate negative abnormal returns.

The average abnormal returns were tested for statistical significance using the t-statistic as shown in table 4 below;

Table 4

One-Sample Test

					95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
NMG	.802	70	.425	.44901	-.6681	1.5661
JUBILEE	2.133	90	.036	.85989	.0590	1.6608
TRANCENTURY	7.912	90	.000	1.47725	1.1063	1.8482
EAP	15.449	90	.000	.51560	.4493	.5819
EAC	15.977	90	.000	1.34747	1.1799	1.5150

Source: Research data

There are a positive t figures evident from the presentation above; 0.802, 2.133, 7.912, 15.449 and 15.977 showing that earnings announcements carries relevant information in determining stock prices. This is based on 95% confidence of interval of difference. Therefore implying that abnormal returns can be negative a few days before the announcement date and positive a few days after the announcement date depending on whether the earnings are negative or positive.

4.2.4 Abnormal returns under increased and decreased earnings

The sampled firms were grouped into two categories: those whose earnings increased and those whose earnings decreased for better analysis. For the two categories daily average excess returns across the firms were calculated. The pattern of excess returns differs under increased and decreased earnings.

Table 5

DAY (T)	AAR (increased)	AAR (decreased)
-45	0.03	-1.04
-40	1.21	0.54
-35	0.47	0.6
-30	-0.76	0.32
-25	0.32	0.3
-20	-0.22	0.16
-15	-0.14	0.57
-10	-1.78	0.2
-5	0.97	0.1
-1	-2.56	0.02
0	-0.16	0.09
+1	0.03	0.34
+5	-0.01	-1.08
+10	-1.89	-2.17
+15	-0.09	-3.38
+20	-2.76	-4.37
+25	0.81	-4.8
+30	-4.01	-6.6
+35	-3.09	-6.4
+40	-4.76	-7.80
+45	-6.32	-8.66

Under increased returns, average excess returns remained close to zero from t-45to t-20.only to rise to -6.32% at t + 45, in the negative direction. The implication is that there may have been an

early reaction in most firms, driven by quarterly or semi-annual financial reports and reports from analysts. Under decreased returns, excess returns were found to be close to zero from t- 30 to t = 0, but they start rising in the negative direction from t +1 They consistently rise up to -8.66% by t +45. This reaction is greater than under increased returns. This implies that stock prices reacts more to negative news announcements than positive earnings announcements.

4.2.5 Cumulative Abnormal Returns (CAR)

Cumulative abnormal returns were calculated both for firms with increased and decreased earnings. For firms with increased returns, cumulative excess returns excess returns were positive as presented in table 6 below.

Table 6

DAY (T)	AAR (increased)	AAR (decreased)
-45	0.11	0.43
-40	1.21	0.54
-35	1.47	0.60
-30	1.97	1.57
-25	3.28	2.11
-20	2.89	2.76
-15	3.18	2.59
-10	3.72	3.30
-5	3.78	3.21
-1	3.62	3.54
0	3.95	4.47
+1	3.76	6.08
+5	4.09	6.31
+10	4.46	-7.34
+15	4.49	-8.12
+20	4.07	-13.13
+25	4.46	-16.76
+30	4.78	-19.29
+35	4.56	-21.09
+40	2.66	-26.41
+45	0.47	-34.87

Source: Research data

The CARs increased gradually from 0.11% at T-45 to 3.18% at T-15 but started dropping after that to end at 0.47% by T+45. This implies that the investor consistently outperforms the market using the information contained in earnings announcements. Cumulative excess returns for firms with decreased returns are positive and increasing from T-45 T+4 but they turn negative from

T+5 and continue rising negatively up to T45 This implies that investor returns are superior to the market in the pre-announcement period, but are generally inferior in the post-announcement period.

The cumulative abnormal returns were tested for statistical significance using the t-statistic as shown in table 7 below;

Table 7

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	T	Df	Sig. (2-tailed)	Mean Difference	Lower	Upper
NMG	.802	70	.426	.89789	-1.3363	3.1321
JUBILEE	2.133	90	.036	1.71978	.1179	3.3217
TRANSCENTURY	7.915	90	.000	2.95220	2.2112	3.6932
EAP	15.417	90	.000	1.02747	.8951	1.1599
EAC	15.959	90	.000	2.69066	2.3557	3.0256

Source: Research data

The t-statistic portrays positive figures for the sampled stocks. The t values of; 0.802, 2.133, 7.915, 15.417 and 15.959 has a slight difference from those obtained from the t-statistics of abnormal returns hence proofing the observation that earnings announcement is a factor in determining stock prices at the Nairobi Securities Exchange.

4.3 Summary and Interpretation of Findings

The purpose of this study was to examine the impact earnings announcements on the stock price adjustments of firms listed at the Nairobi securities Exchange. Specifically, the study established whether there is a relationship between the dependent variable i.e. stock prices and the independent variable earnings announcements. Descriptive statistics were used to describe the data. Regression analysis was used in analyzing data to achieve the study objective. Table1 presents daily closing share prices for the sampled firms listed at the NSE. The event window was set to be 90 day; 45 days before and 45 days after the event date. The event date is represented by 0 in is the exact day when the Board of directors releases the earning. This period was considered to enable the researcher to first determine the normal returns before calculating abnormal returns from the stocks.

Table 2 represents the summary statistics computed using the statistical package for social sciences (SPSS). This summarizes the descriptive statistics all the sampled stock returns over the two year period of study. The mean, minimum, maximum, standard deviation and skewness were calculated for each of the 5 stocks over the two-year period. The returns for three stocks; Nation Media Group, Jubilee Holdings and East African Portland Cement showed significant negative skewness. This indicates that there is a high probability that distributions of returns of these stocks will be negative. However, the returns for the two stocks; East African Cables and Trans-Century Limited showed positive skewness indicating that the their returns distributions have a high probability of being positive.

The abnormal returns behaviors for the sampled firms are presented in table 3. Theoretically the stock markets are expected to be efficient where stock prices adjust rapidly to reflect the information available in the market. This therefore means that the market anticipates earnings changes before they are actually declared and thus can be able to determine security prices. It also implies that there should be no abnormal returns that should be earned during earnings announcement period since the prices already reflect all available information. From the table presented, it is evident that positive abnormal returns are obtained for those firms whose earnings are expected to rise and negative for those whose earnings are expected to decline. Therefore the perception of the market about the future prospects of firm's earnings seems to determine the abnormal returns.

The average abnormal returns (ARs) were tested for statistical significance using the t-statistic. There is a positive t figures evident; 0.802, 2.133, 7.912, 15.449 and 15.977 showing that earnings announcements carries relevant information in determining stock prices. It is observed that the abnormal returns tend to be negative a few days before the announcement date and positive a few days after the announcement date depending on whether the earnings are negative or positive. The significant positive and negative ARs around the announcement period imply that earnings disclosures are a factor in determining share prices. However the inconsistent nature of ARs indicates that the earning disclosure is not the only factor and thus prices react to other factors as well.

The cumulative abnormal returns (CARs) as presented in table 6 are positive for most of the sampled firms. The significant positive nature suggests that the earnings announcement has key information that the market uses to adjust stock prices. However the negative CAR as portrayed significantly by one firm implies that the market may fail to incorporate all the information and thus leading to negative abnormal returns depending on the stability of firm's stock. This finding suggests that thou the Kenyan securities market reacts to information contained in earnings announcements, the stock prices tend to have adjusted before the real announcement is made. This however implies that the announcement dates are not necessarily eventful as such. It was also evident that CARs for firms with increased earnings expectations are positive while those with decreased earnings expectations are negative.

The total CARs were summed up to obtain the cumulative mean abnormal returns in table 6 and then test for statistical significance using a similar t-statistic to the one adopted for testing the statistical significance of abnormal returns. The new t-statistic was calculated in table 7 which also portrays positive figures for the sampled stocks. The t values of; 0.802, 2.133, 7.915, 15.417 and 15.959 has a slight difference from those obtained from the t-statistics of abnormal returns hence proofing the observation that earnings announcement is a factor in determining stock prices at the Nairobi Securities Exchange.

The results obtained from this study are consistent with results obtained in earlier studies both locally and internationally. Mohamed Hussein (2010) showed that showed that the earnings announcements contain relevant information to investors which are fully impounded in stock prices prior to or almost instantaneously at the time of announcement as long as announcement date has positive excess returns. He provided evidence resulting to the conclusion that the NSE shows presence of semi strong model of EMH. According to Rono Hilda (2013), the NSE portrays a positive and significant return on the second month after earnings announcement. She observed that earnings contain important information for the market. However, she found out that there is no post earnings announcement drift observed over the next six months after the announcement.

Afego (2011) found out that We find that the magnitude of cumulative abnormal returns is dominated by significant reactions 20 days before the earnings release date and persistent downward drift of the cumulative abnormal returns, 20 days after the announcement, suggesting that the Nigerian stock market does not efficiently adjust to earnings information for the sample firms within the study period. Osei (2002) found out that that prices drifted beyond the earnings announcement week which is inconsistent with the efficient markets hypothesis (EMH) which states that the price reaction to new information must be instantaneous and unbiased. He thus concluded that earnings information disclosures do contain relevant information which adjusts stock prices.

Ball & Brown (1968) state that share prices start to drift upwards or downwards even twelve months before the annual report is published. This view supports the possibility of early reactions to earnings announcements. By the time the annual report is published, only about 10-15% price movement is expected. Benard (1992) states that when there is an initial overreaction, subsequent corrections can go in a direction opposite to the initial response. He further says that an initial over- or under-reaction is likely to be corrected over a long period of time. Onyango (2004) concluded that announcements contain relevant information to investors which are fully impounded in the stock prices prior the announcement dates. He proved that NSE shows presence of semi-strong EMH.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

This study examined the responsiveness of stock prices to earnings announcements on listed firms at the NSE. The researcher assessed the usefulness of earnings releases to investors who trade at the stock exchange. A 90 day event window from (-45 to +45) was chosen in order to come up with normal market returns and to capture possible pre-event reaction. This is due to the due to the abnormal nature of the information environment in developing stock markets, where there is a possibility for the markets to start reacting long before the actual announcements. Abnormal returns were calculated from the collected data capturing daily closing prices of individual firms. From the ARs the researcher obtained CARs through the summation of ARs that made it possible to make generalization and to draw overall conclusions.

The findings of this study are consistent with the theoretical literature that the content of information in the market determines the security prices. However there was no evidence of efficient market hypothesis where prices quickly and rapidly adjust to new information. Evidence show that prices drifts 25 days after earnings announcements and there seems to be abnormal price adjustments few days before and after announcements. This implies that knowledgeable investors can earn abnormal returns from investing in stocks of firms likely to increase their earnings. However the random nature of stock price behavior shows the possibility that one can also earn negative abnormal returns thus calling for proper policy framework to stabilize the stock exchange.

The results showed that stock prices do react to the information announcements, especially a few days towards the event date. The reason for the reaction was believed to be attributed to the action from investors to dispose of their non- performing stocks and to acquire those stocks that would promise to pay higher earnings in future. Furthermore, only those investors that are in possession of the dividend promising stocks before the last date to trade will actually benefit from the dividend pay-out. The results from the analysis showed that stock prices starts rising once again beyond the event date. The rise however is a unique case that was discovered in the

study which was found to be contrary to what has been mentioned in the literature that prices adjust rapidly to information.

5.2 Conclusions

The results from this study showed that cumulative abnormal returns for NSE are positive and significant on the earnings announcement periods with the rest of the months being non-significant. The significant CARs suggest that earnings announcement provide valuable information which the market uses to adjust share prices. The researcher observed that no abnormal price reactions should continue beyond the announcement period. Theoretically a stock market is informationally efficient with respect to earnings releases and thus no individual investor can be able to earn abnormal returns by trading on the basis of the information contained in firm's earnings disclosure (Afego, 2011).

The random nature of price adjustments where there is a negative market reaction before announcement could portray the level of literacy in the markets which are characteristics of developing countries. The investors are poorly informed and with the low technological advancements in the sector they are likely be biased in analyzing information. They tend to take time in responding to new information and do so at a future date. Ball and Kothari (1991) gave a similar argument by concluding that huge transaction and trading costs and poor information dissemination create significant impediments to trading thereby preventing a correct and complete response to earnings announcements. It is therefore evident that investor ability to disseminate information and predict the markets is key in adjusting security prices.

The findings in table 5 on CRs shows a greater degree of price reaction for most firms takes place in the pre-announcement period. This leads a conclusion that the significant abnormal returns recorded this period prior to the announcement dates could be driven by insider dealings and not necessarily the information content of earnings disclosures, because of the sluggish nature of the Kenyan stocks market. This is consistent with Osei (2002) findings that developing African markets are not known to be efficient due to the numerous institutional, infrastructural and regulatory weaknesses, including poor corporate governance practices which hinder access to information. Also due to widespread corruption which may permit private acquisition of information.

5.3 Recommendations to Policy and Practice

Efficiency in the stock markets has enormous benefits cutting across all sectors of the economy. It is therefore imperative for every government to strive towards attaining sustainable levels of efficiency. From this study, various recommendations are made to policy makers to act as a key to determining a clear policy framework for the Kenyan stock market. The Kenyan government through its regulatory bodies CMA and NSE should ensure that laws governing insider trading are adhered to by all participants in the stocks market. There is a need to effectively monitor and control the stock market in order to improve efficiency. The ease and equality of access to information will boost the investor confidence and encourage healthy completion which improves information efficiency in the stock markets.

The companies have the sole responsibility of preparing and releasing the financial reports. They should therefore be compelled to release timely and accurate information to enable investors to make accurate decisions. Regulators and policy makers therefore have to impose stringent penalties on those companies that do not release their statements on time to deter others from following suit. Delayed disclosure sends negative signals to the market due to delayed therefore leading to investors making biased decisions. Timely disclosure will reduce unnecessary speculations. Accuracy in information releases enables the investors to make decisions based on real figures that are not manipulated to suit management needs and thus boosting their liquidity and confidence in the stock markets.

Given the low levels of technology and poor institutional frameworks amongst developing countries where Kenya is among them, the government should design training programs to create more awareness in stock markets activities. This involves designing curriculums in tertiary colleges and universities on stock markets performance. The government should also increase the independence of regulatory institutions to be able to discharge their mandates without political interference. To improve on the overall liquidity large institutional and foreign investors should be attracted and encouraged to participate at the Nairobi securities exchange which has a small number of listed companies. This will encourage international investors to invest at the NSE and more so bring their expertise in the stock markets operations.

5.4 Limitations of the Study

This study was confined to the use of secondary data which raises reliability issues of the data used. The data relied upon was obtained from Nairobi Securities Exchange and the Capita Markets Authority databases. Relying on the secondary data means that any error in the source will also be reflected in the research, that is, errors and assumptions not disclosed in the source documents will also reoccur in the research. The research was also conducted over a short period of time. Data collection had to be limited and verification of the collected data being nearly impossible, since the reliability of the data depended on the source.

The study was only limited to firms that are listed at the NSE and which were continuously listed throughout the study period of (2012 to 2013). The researcher also sampled only those firms whose earnings were disclosed consistently and whose information was published at the Capital Markets Authority. This may not have been adequate to draw inference to the general population as listed companies may not be an objective representative of all firms in Kenya. The non-listed companies was left out due to the difficulty in obtaining the information even thou they play a major role in determining the price adjustments. Furthermore only earnings announcements were considered in making conclusions though other factors like; weekend effects, January effect may have an effect on stock prices.

The researcher only assumed that only one variable earnings announcements in coming up with the findings. Stock prices are affected by many factors, among them inflation rates, fiscal policies, monetary policies, exchange rates and other policies not considered in this study. Taking into consideration only earnings announcements in coming up with a relationship might lead to a weak model. There is therefore need to find more resources that can facilitate the incorporation of more factors to the study. The study also included high volatile stock prices characterized by different economic and political environments over the study period.. It is therefore highly unpredictable that the same pattern witnessed in the period of study will be repeated thus limiting the applicability of the study findings

5.5 Suggestions for Further Studies

The efficiency of Nairobi Securities Exchange has been extensively researched, however due to various technological and institutional changes no one study is ever conclusive. It is therefore imperative that more research needs to be done to provide more information to investors, traders, scholars and general public. This study only focused on five companies from different sectors which limited the scope and thus future research should be carried out to cover a larger sample that would enable wider generalizations to be made. To improve on this study, a similar study could be carried out to cover a longer period of time so as to obtain more reliable findings. The event window of 90 days can be increased further to be able to capture the quarterly earnings announcements that are also determining factors.

This study was limited to a single market among the wider developing markets in African continent. To obtain comprehensive evidence that in making generalizations about all the developing countries, future studies are required to be carried out for other emerging markets in Africa to ascertain the extent to which these findings can be relied upon. Different countries in the Africa have portrayed political maturity and have put in place proper institutional mechanisms like South Africa, thus a study in every economy would improve the reliability of the findings. Furthermore, due to the relatively smaller sample of five companies, further research should target at analyzing a much broader sample size that will provide a more comprehensive findings to be made.

Companies have improved their disclosures from the conventional annual releases to providing quarterly and semi-annual reports. To effectively asses the informational content, future research should incorporate quarterly and semiannually earnings reports and releases in order to reflect the dynamism in the stock markets. The country has encountered changes in the governance structure from a unitary state to county governments and has invested heavily on ICT. Therefore further research should be carried out on the implication of these regime changes and the advancement of the information technology in the stock markets.

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Appendix I

List of NSE listed firms

Agricultural

1. Eaagad Ltd
2. Kakuzi
3. Kapchorua Tea Co. Ltd
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd.
7. Williamson Tea Kenya Ltd

Automobiles and accessories

8. Car and general (K) Ltd
9. CMC Holdings Ltd
10. Sameer Africa Ltd
11. Marshals (E.A.)

Banking

12. Barclays Bank Ltd
13. CFC Stanbic Holdings Ltd
14. Diamond Trust Bank Ltd
15. Equity Bank Ltd
16. I&M Holdings Ltd
17. Kenya Commercial Bank Ltd
18. National Bank of Kenya Ltd
19. NIC Bank Ltd
20. Standard Chartered Bank Ltd
21. The Co-operative Bank of Kenya Ltd

Commercial and Services

22. Express Ltd
23. Huchings Biemer Ltd
24. Kenya Airways
25. Longhorn Kenya Ltd
26. Nation Media Group
27. Scangroup Ltd
28. Standard Group Ltd
29. TPS Eastern Africa (Serena) Ltd

30. Uchumi Supermarket Ltd

Construction and Allied

31. Athi River mining
32. Bamburi Cement Ltd
33. Crown Berger Ltd
34. E.A. Cables Ltd
35. E.A. Portland Cement Ltd

Energy and Petroleum

36. KenGen Ltd
37. KenolKobil Ltd
38. Kenya Power and Lighting Co. Ltd
39. Total Kenya Ltd
40. Umeme Ltd

Growth and Enterprise Market Segment

41. Home Afica Ltd

Insurance

42. British American Investments Company (Kenya) Ltd
43. CIC Insurance Group Ltd
44. Jubilee Holdings Ltd
45. Kenya Re-insurance Corporation Ltd
46. Liberty Kenya Holdings Ltd
47. Pan Africa Insurance Holdings Ltd

Investment

48. Centum Investment Co Ltd
49. Trans-century Ltd
50. Olympia Capital Holdings Ltd

Manufacturing and Allied

51. B.O.C Kenya Ltd
52. British American Tobacco Kenya Ltd
53. Carbacid Investment Ltd
54. East African Breweries Ltd
55. Eveready East Africa Ltd
56. Kenya Orchards Ltd

57. Mumias Sugar Co.Ltd
58. Unga Group Ltd

Telecommunication and Technology

59. Safaricom Ltd

Source: NSE 2013

Appendix II

Tables A-E: Closing daily share prices and corresponding 20-share indices

Table A: Jubilee Holdings Ltd

T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)	T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)
T-45	149.00	3,202.34	14.11	T-45	195.00	4,505.59	2.83
T-40	155.00	3,196.70	(19.00)	T-40	191.00	4,518.59	5.04
T-35	154.00	3,160.51	3.63	T-35	207.00	4,658.64	73.56
T-30	150.00	3,182.14	27.68	T-30	208.00	4,474.12	(57.74)
T-25	156.00	3,248.40	39.77	T-25	224.00	4,713.60	5.04
T-20	163.00	3,229.16	17.01	T-20	264.00	5,030.91	170.08
T-15	160.00	3,401.60	7.31	T-15	262.00	4,990.04	9.20
T-10	177.00	3,318.95	(7.40)	T-10	270.00	4,932.77	(14.74)
T-5	184.00	3,312.85	18.94	T-5	265.00	4,810.40	(14.03)
T-1	184.00	3,360.12	(7.10)	T-1	260.00	4,765.23	2.14
T-0	178.00	3,366.89	6.67	T-0	244.00	4,788.26	23.03
T+1	173.00	3,363.72	(3.17)	T+1	247.00	4,821.17	32.92
T+5	171.00	3,396.83	(3.66)	T+5	255.00	4,917.46	11.78
T+10	173.00	3,461.19	17.26	T+10	255.00	4,955.61	37.34
T+15	180.00	3,381.33	10.12	T+15	260.00	4,956.95	(26.58)
T+20	180.00	3,541.07	(5.58)	T+20	263.00	4,996.07	8.91
T+25	180.00	3,585.93	(13.25)	T+25	260.00	4,989.04	4.71
T+30	180.00	3,655.07	17.99	T+30	250.00	4,838.01	(24.68)
T+35	185.00	3,678.02	5.66	T+35	240.00	4,713.39	8.20
T+40	170.00	3,626.07	(1.56)	T+40	225.00	4,584.50	(17.90)
T+45	164.00	3,651.27	16.45	T+45	239.00	4,574.10	11.26

Table B: Trans-Century Ltd

T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)	T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)
T-45	26.00	3,185.14	(19.62)	T-45	25.75	4450.78	29.99
T-40	25.00	3,202.34	14.11	T-40	26.00	4611.03	22.61
T-35	25.25	3,196.70	(19.00)	T-35	26.00	4573.88	(40.86)
T-30	21.75	3,160.51	3.63	T-30	26.50	4,463.65	(14.24)
T-25	20.50	3,182.14	27.68	T-25	27.00	4,533.82	23.35
T-20	21.00	3,248.40	39.77	T-20	30.00	4,985.91	189.57
T-15	20.25	3,229.16	17.01	T-15	34.75	4,721.33	(5.82)
T-10	21.00	3,401.60	7.31	T-10	33.25	4,758.22	25.43
T-5	20.25	33,189.95	(7.40)	T-5	35.00	4,975.77	(43.96)
T-1	20.00	3,293.91	0.81	T-1	36.75	5,027.90	37.86
T-0	20.00	3,312.85	18.94	T-0	34.75	5,020.50	(7.40)
T+1	20.25	3,312.56	(0.29)	T+1	34.75	4,994.94	25.57
T+5	22.00	3,366.89	6.77	T+5	36.50	4,868.29	(34.31)
T+10	22.50	3,396.83	(3.66)	T+10	36.75	4,785.38	20.86
T+15	22.50	3,461.19	17.26	T+15	35.00	4,846.43	25.25
T+20	24.75	3,381.33	10.12	T+20	34.75	4,866.05	(22.91)
T+25	22.75	3,541.07	(5.58)	T+25	35.00	4,960.30	(18.49)
T+30	26.50	3,585.93	(13.25)	T+30	32.50	4,953.03	(12.95)
T+35	24.00	3,655.07	17.99	T+35	32.50	4,986.93	(20.03)
T+40	25.00	3,678.02	5.66	T+40	33.00	4,957.08	(5.58)
T+45	24.00	3,626.07	(1.56)	T+45	32.50	4,761.89	(44.63)

Table C: East African Cables Ltd

T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)	T	SHARE PRICE	NSE 20-SHARE INDEX	MR (Points)
T-45	10.65	3,185.14	(19.62)	T-45	12.30	4,727.60	3.54
T-40	11.00	3,202.34	14.11	T-40	11.70	4,133.02	10.80
T-35	11.55	3,196.70	(19.00)	T-35	12.20	4,247.74	35.26
T-30	10.95	3,160.51	3.63	T-30	12.50	4,474.68	60.70
T-25	11.00	3,182.14	27.68	T-25	13.30	4,461.32	9.89
T-20	10.80	3,248.40	39.77	T-20	13.55	4,402.75	(0.64)
T-15	10.20	3,229.16	17.01	T-15	13.40	4,483.62	32.84
T-10	12.00	3,401.60	7.31	T-10	13.55	4,633.48	22.45
T-5	11.45	33,189.95	(7.40)	T-5	13.45	4,551.06	(22.82)
T-1	11.10	3,293.91	0.81	T-1	13.45	4,463.65	(14.24)
T-0	11.05	3,312.85	18.94	T-0	13.75	4,469.19	5.54
T+1	10.80	3,312.56	(0.29)	T+1	14.95	4,513.55	44.36
T+5	11.00	3,366.89	6.77	T+5	14.65	4,646.83	13.02
T+10	10.75	3,396.83	(3.66)	T+10	16.15	4,911.45	(74.45)
T+15	10.70	3,461.19	17.26	T+15	15.50	4,700.34	(7.89)
T+20	11.50	3,381.33	10.12	T+20	15.50	4,830.44	72.22
T+25	11.10	3,541.07	(5.58)	T+25	16.65	4,985.68	9.91
T+30	10.80	3,585.93	(13.25)	T+30	17.15	4,947.51	(47.42)
T+35	11.10	3,655.07	17.99	T+35	16.90	4,824.44	(15.06)
T+40	10.95	3,678.02	5.66	T+40	16.40	4,765.23	2.14
T+45	10.75	3,626.07	(1.56)	T+45	15.25	4,905.68	23.93

Table D: Nation Media Group Ltd

T	Year 2012 SHARE PRICE	NSE 20 SHARE INDEX	MR(PTS)	T	Year 2013 SHARE PRICE	NSE 20 SHARE INDEX	MR(PTS)
T-45	137	3196.86	-3.94	T-45	264.00	4,553.25	78.57
T-40	136	3204.76	2.19	T-40	256.00	4,417.17	(44.15)
T-35	136	3188.23	3.49	T-35	256.00	4,412.61	9.87
T-30	140	3215.7	10.69	T-30	261.00	4,522.53	71.75
T-25	141	3156.87	-11	T-25	270.00	4,648.09	14.61
T-20	141	3154.46	10.56	T-20	265.00	4,502.75	(48.30)
T-15	142	3208.63	0.17	T-15	267.00	4,513.55	44.36
T-10	149	3312.15	8.4	T-10	270.00	4,585.07	38.24
T-5	155	3394.29	14.03	T-5	280.00	4,831.85	(79.60)
T-1	160	3332.89	-25.71	T-1	286.00	4,733.01	(8.96)
T-0	162	3326.35	0.04	T-0	303.00	4,708.56	10.49
T+1	159	3318.95	-7.4	T+1	321.00	4,713.60	5.04
T+5	159	3293.91	0.81	T+5	355.00	4,860.83	30.39
T+10	164	3360.12	-7.1	T+10	381.00	4,980.84	(4.83)
T+15	165	3400.48	-8.22	T+15	314.00	4,947.51	(47.42)
T+20	163	3443.94	-12.41	T+20	275.00	4,824.44	(15.06)
T+25	166	3571.2	16.75	T+25	280.00	4,765.23	2.14
T+30	167	3546.66	12.13	T+30	290.00	4,905.68	23.93
T+35	170	3599.18	0.05	T+35	296.00	4,918.27	73.46
T+40	171	3637.08	8.44	T+40	305.00	4,983.54	4.89
T+45	164	3672.36	-31.53	T+45	319.00	4,987.16	19.41

Table E: East African Portland cement

T	SHARE PRICE	NSE 20 SHARE INDEX	MR(PTS)	T	SHARE PRICE	NSE 20 SHARE INDEX	MR(PTS)
T-45	8.30	3,878.49	32.56	T-45	16.65	4,806.48	(15.02)
T-40	8.65	3,825.65	(6.72)	T-40	16.05	4,669.85	27.90
T-35	8.60	3,815.10	(0.34)	T-35	16.20	4,722.89	13.94
T-30	8.40	3,801.03	0.81	T-30	16.45	4,710.36	(38.96)
T-25	8.40	3,817.70	(1.75)	T-25	16.35	4,739.42	(12.40)
T-20	8.30	3,875.11	(3.01)	T-20	16.50	4,793.20	25.17
T-15	8.30	3,888.14	(9.31)	T-15	16.30	4,881.44	40.11
T-10	8.25	3,953.84	12.74	T-10	17.35	4,925.96	(3.66)
T-5	8.35	3,934.52	(24.58)	T-5	17.00	4,943.83	(4.94)
T-1	8.35	3,950.90	(0.06)	T-1	17.05	4,940.32	4.40
T-0	8.85	3,980.53	29.63	T-0	17.35	4,970.88	30.57
T+1	8.80	3,972.03	(8.50)	T+1	17.00	4,992.88	22.00
T+5	8.65	3,961.05	2.43	T+5	16.60	4,990.24	35.55
T+10	8.60	3,995.03	(1.97)	T+10	15.70	5,026.82	(4.20)
T+15	8.65	4,034.07	10.52	T+15	16.60	5,024.08	(28.55)
T+20	9.25	4,132.91	13.41	T+20	16.25	5,125.74	39.91
T+25	9.10	4,125.74	(7.54)	T+25	15.80	5,042.94	(33.53)
T+30	9.95	4,152.11	(7.62)	T+30	15.35	4,913.55	(30.09)
T+35	9.60	4,147.94	(8.05)	T+35	14.20	4,851.06	1.75
T+40	9.85	4,163.91	(2.65)	T+40	13.55	4,926.97	40.45
T+45	9.80	4,063.09	(20.43)	T+45	13.45	4,930.54	29.77

Appendix III

Average Abnormal Returns

T	NMG	TRANSCENTURY	JUBILEE	EAP	E.A CABLES
T-45	(4.00)	(0.75)	(2.00)	0.58	0.05
T-40	(5.00)	-	4.00	0.45	(0.08)
T-35	(0.50)	(0.75)	10.50	0.50	0.45
T-30	(0.50)	(0.63)	1.50	0.53	0.30
T-25	(0.50)	(0.13)	8.00	0.48	0.73
T-20	0.50	1.63	(1.00)	0.50	0.75
T-15	1.50	4.13	7.50	0.40	0.38
T-10	4.90	3.88	4.00	0.90	1.35
T-5	(9.00)	4.25	-	0.78	1.03
T-1	(1.00)	5.38	(11.00)	0.80	0.85
T-0	0.50	4.38	(1.00)	1.20	0.98
T+1	1.00	1.63	(6.00)	1.00	1.45
T+5	3.50	2.88	(1.00)	0.73	1.40
T+10	3.00	2.63	1.50	0.25	2.03
T+15	4.50	1.75	3.50	0.73	1.68
T+20	4.50	0.38	(1.50)	0.85	2.08
T+25	0.48	1.88	(0.50)	0.55	2.45
T+30	(0.50)	1.75	-	0.75	2.55
T+35	0.50	0.75	(2.50)	-	2.58
T+40	(1.50)	1.00	(1.50)	(0.20)	2.25
T+45	5.00	-	5.00	(0.27)	1.58

Appendix IV

Cumulative Abnormal returns

T	NMG	TRANSCENTURY	JUBILEE	EAP	E. A CABLES
T-45	(8.00)	(1.50)	(4.00)	1.15	0.10
T-40	(10.00)	-	8.00	0.90	(0.15)
T-35	(1.00)	(1.50)	21.00	1.00	0.90
T-30	(1.00)	(1.25)	3.00	1.05	0.60
T-25	(1.00)	(0.25)	16.00	0.95	1.45
T-20	1.00	3.25	(2.00)	1.00	1.50
T-15	3.00	8.25	15.00	0.80	0.75
T-10	9.80	7.75	8.00	1.80	2.70
T-5	(18.00)	8.50	-	1.55	2.05
T-1	(2.00)	10.75	(22.00)	1.60	1.70
T-0	1.00	8.75	(2.00)	2.40	1.95
T+1	2.00	3.25	(12.00)	2.00	2.90
T+5	7.00	5.75	(2.00)	1.45	2.80
T+10	6.00	5.25	3.00	0.50	4.05
T+15	9.00	3.50	7.00	1.45	3.35
T+20	9.00	0.75	(3.00)	1.70	4.15
T+25	0.95	3.75	(1.00)	1.10	4.90
T+30	(1.00)	3.50	-	1.50	5.10
T+35	1.00	1.50	(5.00)	-	5.15
T+40	(3.00)	2.00	(3.00)	(0.40)	4.50
T+45	10.00	-	10.00	(0.55)	3.15