INVESTIGATION OF DAY OF THE WEEK EFFECT ON STOCK RETURNS AT THE NAIROBI SECURITIES EXCHANGE

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULLFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINSTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI.

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DECLARATION

Declaration by Student

I hereby declare that this Research Project is my original work and has not previously , in part of in entirety, been presented to any other University towards the award of any degree.

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Approval by Supervisor:

This Research Project has been submitted for examination with my approval as the

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ACKNOWLEDGEMENTS

DEDICATION

I dedicate this research project to my brother Ernest and sisters Charity and Linet, let is it serve as an encouragement as you scale the height in academic.

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ABSTRACT

This study aimed to determine the effect of the day of the week effect on stock returns at the NSE so as to address the methodological gap identified of inconsistent results reported by previous researchers who adopted different research methodology in determining the effect of day of the week effect on stock returns at the NSE. The study was anchored on the efficient market hypothesis and in order to address the research gap identified the study adopted a longitudinal descriptive research design in testing the hypothesis that there is no difference between average daily returns. The study population was the 62 firms that were listed at the NSE as at 31ST December, 2014 from the population 60 firms qualified for the study because full set of stock prices and dividend payments was sourced. Secondary data was sourced from the NSE website and NSE trading data vendors. Test of normality and Kruskal Wallis test was conducted. The findings of the study are as follows: that the stock returns of the firms listed across the days of the week do not follow a normal distribution: the day of the week effect is present at the Nairobi Securities Exchange and the difference among the daily stock returns of the firms listed at the NSE across all the days of the week is significant and thus conclude that the bourse is not efficient as day of the week effect is a market anomaly. The study recommends formulation and implementation of trading strategies by investors that are in line with the changing patterns of returns in the market can result in earning abnormal returns.

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LIST OF ABBREVIATIONS

BSE – Bombay Stock Exchange

EEEMs - Eastern European Emerging Markets

EMH – Efficient Market Hypothesis

JSE – Johannesburg Stock Exchange

NASI – NSE All Share Index

NSE – Nairobi Securities Exchange

NYSE – New York Stock Exchange

SPSS – Statistical Package for Social Sciences

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The day of week effect indicates that the average daily return of the market is not the same for all the days of the week, as we would expect on the basis of the efficient market theory (Bahadur and Joshi 2005). Philpot and Peterson (2011) noted day of the week effect as the systematic returns disparities among weekdays. Stocks returns are the logarithmic price change of a stock from one days' close to the next days' close (Kaizoji, 2006). Changes in stock returns are simple random variations. According to the Efficient Market Hypothesis, prices of securities cannot be predicted as they follow random pattern (Malkiel, 2003).

Langat (2014) asserted that the existence of calendar anomalies is a critical departure from the Efficient Market Hypothesis formulated by Fama (1970) which posits that at any given time, prices fully reflect all available information on a particular stock and/or market. Thus, according to the EMH, no investor has an advantage in predicting the return on a stock price because no one has access to information not already available to everyone else, and thus consistent abnormal returns cannot be earned (Fama, 1965).The EMH classifies market efficiency into three categories namely the weak form, semi strong and strong form. In its weak form, the EMH states that the stock returns are serially un-correlated and have a constant mean. A market is considered semi strong efficient if stock prices instantaneously reflect any new publicly available information and strong form efficient if prices reflect all types of information whether available publicly or privately.

The Nairobi Securities Exchange is the principal securities exchange of Kenya. Besides equity market, the NSE offers a platform for the issuance and trading of debt instruments. The NSE is a member of the African Securities Exchanges Association (ASEA) and the East African Securities Exchanges Association (EASEA). It is an affiliate member of the World Federation of Exchanges (WFE) and an associate member of the Association of Futures Markets (AFM).

1.1.1 Day of the Week Effect

Gan, Hu, Kao and Luo (2009) defined day of the week effect as a phenomenon where the average daily returns and volatility of the markets are not equal for all days of the week. Ndeto (2012) noted that the day of the week indicates that the average daily return of the market is not the same for all the days of the week, as we would expect on the basis of the efficient market theory. The existence of day of the week effect is contradictory to the assumption of the EMH, that it is impossible for an investor to earn abnormal returns in the market.

Charles (2010) noted that it is important to determine whether there are variations in volatility stock returns in day of the week patterns and whether a high (low) return is associated with a corresponding high (low) return for a given day. This is because having such knowledge will allow investors to adjust their portfolios by taking into account day of the week effect variations in returns.

Day of the week effect can be measured by using long range dependence measures most common being the Hurst exponent developed by Hurst (1951). The Hurst exponent uses the range of the partial sums of deviations of a times series from its mean, rescaled by its standard deviation.

1.1.2 Stock Returns

Stock Returns are the returns that the investors generate out of the stock market. This return could be in the form of profit through trading or in the form of dividends given by the company to its shareholders from time-to-time (Strong, 1992). Stock returns are the changes in stock prices relative to the initial prices at the point of investor's decision to purchase the stock (Rutto, 2014).

Stock market indicators are used for the prediction of future economic growth. According to Mun, Siong and Thing (2008) large decreases in stock prices are reflective of future recession, and increasing stock prices are leading indicators of future economic growth. Haroon and Shah (2013) noted that a good performance of a stock market is a strong indicator of healthy economy and thus stock traders keenly observe any single movement of stock index which may affect their future profitability or help them evaluate their portfolios.

Ondiala (2014) the most common form of generating stock return is through trading in the secondary market. In the secondary market an investor could earn stock return by buying a stock at lower price and selling at a higher price. Otieno (2014) noted that a stock return is a function of stock prices and trade volumes of a particular stock. Stock returns are measured as the logarithmic price change of a stock from one day's close to the next days' close. Stock returns can as well be measured as the holding period return

which is basically the return that an investor earns as a result of holding the stock over a given period.

1.1.3 Day of the Week Effect and Stock Returns

Cross (1973) examined the distribution of price changes and the relationship that exists between changes on Fridays and Mondays. The findings showed that the relationship between price changes on Monday and price changes on Friday is significantly different from the relationship between price changes on other successive business days.

Ajayi, Mehdian and Perry (2004) examined the day of the week effect on stock returns patterns in eleven Eastern European emerging markets. The study used the daily closing values of the major stock indices. The findings showed negative Monday returns in six of the eleven stock markets in which two of them were significant and positive Monday returns in the remaining five in which only one is significant.

Rahman (2009) examined the presence of day of the week effect and found out that the mean returns for Sunday and Monday were negative and for all other days the mean returns are positive. Further findings indicated that the mean daily returns between two consecutive days differ significantly for the pairs Monday-Tuesday, Wednesday-Thursday and Thursday-Sunday. For the other pair of days returns do not differ significantly. Poshakwale (1996) noted that day of the week effect observed on the Bombay Stock Exchange pose interesting buy and hold strategies.

1.1.4 The Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) is a public market for the trading of securities issued by publically quoted companies and government of Kenya at an agreed price. The Nairobi Securities Exchange is the center point of Kenya capital market; securities are listed and traded on the exchange. The apex regulatory body is the Capital market authority. With permission of the London securities exchange Nairobi Securities Exchange started its operations in 1954 as an overseas securities exchange. At first it was voluntary association of securities brokers registered under societies act and share trading was restricted to residential European community. In 1963, after independence, African and Asian were permitted to deal in securities, but it was hard to convince native Kenyans of the significance of the exchange.

NSE has been the subject of significant changes towards the development of Kenya capital market in the recent years. Development of capital market is crucial for capital accumulation, efficient allocation of resources and promotion of economic growth of a country. Since its incorporation NSE has seen an increase in the number of securities brokers, introduction of investment banks, establishment of custodial institutions and credit rating agencies and the number of listed companies have increased over time. Securities traded include, equities, bonds and preference shares.

The NSE has been one of the most popular investments avenue in Kenya in the recent past due to its high return. It has become an integral part of the Kenya economy and any fluctuation in this market influences financial lives of individuals as well as corporate entities. As at 31st December 2014 62 companies were listed at NSE and two indexes are

computed daily; the NSE-20 share index which is equal weighted geometric mean for twenty large and most active securities that represents of all sectors and the NSE all securities index which is value weighted arithmetic mean.

1.2   Research Problem

In the context of financial markets, calendar effects, that contradict the EMH, have been documented over several years. These calendar effects are trends seen in stock returns, where the returns tend to rise or fall on a particular day or month as compared to the mean. They are called anomalies because they cannot be explained by traditional asset pricing models and they violate the weak-form of market efficiency (i.e. asset prices fully reflect all past information). Examples of such patterns include the day of the week effect, turn of the month effect, holiday effect, January effect and small firm effect.

Aduda and Muimi (2011) confirmed overreaction to previous performance of stocks as a significant bias and influence to investors while making buy, sell and hold decisions at the NSE. Njuguna, Onyuma, Owuor and Wambire (2013) noted that the NSE is not efficient at the semi-strong level of market efficiency as investors may be capable of predicting the market and they can make abnormal profits by trading on public information such as dividend announcements, (Olweny, 2012). IPOs issued at the NSE under perform in the long run (Wamari, 2014).

Poshakwale (1996) noted that prices at the Bombay Stock Exchange do not follow a random walk and that the average returns are different on each day of the week. Cohen (2012) confirmed the disappearance of day of the week effect at the London Stock

Exchange. Khan, Khan and Khan (2014) showed that calendar anomalies are present at the Karachi Stock Market. Muhammad and Rahman (2010) confirmed the presence of day of the week effect at the Malaysian Market. Locally, Kuria and Riro (2013) examined stock market anomalies effects on average returns of the NSE. The study examined day of the week effect, weekend effect and monthly effect at the bourse for the period 1990-2012. The analysis provided evidence about the presence of seasonal effect at the NSE. Sifuna (2012) showed absence of day of the week effect on stock returns at the NSE. Contrary to the EMH and the Random walk hypothesis, Rutto (2014) confirmed the Monday effect at the NSE in which Monday returns were observed to be significantly different from other days of the week. Rutto (2014) for the period 2008-2013 used descriptive statistics namely the mean, median, standard deviation, kurtosis and skewness as a preliminary analysis of the behavior of stock prices during days of the week while Sifuna (2012) for the period 2008-2011used regression analysis where dummy variables represented the days of the week.

Previous researchers utilized different research methodology and gave contradictory results with regard to the day of the week effect at the NSE. Thus this study adopted a different research methodology which is the Kruskal Wallis H test and one-way Analysis of Variance to test whether stock returns at the NSE are affected by the day of the week effect. Thus it has not yet been established whether the NSE is fully free from the day of the week effect despite increased use of information technology and numerous regulatory development. Previous researches provide contradictory results as to the day of the week

effect at the NSE hence the question; are the stock returns at the NSE affected by the day of the week effect?

1.3   Research Objective

The study aimed to determine effect of the day of the week effect on the stock returns at the NSE.

1.4   Value of the Study

The study is aimed at adding to the knowledge of efficient market theory with respect to the effect of day of the week effect on stocks at the NSE. The study when undertaken will be a foundation of reference for any future study in the field of efficient market theory as well as provide suggestions further research in the field of efficient market theory.

The study findings will assist investors in making informed decisions when trading at the NSE, because the study will reveal whether the stock returns at the bourse are affected by day of the week effect. Knowledge as to whether day of the week affect stock returns at the bourse would help investors adjust their portfolios by taking into account the day of the week effect variation on stock returns.

The study the findings will enable development of monitoring mechanisms of the securities market with respect to the changes in the day of the week hence being able to measure the performance of the stock market which is a signal of economic stability in the country. This is because stock market indicators are used for prediction of future economic growth.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter examines both the theoretical framework and the empirical literature on day of the week effect and sock returns. It covers theoretical framework focusing on the efficient capital hypothesis, capital asset pricing model, random walk theory, trading time hypothesis and the calendar time hypothesis. The chapter also covers review of empirical literature and summary of the same.

2.2 Theoretical Framework

This section examine theoretical foundation where the following theories have been discussed: efficient market hypothesis of Fama (1970), capital asset pricing model independently developed by Treynor (1961), Sharpe (1964), Lintner (1965) and Mossin (1966), random walk theory of Samuelson (1965), trading time and the calendar time hypothesis of French (1980).

2.2.1 Efficient Market Hypothesis

The efficient market hypothesis is associated with the idea of a random walk which characterizes price series where all subsequent price changes represent random departures from previous prices (Malkiel, 2003). The logic behind the random walk idea is that if the flow of information is unhindered and information is immediately reflected in stock prices, then tomorrow's price change will reflect only tomorrow's news and will be independent of the price changes today. The efficient market hypothesis posits that stocks are priced efficiently to reflect all available information about the intrinsic value of the security (Ajayi, Mehdian and Perry, 2004).

According to Fama (1970) an efficient market is that in which current prices reflect all available information. This implies that, whatever expected return model is used, the information available at that moment is fully utilized in the determination of equilibrium returns. A market in which there are no transactions costs, all agents have costless access to complete information and all agents agree as to the implications of such information for the prices of all assets, is certainly an efficient market.

Fama (1970) categorized market efficiency into three forms, these are: weak form, semi-strong form and strong form of market efficiency. Strong form efficiency argues that security prices fully reflect all information even though this information is only available to corporate insiders. Potocki and Swist (2012) noted that the presence of strong form efficiency on the market implies that it is impossible to achieve above-average profits when having access to a full set of information. Therefore, access to fundamental information about the stock price as well as knowledge of non-public information does not guarantee the development of a long term, profit-making investment strategy.

Semi- strong form efficiency advances that as soon as information becomes public knowledge or becomes available to the public it is incorporated almost immediately into the security prices. Khan and Ikram (2010) noted that the current security prices absorb not only the historical information but also the information that is publicly available. Hence, new information cannot be used by anyone for earning abnormal returns.

Weak form efficiency of the EMH asserts that share prices fully reflect information in historic share price movement and past rate of return. Khan and Ikram (2010) argued that current stock price reflects all historical information and it is impossible for anyone to utilize past data for predicting future prices and earning abnormal returns.

2.2.2 Capital Asset Pricing Model

Markowitz (1952) developed the Modern Portfolio Theory (MPT). The MPT was the framework on which the Capital Asset Pricing Model (CAPM) was built. Treynor (1961), Sharpe (1964), Lintner (1965) and Mossin (1966) independently built on MPT, resulting in the CAPM. According to the CAPM, investors will only invest in an asset if they get compensated for the time value of money and for the risk they take. Starting with the time value of money, the CAPM uses a risk free rate. Kampman (2011) noted that this risk free rate compensate the portfolio holder for the return he or she would have normally gained if he or she had invested the same amount of money in a project that is absolutely risk free.

Besides the risk free rate, portfolio holders also experience other kinds of risk. In the CAPM two types of risks are present: the systematic risk and non-systematic risk. The systematic risk is often macro-economic and has their effect on all stocks and thus it cannot be avoided and the holder of the portfolio should be compensated for this. On the other hand, investors should not be granted a higher return for bearing non-systematic risk because it can be eliminated by diversification. Non-systematic risk also known as the specific risk is usually related with factors that only affect a single asset. Still, one of the risk remains, systematic risk, and the CAPM uses a beta to compensate investors for

the risk they take. A high beta means that asset is greatly affected by macro-economic changes, so the variance will be high. A low beta means that the asset is not heavily affected by market changes, so the expected return can also be lower.

Roll (1977) criticized the CAPM by stating that it is only testable if the composition of the entire market portfolio is available. Because it is pretty impossible to get all the information that is required, the CAPM would not be testable and unusable.

2.2.3 Random Walk Theory

Samuelson (1965) proposed the random walk theory by arguing that in competitive markets there is a buyer for every seller and if one could be sure that a price will rise it would have already risen. He concluded that competitive prices must display changes overtime that follow a random walk with no predictable bias.

The random walk theory asserts that share prices follow a random walk (Dupernex, 2007). Poshakwale (1996) stated that random walk is used to refer to successive price changes which are independent of each other. In other words, tomorrow's price changes as well as tomorrow's price cannot be predicted by looking at today's price change (P_{t+1}-P_t) is independent of (P_t-P_{t-1}). Thus there should be no trends in price changes.

Poshakwale (1996) further states that random walk theory for share prices reflects a securities market where new information is rapidly incorporated into prices and where abnormal returns or excess returns cannot be made by spotting trends or trading on new information.

2.2.4 The Trading Time and Calendar Time Hypothesis

French (1980) proposed the both the trading time and calendar time hypothesis where the former asserts that an investor receives returns based on the number of trading days the security is held and the expected value of daily returns should be equal among the five trading days in a week; and the later asserts that an investor is compensated based on the number of calendar days the stock is held and thus Monday returns should reflect returns for three days and should have an expected returns equal to three times of that of the other four days.

French (1980) further asserts that returns are created only on the working days of the week in the case of the trading time hypothesis. Ball, Torous and Tschoegl (1982) noted that the trading time hypothesis implies an identical return distribution across all trading days and calendar time hypothesis takes into account the presence of the weekends and implies that the mean and variance of the return following these periods should be significantly higher. Lakonishok and Levi (1982) noted that the trading time hypothesis asserts that the expected stock returns are equal on different days while Mondays have higher returns to compensate for the longer holding period in the case of the Calendar time hypothesis.

2.3 Determinants of Stock Returns

2.3.1 Day of the Week Effect

The day of the week patterns have been investigated extensively in different markets. Studies (Cross 1973; French 1980, Keim and Stambaugh 1984; Rogalski 1984, Aggarwal

and Rivoli 1989) document that the distribution of stock returns varies according to the day of the week. Berument and Kiymaz (2001) noted that the average return on Monday is significantly less than average return over the other days of the week.

2.3.2 Earnings/Price Ratio

Basu (1977) showed that stocks with low earnings/price ratios on average earned higher absolute and risk adjusted rate of return than stocks with higher earnings/price ratios. Basu (1983) further noted that the returns on the common stocks appear to be related to the earnings yield as stocks with high E/P firms earn on average higher risk adjusted returns than the common stock of low E/P firms.

2.3.3 Book-to-Market Ratio

Pontiff and Schall (1988) argued that aggregate measure of the book-to-market ratio forecasts future market returns and excess returns of small stock over big stocks. Auret and Sinclaire (2006) noted that there is a significant relationship between book-to-market and stock returns since the book-to-market ratio can be interpreted as a proxy for some underlying risk related to a particular stock.

2.3.4 Firm Size

Kazemi and Kazemikhasragh (2012) showed that there is a positive and significant relation between firm size and sock returns when the market conditions are considered. Alam, Ismail, Sabir and Tahir (2013) Showed that firm size do affect stock returns. Abdullahi, Lawal and Muhtar (2011) argued that investment in big sector or firm does not necessarily guarantee safety of investment in stock market nor does it ensure higher returns all time.

2.3.5 Leverage

Leverage factor significantly affect the required returns while by including other risk factors leverage effect on returns becomes insignificant (Koseoglu, 2014). Poutiainen and Zytomierski (2010) noted that leverage as a stock characteristic cannot explain changes in the returns. Muradoglu and Sivaprasad (2008) showed that leverage has a negative relation with stock returns.

2.4 Empirical Review

2.4.1 International Studies on Day of the Week Effect

Cross (1973) examined the relationship between price changes on Fridays and Mondays as well as the distribution of the price changes. The study aimed to determine non-random movements in stock prices. The of the study population is the Standard & Poor's Composite Stock Index where a sample of 844 sets of Fridays and following Mondays from January 2, 1953 through December 21, 1970 for which the NYSE was open on both days is drawn. The behavior of the S & P composite was summarized in tables. The study observed that the index performed better on Fridays than on Mondays.

Poshakwale (1996) examined the weak form efficiency and the day of the week effect on the Bombay Stock Exchange using daily BSE national index data for the period 1987 to 1994. The study utilized descriptive statistics to tests the hypotheses: that prices on Indian Stock market follow a random walk, that the Indian stock market is efficient in weak form and that there is no difference in the returns between days of the week. Findings showed that the prices of BSE do not follow a random walk. Further the findings indicated that the average returns are different on each day of the week. The weekend

effect was evident as the returns achieved on Fridays are significantly higher compared to rest of the days of the week.

Ajayi et al. (2004) examined the day of the week effect stock returns patterns in eleven Eastern European emerging markets. The study used the daily closing values of the major stock indices from the inception of each market's index to September 6, 2002. Daily stock returns were computed using a model. The study findings showed negative Monday returns in six of the eleven stock markets in which two of them are significant and positive Monday returns in the remaining five in which only one is significant. Findings further indicated that the volatility of the market on Mondays is significantly higher than the volatility during rest of the week in four of the EEEMs.

Muhammad and Rahman (2010) empirically investigated the presence of weekend effect in stock market return for the period of January 1999 to December 2006 for Kuala Lumpur Composite Index. The study was both descriptive in nature and a longitudinal study as it focused on more than one point in time. Log different was used to compute daily returns and ordinary least square method to estimate the day of the week effect. Findings indicated that the day of the week effect was present in the Malaysian market.

Archana, Safeer and Kevin (2014) aimed to test the existence of market anomalies in Indian market. The study measured the existence of market anomalies with respect to BSE SENSEX index from 2008 – 2012. The study adopted the closing price and turnover of BSE for the period. The study utilized table to show the daily return, average return

per month and average return per day and mean as a measure of central tendency and the T-test to test whether or not the differences between two groups' average. The study adopted hypothesis testing methodology where hypotheses were tested and the findings inferred to the population. The findings indicated the weekend effect exists in the Indian market; turn of the month effect and turn of the year effect are minimal in the market.

2.4.2 Local Studies on Day of the Week Effect

Oyori (2012) empirically investigated the presence of day of the week at the NSE. The study adopted descriptive research design. The sample was the companies that constituted the NSE-20 share index drawn from all firm listed at the NSE. The study findings indicated that day of the week effect is present at the NSE.

Sifuna (2012) investigated whether day of the week effect exists in the Kenyan stock market. The study used multiple regression and daily market capitalization was used to compute the stock return. The study excluded all public holidays that fell between Monday and Friday. Findings showed that Tuesday had the highest positive return and Wednesday has the highest negative return hence concluding that day of the week effect does not affect stock returns at the Nairobi Securities Exchange.

Kuria and Riro (2013) examined stock market anomalies effects on average returns of the NSE. The study examined day of the week effect, weekend effect and monthly effect at the bourse. The study utilized secondary data and conducted simple descriptive analysis using simple regression model analysis of the respective variables and then results captured in mean returns, coefficient of variation and standard deviation. Findings of the

study indicated that the mean returns for Sundays and Mondays are negative and for all other days mean returns are positive and positive returns only on Thursdays. Findings of the month effect showed that returns in December are generally lower and in January higher thus the existence of the month effect at the NSE.

Mwinamo (2013) aimed to determine the existence of the day of the week effect at the NSE and the relationship between the day of the week and stock market volatility at the bourse. The study adopted a descriptive research design. Data used included daily prices and market indexes which was facilitated by the calculation of the daily stock returns of 50 companies listed at NSE from 1^{St} January 2008 to 31st December 2012. The study used regression statistics where daily returns were used as the dependent variable and the market index as the independent variable. Findings indicated the existence of day of the week effect at the NSE and the highest volatility is experienced on Monday and lowest volatility is experienced on Thursday.

Njunguru (2014) sought to investigate the existence of the weekend effect in stock returns at the NSE. Specifically he aimed at determining whether Monday returns are lower than Friday returns. A sample of all the firms forming the NASI was drawn from all firms that were listed at the NSE between 2011 and 2013. The study adopted regression analysis where market return is the dependent variable and day of the week is the independent variable. Findings showed the existence of the weekend effect in the NSE and that there is a relationship between day of the week and stock market returns.

Rutto (2014) empirically aimed to establish the existence of the Monday effect on stock returns at the NSE. The study adopted descriptive survey design where companies that constitute the 20 share index were used as a sample drawn from the target population of the 62 companies that were listed at the NSE as at 31st December 2013. Secondary sources were used as a source of the data of the daily closing share prices. Natural logarithm of daily relative mean index value was used to measure daily returns. Regression statistic was used to test the Monday effect on the stock prices at the NSE. Findings showed that daily stock returns fall after Friday with negative returns recorded on Mondays. Further the findings confirmed the existence of the day of the week effect at the NSE.

Wangui (2014) aimed to find out whether there exists a relationship between bonds returns and the day of the week at the NSE. The study adopted a descriptive research design. The population of the study was composed of all the 11 listed companies that have issued bonds at the NSE. Findings indicated that there was strong evidence for the day of the week effect in bond returns and volatility. The findings also showed that there is little bond return volatility at the NSE.

2.5 Summary of Literature Review

Day of the week effect on stock returns have been extensively documented for different stock markets around the world and have yielded different results for different countries depending on the specific time-period chosen as well as the choice of model with which the effect was examined hence more studies in these area to study these anomalies.

Archana, Safeer and Kevin (2014) documented the existence of the weekend effect in the Indian market while Poshakwale (1996) and Njunguru (2014) documented existence of the same at the BSE and NSE respectively. Muhammad and Rahman (2010) indicated that the day of the week effect was present in the Malaysian market. Kuria and Riro (2013) showed that there exists month effect at the NSE. Oyori (2012) showed that day of the week effect is present at the NSE. Wangui (2014) confirmed the existence of day of the week effect on the bond returns at the NSE. Mwinamo (2013) and Rutto (2014) confirmed both the effect of day of the week on stock returns and existence of day of the week effect at the NSE contrary to the above Sifuna (2012) documented nonexistence of day of the week effect at the NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the steps and approaches that will be followed in executing the proposed study. Specifically it discusses the research design, population, sample design, data collection methods, data analysis techniques and test of significance.

3.2 Research Design

The study adopted a longitudinal descriptive research design. This research design was used because the day of the week effect on stock returns was examined over a five year period as from 1st January 2010 to 31st December 2014.

3.3 Population of the Study

The unit of analysis in the study was the firms listed at the NSE and the target population is the 62 listed firms at the NSE as at 31st December 2014 (See Appendix II). The study was a census study as all the firms listed at the NSE were studied. Among the 62 listed firms, 60 firms were studied because full set of data with regard to stock prices and dividend payments was obtained.

3.4 Data Collection

The study relied on secondary data, which was obtained from the records at Nairobi Securities Exchange. Data for the five year period 1st January 2010 to 31st December 2014 was sourced from the NSE website and NSE trading data vendors. The data series was comprised of daily stock market prices (See Appendix I) of the all the firms that were listed at the NSE as at 31st December, 2014.

3.5 Data Analysis Technique

The study used both descriptive statistics and inferential statistics. To investigate day of the week effect on stock returns a Kruskal Wallis H test was conducted in accordance with Hourvouliades & Kourkoumelis (2009) and Aghaeiboorkheili, Lari and Mardani (2013). Data collected was grouped according to the day of the week as shown in Table 3.1 below before the test was done:

Table 3.1: Day of the Week grouping of Stock Returns

Day of the Week	Group	Average Daily Returns
Monday	1	μ_{i1}
Tuesday	2	μ_{i2}
Wednesday	3	μ_{i3}
Thursday	4	μ_{i4}
Friday	5	μ_{i5}

Source: Author, 2015.

Where:

$\mu_{i1}, \mu_{i2}, \mu_{i3}, \mu_{i4}$ and μ_{i5} are the average daily returns of stock returns of all firms

listed at the NSE on Monday, Tuesday, Wednesday, Thursday and Friday respectively. The conclusion from the test is that the computed Kruskal Wallis H value was compared with the p value. To make conclusion from this test the following hypothesis was tested:

H_o: $\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$ (There is no difference among the daily returns on

Monday, Tuesday, Wednesday, Thursday and Friday)

H_1: $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$ (There is a difference among the average returns on

Monday, Tuesday, Wednesday, Thursday and Friday)

Conclusion was based on whether the calculated Kruskal Wallis H test statistic

significance value was greater or less than the α value (0.05).

3.5.1 Operationalization of the Study Variable

Operationalization is the process of developing operational definition of the variables that

are contained within the concepts of a quantitative research study (Mwangi, 2014). The

variable in the study was the daily stock returns for all the firms listed at the NSE.

The daily stock return for the stock of the firms listed at the NSE was computed as

follows:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}} + \frac{D_{it}}{P_{it-1}}$$

Where:

R_{it} is the daily stock return for Firm i on day t.

P_{it} is the stock price of Firm i stock on day t (the closing price).

P_{it-1} is the stock price of Firm i stock on day t-1 (the opening/previous closing

price).

D_{it} is the dividend paid by Firm i on day t.

The average daily stock returns were calculated as follows:

$$\mu_{it} = \frac{\sum R_{it}}{it}$$

Where:

μ_{it} is the average returns on day t.

$\sum R_{it}$ is the total stock returns for all firms listed at the NSE on day *t*.

it is the number of stock listed at the NSE on day *t*.

3.5.2 Test of Normality

A test of normality was conducted in order to ascertain that non parametric test was best test for this study (for the case of this study Kruskal Wallis H test was conducted). As a test of normality the Shapiro-Wilk statistic significance value was compared to α value of 0.05. If the Shapiro Wilk statistic significance value is less than α value, it shows that the data series is not normally distributed; if greater it shows that the data series is normally distributed.

3.5.3 Test of Significance

A test of significance was conducted to determine whether the difference across the average daily stock returns is significant. The p value was used to test the significance level of the difference of the average daily returns across all the days of the week.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter presents the test of normality and the Kruskal Wallis H test for testing the day of the week effect on stock returns at the NSE.

4.2 Descriptive Statistics

The following Table 4.1 reports the descriptive statistics of stock returns of the firms listed at the NSE across all the days of the week:

Table 4.1: Descriptive Statistics of Stock Returns

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Monday	261	-.92	.04	-.0776	.14259	.020	-4.488	19.949
Tuesday	261	-.88	.12	-.0566	.12217	.015	-5.242	29.017
Wednesday	261	-.83	.01	-.0666	.12951	.017	-5.037	25.224
Thursday	260	-.90	.09	-.0590	.10156	.010	-6.858	50.824
Friday	260	-.85	.01	-.0718	.13827	.019	-4.825	22.839
Valid N (listwise)	260							

Source: Author, 2015.

Table 4.1 above reports that stock returns for the firms listed at the NSE in which Tuesday had the maximum return of 0.12 while Wednesday had the minimum return of -0.83. The mean daily returns for Monday, Tuesday, Wednesday, Thursday and Friday were -0.0776, -0.0566, -0.0666, -0.0599 and -0.0718 respectively. The table also reports

that the count of average stock returns for the firms listed at the NSE on Monday is 261, as well as on Tuesday and Wednesday, 260 for Thursday and Friday too.

The measure of asymmetry shows that stock returns of the firms listed at the NSE across all the days of the week are left skewed to the their means because they have a skewness statistic less than zero (Monday has -4.488, Tuesday has -5.242, Wednesday has -5.037, Thursday has -6.858 and Friday has -4.825). The measure of peakedness shows that stock returns have steep distributions more than a normal distribution because all the statistics are more than 3 (Monday has 19.949, Tuesday has 29.017, Wednesday has 25.224, Thursday has 50.824 and Friday has 22.839).

4.3 Testing Day of the Week Effect

The objective of the study was to determine effect day of the week effect on stock returns at the NSE. To test the day of the week effect on stock returns, the data series was tested for normality and eventually a Kruskal Walls H test was conducted.

4.3.1 Test of Distribution on the Stock Returns

To ascertain that non parametric tests are the suitable one to test the day of the week effect on stock returns for the firms listed at the NSE, distribution of the stock returns was tested using the Shapiro-Wilk statistic. To test the distribution of the stock returns data series, a test of normality was conducted. The aim of this test was to ensure that the Kruskal Wallis H test as a non-parametric test was the most appropriate for data which does not follow normal distribution.

The table 4.2 below shows the test of normality results across all the days of the week:

Table 4.2: Table of Normality on Stock Returns

Tests of Normality

	Day of the Week	Shapiro-Wilk		
		Statistic	df	Sig.
Average Daily Returns	Monday	.401	261	.000
	Tuesday	.394	261	.000
	Wednesday	.358	261	.000
	Thursday	.344	260	.000
	Friday	.357	260	.000

Source: Author, 2015

From Table 4.2 above, the test of normality results shows that the Shapiro-Wilk significance value 0.000 is less than the α value 0.05 for all the Day of the week, thus concluding that the average stock returns of the firms listed at the NSE do not follow normal distribution across all the day of the week. This shows that a non parametric test is the appropriate one for testing the day of the week effect at the NSE.

4.3.2 Day of the week effect on Stock Returns.

The objective of the study was to determine effect of day of the week on stock returns for the firms listed at the NSE. Before the Kruskal Wallis H test was done the stock returns data series was grouped according to the days of the week as shown in Table 4.3:

Table 4.3: Day of the Week grouping of Stock Returns

Day of the Week	Group	Average Daily Returns
Monday	1	μ_{i1}
Tuesday	2	μ_{i2}
Wednesday	3	μ_{i3}
Thursday	4	μ_{i4}
Friday	5	μ_{i5}

Source: Author, 2015.

Based on these groupings of the average daily returns, hypothesis testing was conducted by the Kruskal Wallis H test. The hypothesis was as follows:

H_o: $\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$ (There is no difference among the daily returns on

Monday, Tuesday, Wednesday, Thursday and Friday)

H_1: $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$ (There is a difference among the average returns on

Monday, Tuesday, Wednesday, Thursday and Friday)

Tests results are as follows in Table 4.4 below:

Table 4.4: Kruskal Wallis H tests Results

Test Statistics^{a,b}

	Average Daily Returns
Chi-Square	22.936
df	4
Asymp. Sig. P	.000

a. Kruskal Wallis Test

b. Grouping Variable: Day of the Week

Source: Author, 2015.

Results reported in Table 4.4 shows that the Chi-Square value 22.936 with $p<0.05$, implying that the average daily returns are different across all the days of the week.

Therefore the null hypothesis that there is no difference among the daily returns on Monday, Tuesday, Wednesday, Thursday and Friday is rejected and conclude that there is difference among the average daily returns across the days of the week thus confirm that the stock returns at the NSE are affected by the day of the week effect. The p value in Table 4.4 above shows that the difference among the average daily returns of the firms listed at the NSE across all the days of the week is significant.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION

AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussions of the findings of the study, conclusions drawn from the findings, recommendations, limitations of the study and suggestion for further research.

5.2 Summary of Findings

The main objective of the study was to determine the effect of day of the week effect on stock returns at the NSE. Findings of the study shows that the stock returns across all the days of the week at the NSE have mean of less than 0 and they are skewed to the left. The findings also show that average daily returns across all the days of the week do not follow a normal distribution. Further the study findings shows that the average stock returns across all the days of the week are different.

5.3 Conclusions of the Study

The test of normality shows that the stock returns at the NSE do not follow a normal distribution thus justifying why non parametric test was used in the study. Non parametric test are used when the data being analyzed do not follow a normal distribution as it is the case with the stock returns at the NSE.

The study hypothesized that there is no significance difference among the average daily returns, based on the findings the hypothesis is rejected and concluded that there is difference among the average daily returns of firms listed at the NSE and that the day of the week effect is present at the NSE. As shown by Table 4.4, the p value is less than

0.05 implying that the difference among the average daily return at the NSE across all the days of the week is significant thus the day of the week effect is present at the exchange.

5.4 Recommendations of the Study

The day of the week effect on stock returns will enable investors to take advantage of the volatility in stock returns to adjust their portfolios by taking day of the week effect variation on stock returns. Formulation and implementation of trading strategies that are in line with the changing patterns of returns in the market can result in earning abnormal returns.

The study also indicate that the stock market anomaly do exist at the Nairobi securities exchange. It is for this reason that the study recommends to the government through the Capital Market Authority (CMA) to come up with enhanced regulations that are aimed at improving the efficiency of the securities market. The CMA should put in place more regulation so that the stock market becomes fair in order to ensure that there are no daily variations with respect to stock returns. The government is in a better position to monitor the performance of the stock market hence ensuring economic stability of the country.

5.5 Limitations of the Study

The study covered a period of five years from 1ST January, 2010 to 31ST December, 2014 due to the cost of acquiring the data, sourcing data for a longer period proved a challenge to the researcher. In analysis of day of the week effect at the NSE a longer duration would enable the determination of whether the anomaly is presented at the market.

5.6 Suggestion for Further Research

Based on the research findings, the study suggest that a study be done on all segment of the market. This is because by focusing on both the stock and debt market would produce a holistic view of day of the week effect at the Nairobi Securities Exchange.

Based on the research findings, the study suggest that a study to be done on all the securities market anomalies to determine whether the stock returns at the NSE are affected by other securities market anomalies.

REFERENCES

Abdullahi, I. B., Lawal, W. A. & Muhtar, E. (2011). The effects of firm size on risk and return in the Nigerian Stock Market: A sectoral analysis, British Journal of Economics, Finance and Management Sciences, 1(2), 1- 10.

Aduda, J. & Muimi, P. (2011). Test of investor rationality for companies listed at the Nairobi Stock exchange. *Journal of Modern Accounting and Auditing, 7(8),* 827-840.

Aggarwal, R. & Rivoli P. (1989). Seasonal and Day-of-the Week Effects in Four Emerging Stock Markets. *Financial Review, 24,* 541-550

Aghaeiboorkheili, M., Lari, M. K. & Mardani, A. (2013). Day of the week effect, annual returns and volatility of five stock markets in Southeast of Asia, *Asian Journal of Finance & Accounting, 5 (1),* 446-461.

Ajayi, A. R., Mehdian, S. & Perry, J.M. (2004). The day of the week effect in stock returns: Further evidence from Eastern European Emerging Markets. *Emerging Markets Finance & Trade, 40 (4),* 53-62.

Alam, T., Ismail, A., Sabir, H. & Tahir, S. (2013). Impact of firm characteristics on stock returns: A case of Non-Financial Companies in Pakistan. *Asian Economic and Financial Review, 3(1),* 51-61.

Archana, S., Safeer, M. & Kevin, S. (2014). A study on market anomalies in Indian stock market. *International Journal of Business and Administration Research Review, 1 (3),* 128-137.

Auret, C. J. & Sinclaire, R. A. (2006). Book-to-market ratio and returns on the JSE, *Investment Analysts Journal, 63,* 31-38.

Bachelier, L. (1900). The random character of stock market prices.

Bahadur, F. & Joshi, N. K. (2005). The Nepalese Stock Market: Efficient and Calendar anomalies. *Economic Review,* 40-83.

Ball. C, A., Torous, W. N. & Tschoegl, A. E. (1982). Gold and the weekend effect. *The Journal of Future Markets, 2(2),* 175-182.

Basu, S. (1977). Investment performance of common stocks in relation to their price-earnings ratios: A test of the Efficient Market Hypothesis. *Journal of Finance, 32(3),* 663-682.

Basu, S. (1983). The relationship between earnings yield, market value and return for NYSE common stocks, *Journal of Financial Economics, 12,* 129-156.

Berument, H. & Kiymaz. H. (2001). The day of the week effect on stock market volatility. *Journal of Economics and Finance, 25(2),* 181-193.

Brus, J., Liu, P. and C. Schulam. 2003. The Weekend and Reverse Weekend Effects: An Analysis by Month of the Year, Week of the Month and Industry. *Journal of Business Finance and Accounting, 30 (5),* 863-890.

Charles, A. (2010). The day of the week effects on the volatility: The role of the asymmetry. *European Journal of Operation Research, Elsevier, 202(1),* 143-152.

Cohen, D. (2012). *The disappearance of the day of the week effect: Evidence from the London Stock Exchange.* Unpublished Bachelors Thesis, School of Economics, University of Nottingham.

Cross, F. (1973). The behavior of stock prices on Fridays and Mondays. *Financial analysts Journal, 29 (6),* 67-69.

Dupernex, S. (2007). Why might share prices follow a random walk? *Student Economic Review, 21*, 167-179.

Fama, E. (1965), Random walks in stock market prices, *Financial Analysts Journal, 21(5),* 55–59.

Fama, E. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance, 25 (2)*, 383-417.

French, K. 1980. Stock Returns and the Weekend Effect. *Journal of Financial Economics, 8,* 55-69.

Galai, D. and H.K. Levy. (2002). *Multiple Comparisons of Return Distributions: Another Look at the Day-of-the-Week Effect.* Working Paper, Hebrew University of Jerusalem.

Gan, C., Hu, B., Kao, T. & Luo, J. (2009). An empirical analysis of Chinese stock price anomalies and volatility. *Investment Management and Financial Innovation, 6(1),* 199-216.

Haroon, M. A. & Shah, N. (2013). Investigating day of the week effect in stock returns: Evidence from Karachi Stock Exchange – Pakistan. *Pakistan Journal of Commerce and Social Sciences, 7 (2),* 381-393.

Hourvouliades, N. L. & Kourkoumelis, N. (May, 2009). New Evidence for the day of the week effect in the financial crisis. Presented at the International Conference on Applied Economics. Kastoria, Greece, 2009.

Hurst, H. E. (1951). Long-term Storage Capacity of Reservoirs, *Transactions of the American Society of Civil Engineers, 116*, 770-808.

Jarrett, J. E. & Kyper, E. (2006). Capital market efficiency and the predictability of daily returns. Applied Economics, *38(6), 631-636.*

Kaizoji, T. (2006). *Modeling of stock returns and trading volume.* Unpublished Working Paper, International Christian University.

Kampman, T. (2011). *Explaining stock returns: CAPM, Fama-French Three Factor Model and Carhart's Four Factor Model*, Unpublished Bachelor Thesis: Finance, Tilburg University.

Kazemi, Z. & Kazemikhasragh, A. (2012). The correlation between firm size and sock return of the companies in the index of 50 most active firms listed on the Tehran Stock Market. *Journal of Research in Commerce & Management, 1(11),* 88-98.

Keim, D. B. & Stambaugh, F. (1984). A Further Investigation of Weekend Effects in Stock Returns. *Journal of Finance, 39,* 819-840.

Khan, A., Khan, M, I. and Khan, M, S. (2014). Calendar anomalies, reality or an illusion? KSE –Pakistan. *Journal of economics and International Finance, 6(4),* 80-84.

Khan, A. Q. & Ikram, S. (2010). Testing semi-strong form of efficient market hypothesis in relation to the impact of foreign institutional investors' investment on Indian capital Market. *International Journal of Trade, Economics and Finance*, *1 (4),* 373-379.

Koseoglu, B. (2014). Cross-sectional variation in sock returns due to leverage in Exchange Istanbul. *International Business Research, 7(1),* 34-41.

Kuria, A. M. & Riro G. K. (2013). Stock market anomalies: A study of seasonal effects on average returns of Nairobi Securities Exchange. *Research Journal of Finance and Accounting, 4 (7),* 207- 215.

Langat, K. (2014). *A test of the month effect at the Nairobi Securities Exchange*. Unpublished MBA Research Project, University of Nairobi.

Lintner, J. (1965). The valuation of risk assets and the selection risky investments in stock portfolios and capital budgets. *Rev. Econ. Stat, 47(1),* 13-37.

Malkiel, B. G. (2003). The Efficient Market Hypothesis and Its Critics. *The Journal of Economic Perspectives, 17*, 59-82.

Mossin, J. (1966). Equilibrium in a capital asset market. *Econometrica, 34(4),* 768-783.

Mugenda, O. M. & Mugenda A. G. (1999).*Research Methods: Quantitative and Qualitative Approaches*. Nairobi, Kenya: Acts Press.

Muhammad, N. M. & Rahman, M. N. (2010). Efficient market hypothesis and market anomaly: Evidence from day of the week effect of Malaysian Exchange. *International Journal of Economics and Finance, 2 (2),* 35-42.

Mun, H. W., Siong, E.C. & Thing, T.C. (2008). Stock market and economic growth in Malaysia: Causality Test. *Asian Social Science, 4(4),* 86-91.

Muradoglu, G. & Sivaprasad, S. (2008). *An Empirical test on leverage and stock returns*. Unpublished research Paper, Cass Business School, London.

Mwangi, C. I. (2014). *Socially responsible investment, portfolio management, institutional characteristics and performance of Mutual Funds in Kenya,* Unpublished PhD Thesis, University of Nairobi.

Mwinamo, K. C. (2013). *The day of the week effect and stock volatility: Evidence from Nairobi Securities Exchange*, University of Nairobi.

Ndeto, M.W. (2014). *An examination of the day of the week anomaly in the Kenya Shilling/US Dollar foreign exchange market*. Unpublished MBA Research Project, University of Nairobi.

Njuguna, A., Onyuma, S., Owuor, G. & Wambire, J. M. (2013). The effect of initial public offer announcements on market returns of listed stocks at the Nairobi Stock Exchange. *International Journal of Research in Management, 2(3),* 84-119.

Njunguru, J. N. (2014). *An investigation of the existence of weekend effect in stock returns at the Nairobi securities Exchange,* Unpublished MBA Research Project.

NSE (2014). Review of the NSE 20 Share Index constituent counters, Retrieved on 27TH June 2015, from www.nse.co.ke

Olweny, T. (2012). Dividend announcement and firm value: A test of semi-strong form of efficiency at the Nairobi Stock Exchange, *Asian Social Science, 8(1),* 161-175.

Ondiala, M. O. (2014). *The turn of the month effect at the Nairobi Securities Exchange.* Unpublished MSc Finance Research Project, University of Nairobi.

Otieno, O. D. (2014). *The effects of rights issue announcement on stock returns of firms quoted in Nairobi Securities Exchange*. Unpublished MBA Research Project, University of Nairobi.

Oyori, O. E. (2012). *An investigation of the day of the week effect in the Nairobi Securities Exchange,* Unpublished MSc Research Project, University of Nairobi.

Philpot, J. &Peterson, C. A. (2011). A brief history and recent developments in day of the week effect literature. *Managerial Finance, 37 (9),* 808-816.

Pontiff, J. & Schall, L. (1998). Book-to-market ratios as predictors of market returns, *Journal of Financial Economics, 49,* 141-160.

Poshakwale, S. (1996). Evidence on weak form efficiency and day of the week effect in the Indian Stock market. *Finance India, 10 (3),* 605-616.

Potocki, T. & Swist, T. (2012). Empirical test of the strong form efficiency of the Warsaw Stock Exchange: *The analysis of WIG 20 Index shares. South-Eastern Europe Journal of Economics*, 2, 155-172.

Poutiainen, B. & Zytomierski, D. (2010). *In search of a leverage factor in stock returns: An empirical evaluation of Asset Pricing Models on Swedish data,* Unpublished Master's Thesis in Finance, Stockholm School of Business.

Rahman, L. (2009). Stock market anomaly: Day of the week effect in Dhaka Stock Market. *International Journal of Business and Management, 4 (5),* 193-206).

Ritter, J. R. (1988). The buying and selling behavior of individual investors and the turn of the year. *Journal of Finance, 43*, 701-717.

Rogalski, R. J. (1984). New Findings Regarding Day-of-the-Week Returns over Trading and Non- Trading Periods: A Note. *Journal of Finance, 35,* 1603-1614.

Roll, R. (1977). A critique of the asset pricing theory's tests part I: On past and potential testability of the theory. *Journal of Financial Economics, 4(2),* 129-176.

Rutto, B. A. (2014). *The Monday effect on returns at the Nairobi Securities Exchange.* Unpublished MBA Research Project, University of Nairobi.

Samuelson, P, A. (1965). Proof that properly anticipated prices fluctuate randomly. *Industrial Management Review, 6(2),* 41-49.

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under uncertainty. *Journal of Finance, 19,* 425-442.

Sifuna, M. A. (2012). *Day of the week effect on stock returns at the Nairobi Securities Exchange.* Unpublished MBA Research Project, University of Nairobi.

Strong, N. (1992). Modelling abnormal return: A review article. *Journal of Business Finance and Accounting, 19 (4)*, 533-553.

Sunil, P. (1996). Evidence on Weak Form Efficiency and Day of Weak Effect in the India Stock Market. *Finance India, 3*.

Wamari, E. W. (2014). The effect of initial public offers on long run stock performance: Evidence from the Nairobi Securities Exchange, *International Journal of Science and Research Publications, 4(10),* 1-9.

Wangui, M. P. (2014). *Day of the week effect and bond market returns at the Nairobi securities Exchange*. Unpublished MBA Research Project, University of Nairobi.

William, S.G. (2002). Anomalies and market efficiency, *Handbook of the Economics of Finance*, 937-972.

APPENDICES

Appendix I: Data Collection Sheet – Stock Prices

S. No.	Day of the Week	Date	Opening Stock Price	Closing Stock Price	Daily Stock Return	S. No.	Day of the Week	Date	Opening Stock Price	Closing Stock Price	Daily Stock Return
1						32					
2						33					
3						34					
4						35					
5						36					
6						37					
7						38					
8						39					
9						40					
10						41					
11						42					
12						43					
13						44					
14						45					
15						46					
16						47					
17						48					
18						49					
19						50					
20						51					
21						52					
22						53					
23						54					
24						55					
25						56					
26						57					
27						58					
28						59					
29						60					
30						61					
31						62					

Appendix II: Study Population as at 31st December 2014.

S. NO	Company Name	S. NO	Company Name
1	A. Baumann & Co Ltd	32	Kenya Airways Ltd
2	ARM Cement Ltd	33	Kenya Commercial Bank Ltd
3	B.O.C Kenya Ltd	34	Kenya Orchards Ltd
4	Bamburi Cement Ltd	35	Kenya Power & Lighting Co Ltd
5	Barclays Bank of Kenya Ltd	36	Kenya Re Insurance Corporation Ltd
6	British American Tobacco Kenya Ltd	37	Liberty Kenya Holdings Ltd
7	British-American Investments Co.(Kenya) Ltd	38	Longhorn Kenya Ltd
8	Car & General (K) Ltd	39	Marshalls (E.A.) Ltd
9	Carbacid Investments Ltd	40	Mumias Sugar Co. Ltd
10	Centum Investment Co Ltd	41	Nairobi Securities Exchange Ltd
11	CFC Stanbic of Kenya Holdings Ltd	42	Nation Media Group Ltd
12	CIC Insurance Group Ltd	43	National Bank of Kenya Ltd
13	Crown Paints Kenya Ltd	44	NIC Bank Ltd
14	Diamond Trust Bank Kenya Ltd	45	Olympia Capital Holdings Ltd
15	E.A. Cables Ltd	46	Pan Africa Insurance Holdings Ltd
16	E.A. Portland Cement Co. Ltd	47	Rea Vipingo Plantations Ltd
17	Eaagads Ltd	48	Safaricom Ltd
18	East African Breweries Ltd	49	Sameer Africa Ltd
19	Equity Bank Ltd	50	Sasini Ltd
20	Eveready East Africa Ltd	51	Scangroup Ltd
21	Express Kenya Ltd	52	Standard Chartered Bank Kenya Ltd
22	Flame Tree Group Holdings Ltd Ord	53	Standard Group Ltd
23	Home Afrika Ltd	54	The Co-operative Bank of Kenya Ltd
24	Housing Finance Co. Kenya Ltd	55	The Limuru Tea Co. Ltd
25	Hutchings Biemer Ltd	56	Total Kenya Ltd
26	I&M Holdings Ltd	57	TPS Eastern Africa Ltd
27	Jubilee Holdings Ltd	58	Uchumi Supermarket Ltd
28	Kakuzi Ltd	59	Umeme Ltd
29	Kapchorua Tea Co. Ltd	60	Unga Group Ltd
30	KenGen Co. Ltd	61	Williamson Tea Kenya Ltd
31	KenolKobil Ltd	62	Trans-Century Ltd