AN INVESTIGATION OF THE DAY OF THE WEEK ANOMALY IN STOCK RETURNS FOR COMPANIES QUOTED IN THE NAIROBI SECURITIES EXCHANGE

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DECLARATION

I declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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This Research project has been presented for examination with my approval as the University Supervisor.

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DEDICATION

This project is dedicated to my mum Juliet Nyawira and my sisters Patience Ngima and Esther Boera. Your support and love is priceless.

ABSTRACT

This study sought to establish the effect of the day of the week anomaly in stock returns for companies quoted at NSE. A descriptive research design to describe the calendar anomalies at the NSE was used. The target population for this study included all the 65 institutions registered at the NSE. The data amassed consisted of the share prices between 1st January 2018 and 31st December 2018. The data for conducting the investigation was sourced from the NSE. Secondary data for the daily market price from 1st January 2018 to 31st December 2018 for each of the 5 days of the week was used. The analysis revealed that different days had a different return effect. Specifically, Thursday had the highest mean of the week was on which was 0.0001926 and standard deviation of .01079497. This implies that there was Thursday effect on the stock return of the week. The mean for the other days of the week were negative implying they had a negative effect on the stock return of the week. The study therefore, concludes that the highest returns are recorded on Thursday, while the lowest are recorded on Tuesday. This study also showed that returns decrease from Monday till Thursday then decreases again on Friday due to weekend effect. Thus, the study concluded that there is a pattern in the returns for the days of the week. The findings also showed that there existed different positive and negative correlation during the days of the week. Thus, based on these correlations, the study concluded that investors should focus their investment strategies on days of the week that are not significantly negatively correlated with Thursday to make their trading decisions. The study recommends that the day of the week anomaly purports that the existence of a pattern during the days of the week whereby these returns are linked to a particular day of the week. Owing to this pattern, investors can take advantage of and strategize on the investing trends. For instance, they can buy stock on Tuesday, which has the lowest return and sell on Thursday, which has a high return. Since the study has established that an anomaly effect exists during the days of the week, the study recommends that the government should come up with measures to ensure efficiency in trading. These measures would include various regulations that would ensure the stock market is fair trading ground with minimal chances of exploitation.

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LIST OF ABBREVIATIONS AND ACRONYMS

APT   Arbitrage Pricing Theory

CAPM   Capital Asset Pricing Model

CFD   Contract for Difference

CMA   Capital Markets Authority

DOTW   Day of the Week

DSE   Dhaka Stock Exchange

EMH   Efficient Market Hypotheses

GCC   Gulf Cooperation Council

IRT   Interest rate Theory

IFC   International Finance Corporation

MOTY   Month of the Year

NSE   Nairobi Securities Exchange

TOTM   Turn of the Month

TOTY   Turn of the Year

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Calendar anomalies constitute the key issues examined in financial writings. This is because they are the key contributing factors to stock returns abnormalities (Nawaz & Mirza, 2012). These anomalies have been suggested to exist in various markets. For instance a study by Gupta and Mahesri (2013) that reviewed stock indices from five developed countries, which included (Canada, U.S., Japan, U.K. and Germany between 1998 and 2003 and established that there exists lower and higher returns on every market. Abdulahi and Shah (2014) similarly established the presence of the (DOTW) effect in the Pakistani market, which affected the mean, and instability of the returns. A review by Alagidede (2014) on Africa's major stock markets pointed to the existence of calendar anomalies on Nigerian and South African stock markets.

This investigation was supported by researchers who have remarkably affected the field of stock performance. Fama's (1970) through his work "Efficient Market Hypothesis (EMH)" argues that stocks should constantly sell at their fair value that pose a challenge to investors to either buy devalued stocks or buy or sell stocks at overstated prices and similarly difficult to overtake the market at large by way selection or market timing by an expert (Kuria & Riro, 2013). Ross's (1976) work on "Arbitrage Pricing Theory (APT)" states that various factors cause stock market return to deviate from the expected value. There is also Keynes (1960) who through the Interest Rate Theory argues that interest rate affects stock returns by impinging on the economy in entirety together with the stock markets (Alagidede, 2014). The three theorists informed the study findings.

In Kenya, calendar anomalies are said to be persistent at the (NSE) which is attributed to the market not being fully efficient despite the various reforms and installation of sophisticated information technologies done to promote trade (Kuria & Riro, 2013). A study by Omar (2015) established that most returns earned at the NSE prior to the holiday are positive whereas the pre-holiday returns were negative exemplifying the existence of holiday effects. This study examined whether there exists other calendar anomalies at the NSE.

1.1.1 The Calendar Anomaly

Stock market anomaly refers to an unfamiliar trend in stock returns that occurs within the stock markets. Anomalies are also defined as the distortion in stock returns that seem to contradict the EMH (Madiha, Shanza, Fatima & Samia, 2011). Some of the causes of the distortion include; lack of market intelligibility, biased competition and supervisory actions. Market anomalies are largely categorized as technical, fundamental and calendar anomalies. This study focused on calendar/seasonal anomalies defined as uneven pattern and variability in stock prices.

Various scholars have come up with different calendar anomalies such as: the DOTW also the weekend, turn of the month (TOTM), January and holiday effects. The DOTW effect is where stocks show comparatively greater returns on Friday matched to Monday, with Friday being week's first trading day while Monday being the week's first trading day. The DOTW effect is attributed to the investors' trading trends (Tilica & Oprea, 2014). However, Ajayi et al. (2004) suggests conflicting results of the presence of the DOTW in the emerging markets. The TOTM effect is where days at the end of the month

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exhibit higher returns relative to other days during the study period. In this anomaly, a specific month is separated into three segments and every segment has separate returns (Wong, Agarwal & Wong., 2016).

The January effect describes great stock market returns realized in January (the first month of the year). High returns in January are attributed to factors such as literature extent, window dressing and tax loss selling are three major elements leading to January's great returns relative to those of December. Researchers that support the existence higher stock returns in the month of January relative to others include; Keim (1983); Rozeff & Kinney (1976), McConnell & Xu (2008) among others. The Holiday Effect is where pre- holiday share returns exhibit high and consistent returns compared to post holiday (Balinta & Gica, 2012). A review by Chong et al. (2005) on Hong Kong, U.K and U.S markets established the existence of the Holiday Effect. This study reviewed the DOTW calendar anomaly observed at the NSE over time.

1.1.2 Stock Market Return

Stock markets are an aggregate trading platform where investors buy and sell securities of publicly listed companies. Stock market establishment dates back to 1773 when the first stock market, London stock exchange was founded. Thereafter, the United States Stock exchange was formed in 1790. Stock markets are crucial in any economy for their role of financial intermediation where they facilitate resource mobilization in that nation which has remained a concern that investors and other stakeholders have considered arduous to tackle. Prudent resource management encourage sustainable growth in the

economy by increasing the achievement of ideal economic productivity (Osinubi, 2010). Stock markets have been the preferred channel of long-term capital mobilization to the registered corporations due to the ability of amassing finances from various investors allowing them to increase their ventures. They provide investors with different venture conduits that they can invest their excess funds.

Stock market returns are the stock price variation matched to the initial prices during investor's assessment to acquire the stock. Stock market return is also defined as the period-to-period change in the average stock market index (Trading economics, 2015). They are therefore the yields produced by investors; as disbarments issued to owners by the establishment or revenues from time to time trading. Traders earn yield by purchasing stocks perceived as undervalued and trading them at higher prices. As stock returns are highly correlated with fluctuations in economic activities (Economic watch, 2010). The desired returns for investors vary due to dissimilar risk levels i.e. an investor's unique perception on a particular stock, and the stock market at large, defines the risk level the investor is willing to bear.

The Contract for Difference (CFD) highlights that the performance of the stock market in Kenya has witnessed an improvement over time with the highest score of 5499.64 in March 2015 and an all-time low performance of 2749.34 in October 2018. Although indices such as the Nairobi 20 decreased by 28 points which is a 0.98 percent in the begging of 2019 (Trading economics, 2019). The NSE 20 is a main stock market index, which traces the performance of the 20 best performing establishments registered at the

NSE. This study reviewed whether NSE stock market returns are affected by the calendar anomalies.

1.1.3 The Calendar Anomaly and Stock Returns

A number of research have studied the linkage between calendar anomaly and stock returns. For example, Gupta and Mahesri (2013) evaluated the DOTW effect and how it relates to unpredictability and extent of trading activity of stock markets in Canada, Japan, Germany, UK and US for the period between 1988 and 2003. The researchers found that in all of the five countries, highest returns were noticed on Tuesday in the US on Wednesday in Japan, on Thursday for UK and Germany and Friday for Canada. On the other hand, least returns were seen on Tuesdays for Japan, and Wednesdays for UK, Canada and US as well as Fridays for Germany.

Nawaz and Mirza (2012) surveyed the link between calendar anomalies and stock returns and established that there exist various calendar anomalies including the DOTW, January, the turn of month and holiday effects all of which impinge on Pakistan's stock market returns. Some calendar anomalies are said to fade out and seize to exist anymore for instance in the Kuwait stock market and Singapore stock market where a number of calendar anomalies have been stated to seize to exist. Diaconasua, Mehdianb and Stoicaa (2012) evaluated the presence of the DOTW and the-TOTY effects in the equity market in Romania, considering Bucharest Stock Exchange returns for the period 2000 to using BET and BET-C indicators. The study found no daily return abnormally. The study observed greater return anomalies on Thursday, in period before financial downturn. The study then concluded that the nonexistence of any January or Monday effects during the

whole review period and the disappearance of these anomalies during post-financial crisis period suggests that the equity market in Romanian is growing to be relatively efficient.

Locally, Omar (2014) evaluated the Holiday Effect at the NSE. The investigation ascertained that positive preholiday returns were greater than normal day's proportion. The investigation ascertained a statistically substantial positive association between return and pre-holiday occurrence. These findings reassert the existence of the preholiday effect at the NSE. The researcher also found that most stock returns generated at the NSE after the holiday are positive when compared with the negative post-holiday returns. The study concluded that a statistically substantial negative relationship exists which confirms the existence of a post-holiday effect. Most of the empirical studies reviewed were done years ago which does not account for the time that has elapsed.

1.1.4 Nairobi Securities Exchange (NSE)

The NSE dates back to 1951 and was established as Nairobi Stock Exchange (("History of NSE," n.d., para. 2). It was formed as an overseas stock exchange. It started as a deliberate organisation of stockbrokers formed under the auspices of the society act. Through the NSE, Kenya's first privatisation activity took place in 1988, where the government sold 20% ownership in the Kenya Commercial Bank (KCB) to the private investors as it reserved a controlling stake. The NSE has registered substantial growth for example in 1994; the NSE 20-share index recorded 5030 points, the highest since inception. Consequently, IFC regarded NSE as a top active market globally having a dollar return of 179%.

The government in 1998 expanded the foreign investment extent by instituting capital markets development incentives. Presently, numerous reforms have been implemented at the NSE including the introduction of incentives e.g. tax, which reduces the trading costs, the institution of a trading section of fixed income securities, broadening of the maturities mainly for the treasury bonds and the trading system upgrading. The changes have also seen the NSE introduce the procedure of demutualization and also live trading which was established by way of automated trading. The hours of trading were also raised from 2 to 3 hours.

The stock market is controlled by the Capital Markets Authority (CMA), which is tasked with the listing of firms which enables investor's to trade. The NSE has 65 firms, which are categorized into the following market segments: Automobiles and Accessories; Agricultural Sector; Banking; Construction and Allied Sector; Commercial and Services; Energy and Petroleum; Insurance; Manufacturing and Allied; Investment; and Telecommunication and Technology (nse.co.ke). The market enables trading of equities and bonds. NSE aims at facilitating clearance of equities, bonds, derivatives trades and other associated instruments (Owolabi, 2013). This study determined the presence of calendar anomalies as well as how it affects the stock returns at the NSE.

1.2 Research Problem

When the securities market is efficient according to the Efficient Market Hypotheses (EMH), there should be no abnormal returns in the stock markets on special occasions such as holidays, various week days or different periods of the year (Bodie, Kane &

Marcus, 2009; Dodd & Galchovich, 2011). However, this is not always the case. Some researchers suggest that seasonal variations of stock prices is more apparent in established markets while others argue that established stock markets work more efficiently thus not likely to experience frequent anomalies. Other scholars assume that smaller, less developed and less efficient markets are likely to encounter various market anomalies (Shahid & Mehmood, 2012). Thus, whether market abnormalities exist in developing markets such as NSE and the effect they have on stock market returns remains a question to be researched.

Several studies have been reviewed on this area of knowledge for instance; Shahid and Mehmood (2015) examined calendar abnormalities in Stock Market in the context of Karachi Stock exchange 100 Index during between 2008 and 2012 and found that there exists the DOTW and the TOTM effect at the KSE. Norvaisiene, Stankeviciene and Lakstutiene (2015) reviewed variations in the Baltic Stock Markets between 2003-2014 and found that Month effect and Halloween effects exist in Estonia and Lithuania. Locally, Omar (2012) evaluated the holiday effect at the NSE and found that there are no notable disparities between the pre and the post-holiday anomalous returns at the NSE. Kuria (2013) reviewed the stock market abnormalities and how they impact NSE market returns and found that NSE is still not free from seasonal abnormalities in spite of improved IT use and several supervisory progresses.

A review by different scholars on the presence of calendar abnormalities at the NSE has brought about different conclusions for instance Sifuna (2012) concluded that the

Monday effect does not exist at the NSE. However, Oyori (2012) found the presence of Monday effect at NSE. Onyuma (2009), Nyamosi (2013) and Allan & George (2013) established that the January effect exists at NSE. Wachira (2012) using daily values of two major share indices, NSE 20 index and NASI ascertained the presence of the January effect at NSE. Kuria (2013) studied day of the week phenomenon, weekend phenomenon and monthly phenomenon and concluded existence of market returns seasonality at NSE. However, Kuria (2013) reviewed a period of 12 years and used the 20 share index data in his analysis. With these conflicting findings at the NSE on the holiday anomaly, this investigation revisits the possible existence of holiday effects and other calendar effects for instance the DOTW effect, the TOTM effect and January effect at the NSE.

From the literature reviewed, some studies were based on other countries such as Pakistan and Lithuania other than Kenya, which does not represent alike in Kenya owing to the dissimilarity in aspects for instance economic performance of a nation. Other studies focused on one type of calendar anomaly for instance Omar (2012) focused on the Holiday effect. None of the investigations reviewed the effect of calendar abnormalities on NSE stock market return for the period after 2015, which left the knowledge gap that this study sought to bridge by evaluating the impact of calendar anomalies on the returns at NSE.

1.3 Objective of the study

To establish the effect of the day of the week anomaly in stock returns for companies quoted at NSE.

1.4 Value of the Study

The results of this investigation will be of value to different interested parties for instance the state and other regulators of the stock market, the investors and to researchers as well as academicians.

To the state and various regulators of the stock market, this investigation's outcomes will be useful in regard to enlightening them on the calendar abnormalities in stock returns thus be able to formulate policies that reduce stock market anomalies.

This study will enrich the knowledge of investors at NSE; on the calendar abnormalities in stock returns thus enable them to make prudent investment decisions.

Other researchers and academicians will also find this study useful in that it would form a basis of impending investigations on the relationship between calendar abnormalities and market returns. The investigation will also guide future studies on the subject.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This part illustrated previous studies, which support this investigation. Theoretical works was assessed by numerous theories whereas the empirical literature was centered on previous investigations assessed on this area of knowledge. The literature was reviewed to give a different insight on the subject, after that was the summary followed by research gap.

2.2 Theoretical Review

The theoretical assessment was grounded upon three concepts that elucidate the anomalies in stock markets and their effects on stock returns. These embroil; the Interest Rate Theory (IRT), Efficient Market Hypothesis (EMH) and the Arbitrage Pricing Theory (APT).

2.2.1 Interest Rate Theory

Keynes (1960) developed IRT. Keynes argues that interest rate controls the rate of return as it brings variations to returns levels over time. The concept proposes that fluctuation in interest rate determine the amount of savings and investment, which means that it causes ripples throughout the economy. However, some researchers argue that investment and savings are not simply swayed by interest rate variations but similarly prices and state taxes among other policies. Though, considering these variables, economists cannot describe all of extent of savings and investment variations. Hence, as per this concept, the interest rate deals with inflation and simultaneously impinges on stock returns level.

The interest rate concept is though disapproved by a number of researchers for instance Knight, Robertson and Hansen on the grounds of missing practicality, as it described every concept using the bond market, which means that it deals with the bonds in place of money. The concept similarly ignores certain aspects for instance saving by individuals and capital efficiency as being key in varying the interest rate level. This concept is pertinent to this investigation for its argument that interest rate volatility affects stock returns by impinging on the economy together with the stock markets.

2.2.2 Efficient Market Hypothesis

EMH was brought forward by Fama (1970) who argues that there are three kinds of market efficiency explicitly; strong, semi-strong and the weak forms of efficiency. The weak form is when prices reflect fully historic evidence. The semi strong form is where prices fully mirror all publicly existing material. The strong form on the other hand is where prices mirror all material comprising internal information (Kuria & Riro, 2013). The share prices in the strong form mirror all pertinent material to that share value, regardless of whether such material is normally obtainable to current and prospective investors. Wild and Subramanyam (2009) argue that weak and semi strong forms of efficiency are familiar with developing countries.

The EMH was criticized on the grounds that it was hard to scientifically evaluate its assumptions. Researchers for instance Jensen (1978) argue that there exist abnormalities for instance the January effect and the small firm effect in the trends of historical stock prices making the EMH inappropriate. It was similarly disapproved for absence of

generalization. Certain researchers further propose that markets efficiency is not decided by the obtainability of material alone however, similarly to its accurate description hence although all the material obtainable at a particular time is integrated in stock price, the prices do not essentially replicate value (Wild & Subramanyam, 2009). The EMH was pertinent to this investigation for its contention that stocks in an efficient market ought to normally trade at their fair value on stock exchanges hence enabling investors to either buy underestimated stocks or trade stocks for overstated prices and similarly impossible to outdo the market in entirety.

2.2.3 Arbitrage Pricing Theory (APT)

Ross (1976) established the APT from CAPM model's limitation of having unrealistic assumptions. Ross (1976) proposes that in an efficient security market, no arbitrage should exist. If it did exist, it was attributed to other aspects, which result in asset returns steadily deviating from their anticipated prices. Although Ross (1976) did not give the extent of the effect nor did, he ascertain the aspects themselves but presupposes that the aspects lead to the differing of returns. The concept reflects the fact that there could be particular, company-specific explanations for variation of returns from the anticipated ones though the company-specific abnormalities are not linked in stocks (Alagidede, 2014).

Ross assumes that; the ROA is a linear function of macroeconomic factors for instance inflation rate, interest rate, exchange rate, GDP, industrial production, FDI, government expenditure, variations in oil prices and money supply. Contrasting the CAPM model,

APT is a financial market equilibrium model that begins by putting forward that in efficient financial markets, arbitrage prospects ought not to be present. Grounding on Ross's hypotheses, the expected return of an asset ought to be a linear function of its sensitivity to the amount of normal aspects to stop arbitrage (Tilica & Oprea, 2014). The APT remains significant to this investigation in its argument that expected stock returns vary because of certain factors, which can be demonstrated as a linear function of numerous aspects whose sensitivity to variation is characterized by an aspect specific beta coefficient.

2.3 Calendar Anomaly

Various scholars have analyzed different calendar anomalies. They comprise the DOTW effect, TOTM effect, January effect and the holiday effect.

2.3.1 The Day of the Week Effect

The DOTW effect, similarly called the Weekend Effect refers to the likelihood of stock prices to fall on Mondays, implying that Monday's closing prices are lesser relative to previous Friday's closing prices. The returns on Mondays have been for some unknown reasons constantly lesser relative to other weekdays. In some circumstances, Monday remains one day of the week having a negative average rate of return (Canady, 2009). Onyuma (2009) examined the DOTW effect in the Kenyan stock market return between 1980 and 2006. The study used data from the NSE 20 index and regression analysis to ascertain the behavior of Kenyan stock investors. The researcher established that Monday yields the least negative returns, whereas Friday yields the greatest positive returns. The

investigation also found that the returns are swayed by the foreign portfolio investor behavior and hindrances in getting news out to foreign financial markets.

Diaconasua, Mehdianb, Stoicaa (2012) examined the calendar anomalies in the Romanian stock market between 2000 and 2011. The researchers sought to probe the existence of the DOTW and the MOTY effects in the equity market in Romania. The study employed the Bucharest Stock Exchange returns. The investigation ascertained that although there existed the Thursday effect in the equity market in Romania, the Monday did not exist. The researchers attribute this to the EU accumulative extent of capital market maturity.

A study by Tilica and Oprea (2014) to examine the DOTW effect in the Romanian Stock Market established that there exists the Friday effect on the equity market in Romania, as evidenced by higher returns on Friday relative to other weekdays. The researcher concluded that the Friday effect is attributed to the global market risk. Gouider, Kaddour and Hmaid (2015) empirically analyzed calendar anomalies and their effect on the financial investors' behavior with regards to choices and return in Tunisia. The researchers sought to understand the weekend effect using Tunindex and how it affects the behavior of financial investors in terms of decisions and profit in Tunisia. The researches established that the weekend effect existed in the Tunisian stock market which was concluded from the return difference between the opening of the week (small and negative yields) and the closing of the week.

2.3.2 Turn of the Month Effect

TOTM effect describes the trend of stock prices to upsurge on the month's final trading day and the next month's beginning three trading days (Canady, 2009). Kok and Wong (2004) examined the presence of the third month anomaly in five ASEAN countries comprising Malaysia, Singapore, Thailand, Indonesia and the Philippines during the time period of the Asian financial crisis in 1997. Only Philippines, Malaysia, Indonesia registered the greatest average yields in the first segment of the month while least yields were observed in the second segment of the month by Indonesia and Malaysia which indicated that the TOTM effect is present. Wong et al. (2016) evaluated the existence of the TOTM effect in Singapore and found that months revealed greater yields at the TOTM days relative to all the other days, which confirms that TOTM abnormality is present in Singapore.

A review by Bepari and Mollik (2009) to determine the seasonal bearing in the yield series of Bangladesh's Dhaka Stock Exchange (DSE) established that the greatest mean yield was in the month of April, which implied that the TOTM effect was present. Rufus (2009) evaluated the monthly seasonal effect in Nigerian stock Exchange (NSE) with data of between 2004 and 2009 and found that turn of January effect was not present however, there was the turn of July and August effect in NSE. Chen and Chua (2011) examined the presence of the TOTM abnormality in the S&P 500 index and found that there exists evidence of significant results for the S&P 500 index, which was greater in the TOTM relative to the returns during the rest of the month, thereby confirming the existence of the TOTM anomaly.

Zafar, Urooj, Chughtai and Amjad (2012) established new evidence concerning the Pakistan capital market. The researchers concluded that there exists an inefficient behavior of Karachi stock market and that yields of first half of the month are greater as compared to the other half, which confirms that the TOTM effect is present. Shahid and Mehmood (2015) examined the calendar seasonality in Karachi Stock exchange with KSE 100 index between 2008 and 2012. The research reviewed the existence of monthly anomalies. Using standard deviation and mean of monthly yields, the study established that there exist calendar anomalies at KSE 100 index. The greatest positive yield during the month of March proves the existence of the monthly anomaly.

2.3.3 January Effect

January Effect is a pattern of amplified trading volume and increased stock prices in the first two weeks of January. This anomaly is occasionally addressed the same as the TOTY effect which in addition addresses the surge in trading volume and higher stock prices in the last week of December (Canady, 2009). Ariss, Mehdian and Rezvanian (2011) examined the existence of the January anomaly in the Gulf Cooperation Council (GCC) and ascertained that high, positive and significant returns were witnessed in December and not January and the other months like in other countries. The study then determined that GCC states had a December effect as opposed to January effect similar to other global markets.

Balinta and Gica (2012) the study reviewed whether the January effect is present in the capital market of Romania. The researchers divided the period of investigation into:

January 2003 December 2007 (prior to crisis) and January 2008 December 2010 (for the period of crisis). The study established that the January effect occurred prior to the financial crunch, however for the period of the crisis the effect existed. The study also observed that small firms record large returns in January and exceptionally large returns for the period of the first few January's trading days.

Diaconasu, Mehdian and Stoica (2012) examined the calendar anomalies in the Romanian stock market between 2000 and 2011. The researchers sought to examine the existence of the DOTW and the MOTY effects in the equity market of Romania. The study employed the Bucharest Stock Exchange returns. The investigation ascertained that although there existed the Thursday effect in the equity market of Romania, the January effect did not exist. The researchers attribute this to the EU increasing degree of capital market maturity.

2.3.4 The Holiday Effect

Holiday effect describes the share returns exhibiting steady trends during holidays, with great and constant yields on days before most important holidays (Balinta & Gica, 2012). Zafar et al. (2011) review on the Pakistani capital market found that pre- holiday yields are more substantial relative to the post-holiday yields indication the presence of the holiday effect. Nawaz and Mirza (2012) surveyed the relationship between calendar anomalies and stock returns and established that investors typically amplify trade prior to the holiday because they circumvent any fresh information, which could be released after the holiday; and they purchase more after the holidays. These activities surges the pre-

holiday yields relative to those of the post-holiday indicating that the holiday effect is present.

Omar (2015) evaluated the Holiday effect at the NSE and found that there exist positive pre-holiday yields, which were higher relative to normal day's proportion. This confirmed that the holiday effect exists in the NSE. Gouider, Kaddour and Hmaid (2015) empirically evaluated calendar anomalies and their effect on financial investors' behavior with regards to choices and return in Tunisia. The researchers sought to understand the Ramadhan effect on the behavior of financial investors in terms of decisions and profit in Tunisia. The researches established that Ramadhan effect existed in the Tunisian stock market, which was concluded from the yield variation between the period before and the period after the holiday.

Norvaisiene, Stankeviciene and Lakstutienec (2015) reviewed seasonality in the Baltic Stock Markets and whether the trading strategies centered on seasonal abnormalities enables an investor to receive anomalous return for the period 2003 − 2014. The study considered returns indexes of Nasdaq OMX Tallinn, Nasdaq OMX Riga, and Nasdaq OMX Vilnius in Baltic stock exchange. The researcher found that there exists a "Halloween effect". The study therefore ascertained that the holiday effect is present in Estonia and Lithuania.

2.4 Empirical Review

The empirical review comprises of the international and local investigations on this area of interest.

2.4.1 Global Studies

Nawaz and Mirza (2012) surveyed numerous calendar abnormalities witnessed over time in various global stock markets. The TOTM effect reveals greater yields on the final few days of the preceding month and initial few days of the subsequent month, which tends to continue essentially for small stocks. The existence of various state holidays yearly was found to bring about market closing and surge the non-trading days. The investors will amplify their trade on holidays to circumvent any fresh information that could be released subsequently. They will similarly amplify their purchases subsequently which surges the pre-holiday yields relative to those witnessed for the post holidays. The study concluded that some anomalies gradually vanish completely from the stock markets since markets turn out to be more efficient and trading necessities and guidelines turn out to be more homogenous.

Tilica and Oprea (2014) reviewed the DOTW effect in the Romanian Stock Market. The researchers established that Friday effect exists in the market, which is shown by evidence of higher returns as compared to other days. The study similarly tried to exemplify it by undertaking a secondary investigation where the market risk was accepted to be different in the days of the week. By way of the test, the researchers observed that the market risk is an aspect of the daily yields and that there is a decline in

the positive Friday average yields, indicating that the seasonality is attributable to the worldwide market risk, implying that the anomaly is not of the Romanian market.

Gouider, Kaddour and Hmaid (2015) empirically examined the effect of calendar abnormalities, on the financial investors' behavior with regards to choices and return in Tunisian. Using the Tunindex and the GARCH approach, the study established that there exist anomalies on the Tunisian stock market. Anomalies include; the weekend effect evidenced by there being a return variation between the opening of the week (small and negative yields) and the closing of the week; this difference is impinged on concerning importance between the two periods under various government administration. The study concluded that the holy month has a twice-greater effect relative to the remaining periods of the year.

Shahid and Mehmood (2015) evaluated the calendar abnormalities in Karachi Stock exchange by using KSE 100 index between 2008 and 2012. The research reviewed the presence of weekdays, weekend and monthly abnormalities. Using standard deviation and mean of daily and monthly yields, the study established that there exist calendar abnormalities at KSE 100 index. The study also ascertained that a substantial variation exists among the yields of days of the week, and Friday, which had the greatest mean average yield. This confirmed that there existed the weekend effect at the KSE. The greatest positive yield during the month of March proves the existence of the monthly anomaly.

2.4.2 Local Studies

Onyuma (2009) determined the DOTW and MOTY effect on the Kenyan stock market returns. The study used data from the NSE 20 index and regression analysis to ascertain behavior of Kenyan stock investors for the period 1980-2006. The researcher established that Monday gives the least negative yields, whereas Friday and January gives the greatest positive yields. These findings are attributed to numerous economic news pronouncements released on Thursdays and Fridays, and is in relation to informed trader line of reasoning. The study also found that the returns are swayed by the foreign portfolio investor behavior and postponements in getting news availed to foreign financial markets.

Kuria (2013) evaluated the seasonal effects on average yields of NSE. The investigation sought to examine the presence of DOTW effect anomaly at the NSE. The researcher explored three kinds of abnormalities which include; DOTW, weekend and monthly effects. The study established that there existed seasonal analysis and ascertains that the seasonal effect is present in the NSE. The researcher thus concluded that the Kenyan stock markets are still not excused from seasonal abnormalities in spite of surge in IT use and various supervisory improvements.

Omar (2015) examined the Holiday effect at the NSE and found that there exist positive preholiday returns, which were greater than normal day's proportion. The investigation similarly revealed a statistically substantial positive link between return and pre-holiday occurrence. These findings ascertain that the preholiday effect is present at the NSE. The

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researcher also found that most stock returns generated at the NSE after the holiday are positive when compared with the negative post-holiday returns. The study concluded that a statistically substantial negative relationship exists, which confirms the existence of a post-holiday effect.

2.5 Literature Summary

This section reviewed the works on the calendar abnormalities in stock returns. The review comprised of the theoretical review, which considered three concepts, namely; the IRT, EMH and APT. These concepts propose that various aspects, for instance, interest rate volatility and inefficient market affect the return of stock market return. The study also analyzed different calendar abnormalities, for instance, the DOTW effect, TOTM effect, January effect and the holiday effect to establish their general trend and their relationship to this study.

From the literature, it could be concluded that calendar anomalies replicate market inefficiency and that certain abnormalities happen once and vanish, whereas some happen frequently. From the literature, it could also be generalized that history was not a good indicator of the impending performance, thus it ought not to be anticipated that each Monday would be devastating and each January would be comforting, however, their similarly would be days that would render these abnormalities factual.

The occurrence of calendar anomalies and its relationship to stock returns is a conflicting area of knowledge that needs further review. Concerning the theoretical review, the

concepts evaluated had an unlike concentration on calendar anomaly and stock returns for example; IRT argued that anomalies are caused by volatility of interest rates which then result to the difference in stock returns. Conversely, the EMH contends that market inefficiencies are the cause of anomalies, which then affect the price, and return of stocks. Arbitrage Pricing Theory (APT) on the other hand suggests there being other market forces other than the interest rates. The empirical literature was criticized for focusing on different anomalies, which makes it difficult to conclude on the link between calendar anomalies and stock return. As a result of these knowledge gaps, this investigation examined the DOTW effect in the NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This part discussed the research methodology that was employed in determining the calendar anomalies at the NSE. This part described the research design, target population procedure for data collection and data analysis method.

3.2 Research Design

As stated by Cooper and Schindler (2001), research design entails the basis for collection, evaluation and analysis of data. The study used a descriptive research design to describe the calendar anomalies at the NSE. This design is preferred as it allowed the investigator to define the target population at a given point in time. The aim of this design was to collect data at a specific time and utilize it to illustrate the kind of prevailing circumstances.

3.3 Target Population

The target population for this study included all the 65 institutions registered at the NSE; (Appendix). The data amassed consisted of the share prices between 1st January 2018 and 31st December 2018.

3.4 Data Collection

The data for conducting the investigation was sourced from the NSE. Secondary data for the daily market price from 1st January 2018 to 31st December 2018 for each of the 5 days

of the week was used. The period has been selected because it is representative of various economic conditions in Kenya and the most recent in the economy.

3.5 Diagnostic Tests

Diagnostic tests were carried out by the research on the data collected. Linearity test was done through scatter plot. Normality is a test which shows whether data has been obtained from normally distributed population. This was tested using Shapiro-Wilk and Kolmogorov- Smirnov test. Multicollinearity exists when there is a linear relationship between two or more variables (Garson, 2013). According to Burns and Burns (2008) this is tested using correlational matrices ranging from zero to one. In this study, it was tested using correlational matrix.

3.6 Data Analysis

The study analyzed the DOTW effect on stock market returns from the opening of NSE from 1st January 2018 to 31st December 2018. Daily stock prices was used to compute daily returns, Rt.

$$R_{it} = \ln\left\{\frac{Cit-(Cit-1)}{(Cit-1)}\right\} + \frac{Dit}{(Cit-1)}$$

Where: Rit is the daily security return for firm i on day t

C_{it} is the daily security price of firm i stock on day (the closing price)

C_{it-t} is the daily security price of Firm i stock on day t-1 (Previous price)

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

Days with no dividend was represented by 0

Where, C is the daily security prices. Daily returns calculated in this manner are percentage, continuously, compounded returns on a daily basis. Initially, the research employed dummy variable regression to ascertain the DOTW effect in the NSE. A linear regression was done in which each day was exemplified by a dummy variable equal to one for the return of a day and equal to zero if the return is for a different day.

$Rd = DMRM + DTRT + DWRW + DRRR + DFRF + t$ (2) where, the D's are dummy variables for the week days and the R's are a representative of every day return. An assumption of the model is that variances and error terms are constant. Moreover, Wooldridge (2003) indicates that multiple linear regression gives an assumption that there is linearity of parameters, random samples, zero mean for error terms, no variables are perfectly collinear, and there is no bias on regression coefficients. The research uses five dummy variables as independent variables and the stock return as a dependent variable. The t-test is utilized to measure if there is a substantial variation in stock returns in the five-week days. Previous research dealt with the anomalies in the market deployed regression method through the use of dummy variables. That is the reason as to why this research used that methodology. This made it easy for comparison of results with previous findings.

3.6.1 Tests of Significance

To explore the significance of the model and DOTW effect on stock market returns at the NSE, the researcher conducted an analysis of variance (ANOVA). T-test was conducted to test the significance at 5% level.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION OF FINDINGS

4.1 Introduction

This study was carried out with the aim of investigating the DOTW anomaly in stock returns for companies quoted in the Nairobi securities exchange. This chapter focused on data analysis, interpretation, and presentation by presenting a discussion of the diagnostics tests, descriptive statistics, correlations and discussion of the findings.

4.2 Response Rate

In gathering research data, the study targeted all the 65 institutions registered at the NSE. Mugenda and Mugenda (2003), noted that in research, a 50 percent response rate is adequate for analysis and reporting whereas a response rate of at least 60 percent is excellent for inference. The findings are presented in Table 4.1 below.

Table 4.1 Response Rate

Companies	Frequency	Percentage
Participant Institutions	61	93.85
Target Institutions	65	100

Source: Primary Data, 2019

Table 4.1 highlights a 93.85% response rate and therefore, analysis based on these institutions is valid for analysis and inference.

4.3 Diagnostic Test

Diagnostic tests were carried out by Normality test, multicolinearity. Normality test was measured via Shapiro-Wilk and Kolmogorov- Smirnov test and skewness and kurtosis. Multicollinearity was tested using correlational matrix.

4.3.1 Normality Test

Normality tests are used to determine if data is normally distributed and computes the likelihood of a random variable being normally distributed. The study employed the use of Kolmogorov-Smirnov test and Shapiro Wilk test. The Kolmogorov-Smirnov test checks for normality by deciding whether a sample comes from a population with a normal distribution. On the other hand, Shapiro Wilk test examines the variances of the data points to see if a sample is derived from a normal distribution. To determine the normality of the sample, we examine the p value of both tests. If the p-value is greater than 0.05, the data is normal, otherwise it is not normally distributed. The results of the tests are presented in table 4.2.

Table 4.2 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Monday	0.289	61	0.000	0.351	61	0.000
Tuesday	0.391	61	0.000	0.224	61	0.000
Wednesday	0.345	61	0.000	0.310	61	0.000
Thursday	0.236	61	0.000	0.605	61	0.000
Friday	0.281	61	0.000	0.413	`61	0.000

Source: (Primary Data, 2019)

From the test of normality table all the level of significance for the days of the week are at 0.000. This P value (0.000) is less than the p value (0.05). This implies that data sets are not normally distributed.

4.3.2 Skewness and Kurtosis

Skewness shows the degree of symmetry of a random variable's distribution. When skewness equals 0, then data distribution is considered normal. When Skewness is more than +1 or lower than -1, then data is assumed to have a skewed distribution. Kurtosis measures the degree at a distribution is peaked. When Kurtosis is equivalent to 1 then data is considered to have a normal distribution. In the case where Kurtosis is higher than +1, data distribution is considered too peaked. When Kurtosis is less than -1, then it is considered to a flat distribution. Data used in the study was subjected to Skewness and kurtosis and the results presented in table 4.3.

Table 4.3: Data Distribution

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Monday	-6.724	0.306	49.642	0.604
Tuesday	-7.487	0.306	57.636	0.604
Wednesday	-6.463	0.306	45.268	0.604
Thursday	4.513	0.306	29.442	0.604
Friday	-6.303	0.306	45.806	0.604

The skewedness value for Thursday was 4.513 indicating that it was skewed to the right. All other skewedness values for the rest of the week were negative implying that there were skewed to the left. This also meant that all the points in the data set were not symmetrical and thus not from a normal distribution. The Kurtosis values of all the days of the week were greater than 3. These values indicated that the data had heavy tails and contained outliers.

4.3.3 Correlation Matrix

Correlation analysis quantifies the association between two continuous variables. The study uses the Pearson Product Moment correlation coefficient. The sample correlation coefficient is denoted by **r** and ranges between -1 and +1. It quantifies the direction and strength of the linear association between the two variables. Values less than 0 indicated negative correlation; values equal to 0 indicate no correlation while values above 0 indicate positive correlation. The significance of these correlations is evaluated by comparing the value of the person correlation(r) with the significance level. If the r value

is greater than the significance level then the correlation are significant and if the r value is less than the significance value then the correlation is not significant. For the study the level of significance was evaluated at 0.01 and 0.05 level of significance. The table 4.4 presents the findings.

Table 4.4: Correlation Analysis

		Monday	Tuesday	Wednesday	Thursday	Friday
Monday	Pearson Correlation	1	-0.037	0.879**	-0.776**	-0.033
	Sig. (2-tailed)		0.777	0.000	0.000	0.800
Tuesday	Pearson Correlation	-0.037	1	0.291*	0.006	0.060
	Sig. (2-tailed)	0.777		0.023	0.965	0.645
Wednesday	Pearson Correlation	0.879**	0.291*	1	-0.840**	0.009
	Sig. (2-tailed)	.000	.023		.000	.944
Thursday	Pearson Correlation	-0.776**	0.006	-0.840**	1	-0.058
	Sig. (2-tailed)	.000	0.965	.000		0.655
Friday	Pearson Correlation	-0.033	0.060	0.009	-0.058	1
	Sig. (2-tailed)	0.800	0.645	0.944	0.655	

Source: (Primary Data, 2019)

From the table there was a clear indication that Monday was a significantly negatively correlated with Thursday as shown by the r value of -0.76. Monday was also significantly positively correlated with Wednesday as shown by the r value of .879. There was a significant positive correlation between Tuesday and Wednesday as indicated by the r value of .291. Wednesday had a significant positive correlation with Monday (r=.879) and Tuesday (r=.291) while negatively correlated Thursday(r=-.840). Thursday was negatively correlated with Monday and Wednesday as shown by the r values of -.776 and

-8.40 respectively. No significant correlation existed between Friday and the other days of the week.

4.4 Descriptive Statistics

To examine the characteristics of the data the study looked at the descriptive statistics of the data. Key metrics presented included mean, standard deviation, minimum, maximum, kurtosis and skewedness. The mean shows the average point of the data set. A high mean also indicates more influence of a data set and a low mean indicates a low influence of the data set. The standard deviation measures the dispersion of data from the mean. Standard deviations less than 1 implies clustering of data points around the mean and consistency of the data points. A standard deviation above 1 implies that the data points in the data set are spread out far from the mean and also these points are also considered volatile.

Standard deviation above the mean are considered spread out far from the mean. Skewedness is used to measure asymmetry of the data which is by what extent is the data distorted from being a normal distribution. If data is negatively skewed, the left tail is longer that is, the mass of distribution is concentrated on the right tail. If data is positively skewed, the right tail is longer implying that the mass of distribution is concentrated on the left tail. Kurtosis is a measure of the degree of peakedness of a distribution. If data has a Kurtosis of greater than 3 then they have high kurtosis and tend to have fatter tails or outliers. Conversely, data with Kurtosis of less than 3 have a low kurtosis tend to have thinner tails or an absence of outliers. The minimum shows the lowest return in a

particular day while the maximum shows the highest return in any given day. Table 4.5

below highlights the results of the descriptive statistics.

Table 4.5: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
Monday	61	-0.13000	0.01044	-0.0039156	0.01723492
Tuesday	61	-0.27643	0.01794	-0.0060010	0.03568043
Wednesday	61	-0.21000	0.01115	-0.0054769	0.02863803
Thursday	61	-0.01585	0.07000	0.0001926	0.01079497
Friday	61	-0.10000	0.01497	-0.0018522	0.01367472

Source: (Primary Data, 2019)

Table 4.5 indicates that the highest mean of the week was on Thursday which was

0.0001926 and standard devotion of .01079497. This implies that the DOTW effect was

highest on Thursday. The mean for the other days of the week were negative implying

they had a negative effect on the stock return of the week. It is also important to note that

all standard deviation were greater than the mean an indication of how far dispersed the

data points were from the mean.

4.5 Discussion of the Findings

Descriptive statistics to examine the characteristics of the data sets including the mean and standard deviation. From the findings the mean values of the data sets were as follows Monday (-0039156), Tuesday (-0.0060010), Wednesday (-0.0054769), Thursday (0.0001926) and Friday (-0.0018522). From the findings it was concluded that different days had a different return effect. Specifically, Thursday had the highest mean of the week was on which was 0.00019 and standard deviation of 0.010794. This implies that there was Thursday effect on the stock return of the week. The mean for the other days of the week were negative implying they had a negative day of the week effect on the stock return of the week.

Monday was a significantly negatively correlated with Thursday with an r value of -0.76. Monday was also significantly positively correlated with Wednesday as shown by the r value of .879. There was a significant positive correlation between Tuesday and Wednesday with an r value of 0.291. Wednesday had a significant positive correlation with Monday (r=0.879) and Tuesday (r=0.291) while negatively correlated Thursday(r=-0.840). Thursday was negatively correlated with Monday and Wednesday with r values of -0.776 and -8.40 respectively. No significant correlation existed between Friday and the other days of the week.

The study also measured the skewness and kurtosis of the variables and from the findings the Skewness value of Monday (-6.27), Tuesday (-7.487), Wednesday (-6.463) and Friday (-6.303) were negative and skewed to the left. This showed that the data points from the distribution were not symmetrical and were not from a normal distribution.

Thursday streamed a positive skew value implying that it was skewed to the right. In comparison to a study by Soares et al ., (2013) on the Day of the week effect study is focused as a stock market anomaly on the equity market practices in Brazil, the study concluded that on Fridays returns are quite significant and positive. In comparison to the high mean value from this study which is on Thursday the research findings are not in agreement with those of Soares (2013) since for them, the returns of Friday on an average are greater in comparison to the rest of the days but for this study, Thursday has greater returns since it had the highest mean.

The findings for this study agree with those of Hussain (2011) who found out that different days had a different effect on the stock return. His study highlighted a significant Tuesday effect on the returns of Pakistani Stock during the week and that the effects from all other days of the week were constant.

One possible explanation for such day of the week effect anomaly may be that most of the positive economic news comes at the week end and investors show affirmative and hopeful investment behavior which result in a positive return on Thursdays. On the other hand, most of the negative economic news comes at the beginning of the week and investors try to sell their investment which result in a negative return on Tuesdays.

Basing on the day of the week effect on the NSE, the findings of this research seem to point towards ratifying the NSE as an inefficient market in which buyers and sellers simply trade with emotions and that all information on stocks is not equally understood by all and reactions are not similar.

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the summary of findings and conclusion established on the objective of the study which was to investigate the day of the week anomaly in stock returns for companies quoted in the Nairobi securities exchange. The study further presented recommendation, limitations of the investigation and suggestions for further research.

5.2 Summary of the Findings

In summary, the objective of the study was to investigate the day of the week anomaly in stock returns for companies quoted in the Nairobi securities exchange. From the findings, there was Findings from the study reveal that the different days of the week had different effects on the stock market. The correlation analysis deduced that Monday was significantly negatively correlated with Thursday as shown by the r value of -0.76. Monday was also significantly positively correlated with Wednesday as shown by the r value of .879. There was a significant positive correlation between Tuesday and Wednesday as indicated by the r value of.291. Wednesday had a significant positive correlation with Monday (r=0.879) and Tuesday (r=.291) while negatively correlated Thursday(r=-0.840). Thursday was negatively correlated with Monday and Wednesday as shown by the r values of -0.776 and -8.40 respectively. No significant correlation existed between Friday and the other days of the week.

The findings also show that all the kurtosis values for the days of the week were greater than three meaning that they were leptokurtic in nature and this therefore meant that the data projected heavy tails and contained outliers. From the descriptive statistics that was used to examine the characteristics of the data sets including the mean and standard

deviation. The findings showed that Thursday had the highest mean value in comparison to Monday (-0039156), Tuesday (-0.0060010), Wednesday (-0.0054769), Thursday (0.0001926) and Friday (-0.0018522). From these values as shown by the study findings, Thursday had the highest mean indicating that there was Thursday effect on the stock return of the week. The negative means from the rest of the days of the week signified that they had a negative effect on the stock return of the week.

The Thursday effect was established from the study and this therefore meant that stock sales were higher on Thursday than any other days of the week. In comparison to other studies however there were different days of the week that had high stock sales such as Wednesday and Friday as noted by Soares et al.,(2013). This led to the conclusion that different days of the week had different effects on the stock.

5.3 Conclusion of the Study

The analysis showed the greatest returns are recorded on Thursday, whereas the lowest are recorded on Tuesday. This study also showed that returns decrease from Monday till Thursday then decreases again on Friday due to weekend effect. Thus, the study concluded there exists a pattern in the returns for the days of the week.

The findings also showed that there existed different positive and negative correlation during the days of the week. Thus, based on these correlations, the study concluded that investors should focus their investment strategies on days of the week that are not significantly negatively correlated with Thursday to make their trading decisions.

The results have important practical implications to different capital market participants such as investors, managers and regulatory authorities. Investors can formulate their investment strategies and timing on the basis of this result and can earn some abnormal return by predicting future prices. As we conclude negative returns on Tuesday and

positive returns on Thursday are significantly important so investors can buy the shares on Tuesday and can sell the share on Thursday. By following this trading strategy investors are expected to earn some abnormal return. One weakness of the study is that it does not consider individual share price rather it considers market index. So investment strategy on the basis of the finding of this study in case of individual share may not provide expected result. If the size of the portfolio is large and closely represent the market then investment strategy on basis of the finding of this study is expected to provide some abnormal return to the investors. As the presence of the day of the week and monthly anomalies indicate inefficiency of the market, it informs the regulators and policy makers that appropriate measures should be taken to bring informational and operational efficiency in the market. It is argued by Islam and Gomes (1999) that a combination of factors like inadequate financial information, thin and discontinuous trading, reliance on price momentum as a basis for trading and manipulation by the market makers creates the conditions that lead to the positive weekend effect. Thus the regulators should take appropriate steps to remove such anomaly to bring the efficiency of the market.

5.4 Recommendations

The day of the week anomaly purports that the existence of a pattern during the days of the week. Owing to this pattern, investors can take advantage of and strategize on the investing trends. For instance, they can buy stock on Tuesday, which has the lowest return and sell on Thursday, which has a high return.

Since the study has established that an anomaly effect exists during the days of the week, the study recommends that the government should come up with measures to ensure efficiency in trading. These measures would include various regulations that would ensure the stock market is fair trading ground with minimal chances of exploitation.

Capital Markets Authority which is tasked with facilitating the growth of fair and efficient and orderly capital markets in Kenya, should device strategies, regulations and policies to bring about operational and informational efficiency in the market and ensure fair and efficient market.

NSE should carry out research to find out why Tuesday had the highest negative return. It should also find out why Thursday had the highest market return. This will cultivate more confidence among the investors and develop the Kenyan capital markets further.

5.5 Limitations

The study only concentrated on the National Securities Exchange all stock indexes. Therefore the accuracy and reliability of the historical data used to generate results for the study is only correct as captured in the data sources as any rounding off is known to affect the outcome of the index significantly.

The study was limited to one year due to the cost of data. A longer duration should have been utilised to increase the number of observations.

This study considers the cyclic factors influencing the stock market returns rather than the fundamental factors. Amongst the cyclic factors, the research has considered only daily variation in the stock returns. There might be seasonal variations (January effect),

monthly variations, or even intraday (mid-day swoon) variations in the returns, which can also be examined in combination with the day of the week effect

5.6 Suggestions for Further Research

Further research on day of the week anomalies should be carried out with alternative approaches to identify consistency with other studies. These researches should also be undertaken using data for varying time periods as it will assist in establishing the reliability of the results highlighted. Conversely, it will help to make conclusive counsel to investors at the NSE.

Day of the week in market anomalies should also be carried out in fixed income instruments to find out if the day of the week effect anomaly exists. Trading in fixed income instruments like Treasury Bills and Treasury Bonds is different from the way equity instruments are traded. The study therefore cannot conclude that that there is no day of the week without carrying out a similar study in fixed income instruments.

Day of the week effect studies should also be extended to the returns of individual stocks. Individual equity stocks have different trading characteristics. East African Breweries Limited for example will generate more returns on Friday because most pubs have many revelers at the weekend. On the contrary, the Standard Media Group will generate more returns on Monday for example, because of the Crazy Monday publication.

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Appendix: Firms listed at the Nairobi Securities Exchange

1. Eaagads Ltd	2. Kenya Airways Ltd
3. Kapchorua Tea Co. Ltd	4. Nation Media Group
5. Kakuzi	6. Standard Group Ltd
7. Limuru Tea Co. Ltd	8. TPS Eastern Africa (Serena) Ltd
9. Rea Vipingo Plantations Ltd	10. Scangroup Ltd
11. Sasini Ltd	12. Uchumi Supermarket Ltd
13. Williamson Tea Kenya Ltd	14. Longhorn Publishers Ltd
15. Car and General (K) Ltd	16. Deacons (East Africa) Plc
17. Barclays Bank Ltd	18. Nairobi Business Ventures Ltd
19. Stanbic Holdings Plc.	20. Athi River Mining
21. I&M Holdings Ltd	22. Bamburi Cement Ltd
23. Diamond Trust Bank Kenya Ltd	24. Crown Paints Kenya PLC.
25. HF Group Ltd	26. E.A.Cables Ltd
27. KCB Group Ltd	28. E.A.Portland Cement Ltd
29. National Bank of Kenya Ltd	30. KenolKobil Ltd
31. NIC Group PLC	32. Total Kenya Ltd
33. Standard Chartered Bank Ltd	34. KenGen Ltd
35. Equity Group Holdings	36. Kenya Power & Lighting Co Ltd
37. The Co-operative Bank of Kenya Ltd	38. Umeme Ltd

39. BK Group PLC	40. Jubilee Holdings Ltd
41. Express Ltd	42. Sanlam Kenya PLC
43. Sameer Africa PLC	44. Kenya Re-Insurance Corporation Ltd
45. Liberty Kenya Holdings Ltd	46. East African Breweries Ltd
47. Britam Holdings Ltd	48. Mumias Sugar Co. Ltd
49. CIC Insurance Group Ltd	50. Unga Group Ltd
51. Olympia Capital Holdings ltd	52. Eveready East Africa Ltd
53. Centum Investment Co Ltd	54. Kenya Orchards Ltd
55. Trans-Century Ltd	56. Flame Tree Group Holdings Ltd
57. Home Afrika Ltd	58. Safaricom PLC
59. Kurwitu Ventures	60. Stanlib Fahari I-REIT
61. Nairobi Securities Exchange Ltd	62. New Gold Issuer (RP) Ltd
63. B.O.C Kenya Ltd	64. British American Tobacco Kenya Ltd
65. Carbacid Investments Ltd	