EFFECTS OF MOMENTUM STRATEGIES ON THE FINANCIAL PERFORMANCE OF LISTED COMPANIES AT NAIROBI SECURITY EXCHANGE

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DECLARATION

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

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DEDICATION

I dedicate this work to the Almighty God and to my family for their encouragement and support throughout my studies.

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First I acknowledge my supervisor Dr. Josephat Lishenga for his guidance, forthright criticism and suggestions that helped me in conducting the study. I am deeply indebted to him for his input in this project.

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For my friends and colleagues, your committed inquiries and constant rallying regards in pursuit for this Degree gave me an added kick back I needed to continue. I thank you

.

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ABBREVIATIONS AND ACRONYMS

CAPM Capital Asset Pricing Model

CMA Capital Markets Authority

NSE Nairobi Security Exchange

ROA Return on Assets

ROCE Return on the Capital Employed

ROE Return on Equity

US United States

ABSTRACT

The ability of investors to make above normal returns is dependent on how they develop their investment strategies and align them with market trends. Price volume momentum is one such strategy. The use of past information on price and volume patterns has been a subject of past research. From the studies, it is clear that price patterns can be used to explain future returns. However the usefulness of past volume information has generated considerable debate, with some scholars arguing that there's no relationship between past volume information and stock returns in the future. Conversely, others have argued that it is stock returns which inform volume whereas some argue that there's no relationship between volume information and stock returns. The general objective of this study was to determine the effects of momentum strategies on the financial Performance of Listed Companies at Nairobi Security Exchange. From regression results momentum strategies, firm size, leverage and liquidity explain 57.8% of the variations in the dependent variable which is financial performance. In addition, there was a positive and significant relationship between momentum strategies, firm size and leverage. However, liquidity had a positive and insignificant effect on financial performance. The study findings revealed that momentum strategies have a positive and significant effect on financial performance of firms listed in NSE. The study concluded that momentum strategies have a positive significant impact on financial performance of firms listed in NSE. The study concluded that liquidity have a positive insignificant impact on financial performance of firms listed in NSE. The study also concluded that financial leverage has a significant impact on financial performance of firms listed in NSE. The study also concluded that firm size have a positive significant impact on financial performance of firms listed in NSE. The study recommends that to facilitate favorable growth of these NSE firms, strategies to facilitate increased liquidity of NSE firms should be adopted by the firms for their efficiency in financial operations. The study recommends that the management of the firms listed in NSE firms should ensure they hold adequate level of financial leverage to ensure that they do not affect other functions of the firm. The study recommends that top management of listed firms should set up strategies of growth and expansion in sizes for example growth in market segments and shares. One way of achieving growth may be through mergers and acquisition where a small firm in a small industry can decide to merge with another larger firm resulting into one large firm that commands the entire large market. This will help to boost the performance of the firms.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Momentum strategies and their subsequent effects on the financial markets has been a concern for many scholars and investors (Floros & Salvador, 2016). Great emphasis has emanated from momentum effect because of its simplicity of application besides its constant profitability posing a great challenge to the hypothesis of asset pricing. Numerous investigators have established that multi-factor and single-factor models like the model of three factor by Fama and French (1996), is unable to describe the abnormal momentum returns. The effect of a momentum depicts the short-range (6 to 12 months) effect of return continuation which lucrative stock of the recent three to 12 months tend to outdo in the future (Jegadeesh & Titman, 1993). The ease of momentum strategy is centered on the criterion of mechanistic decision of cumulative monthly return or compounded total monthly return in winners and loosers selection in the course of a specified ranking period.

According to Moskowitz (1999), Momentum presents a perplexing anomaly in asset pricing. Persistent momentum profits have attracted considerable attention from investment researchers and practitioners as they make the hypothesis of efficient market difficult. The research was anchored on the efficient market theory and the random walk theory.

Hypothesis of efficient market also argues that it is impossible for any financier to shatter the market since the prices of securities and assets reflect all the available information.

Contrariwise the hypothesis of random walk affirms that prices of security follow an unsystematic walk hence impossible to beat the market. Nevertheless, decriers of this hypothesis argue that it is likely to beat the market by prudently reviewing the trends in the market.

Investment strategies (referred to in finance literature as momentum strategies) that buy stocks which performed well from the third to the twelfth month despite selling stocks that underperformed in the given period have factually accrued approximately 1% monthly profits for the US market in the successive three to 12 months (Jegadeesh & Titman, 1993).

1.1.1 Momentum Strategies

According to Agathee (2012) and Titman (1993), Price momentum strategy refers to a situation whereby past winning stocks are expected to continue being winner stocks in the foreseeable future whereas the past loosing stocks will be expected to continue being looser in the future and thus rational investors will be expected to invest or buy winning stocks while going short on loosing stocks. Rational investors usually seek to invest or buy winning stocks while going short on loosing stocks. According to Agathe (2012), the underlying assumption of this strategy is that stocks will maintain their historical pattern in the future, an assumption that has been justified in subsequent studies.

The behavior of the prices post holding period has elicited mixed reaction. In some studies, it has been argued that prices will experience a price reversal whereas others have argued that price continuation will be experienced. Equally the period over which the momentum will be experienced is debatable. Momentum strategies are normally linked with price

reversals and price continuations. Price reversal refers to situation whereby prices of securities will be expected to take an opposite turn post holding period whereas price continuation refers to a situation whereby prices will maintain their historical state (Galariotis, 2014)**.**

Momentum investing aims to generate alpha or create smart beta based on existing trends in the market. Investment managers, mutual funds and wealth managers seek innovative, intelligent tools, strategies and technologies to enhance their performance and consequently they all agree that momentum strategy is one of the approaches that are used in managing market liquidity and volatility. Momentum strategies have a time frame within which investors stand to generate above normal returns. Investment strategies accrue bigger profits when centered on the holding period of three to six months.

Additionally, it is profitable to acquire past winners and do away with past loosers in short term (three to six months) and medium term (twelve months) as opposed to the long run. In the same breadth momentum returns do exist in the markets but in the short run and investors can leverage on it in making profits (Jegadeesh & Titman, 2002).

1.1.2 Financial Performance

Didier (2002) opines that performance entails achieving the goals that are assigned to you in accordance with the organization objectives. He affirmed that performance is not simply an outcome finding, but rather the result of outcome - objective comparison. In this regard, it is quite evident that performance depends on the objective/purpose. According to Kaplan, Norton (2001), performance can be measured through analyzing accounting data or

information by use of financial ratios while the non-financial measures of performance includes customer satisfaction, employee satisfaction, learning and growth and finally the internal business processes. The company's financial position can properly be constructed from financial ratios calculated using the accounting data from company's balance sheet and other financial statements (Hassan & Bashir 2003).

Financial performance relates to profitability, which is a key component of performance. According to Helfert (1991), profitability is the effectiveness to which management has utilized the total assets and net assets from a company's balance sheet. Financial performance is normally measured with the aid of the financial ratios such as ROA, ROCE and ROE. The ROA indicates how real investment resources are being utilized by managements to generate profits. It is also an important measure used to determine a company's efficiency and operational performance through the returns accruing from assets employed by the firm. The second profitability measure is Return on equity (ROE); which is a measure that shows how management of a company can turn shareholders' equity into net profit. High ROA and ROE figures means high managerial efficiency and vice versa. ROA was used in this study in the determination of the performance of companies listed at Nairobi security exchange (NSE).

1.1.3 Momentum Strategies and Financial Performance

Momentum strategy entails buying of recent winning stocks besides shorting recent losing one's (Fama & French (1996). A momentum strategy, therefore, entails acquiring past winners and trading past losers. On the other hand financial performance can be defined as the extent to which a firm's financial objectives are being or have been achieved (Austin,

2013). The more a firm is able to buy recent winning stock the more it improves its performance.

Zoghlami (2016) stated that well performing past stocks, will perform continuously well and on the other hand, bad performing past stocks, will continuously perform badly. This culminates in simple but profitable strategy of selling past losers and buying past winners. Furthermore, the strategy ensures stocks selection on the basis of earning over the past J months and their retention for K months. The stocks that perform better than their peers in the K month's period depicts better performance in the consequent period and the contrary is also true. Momentum effect operates in a confined cap universe as well as in a universe of large cap. Portfolios of pure momentum are made in a way that investor shorts stocks with the lowest momentum and seek for stocks with the strongest momentum. Therefore momentum factor is a strong performance contributor (Jegadeesh & itman, 1993).

1.1.4 Nairobi Securities Exchange

The Nairobi stock exchange is a public market for trading securities of public listed firms in Kenya. It was formed in the year 1954 and was tasked with responsibility of development of security market and regulation of trading activities.

Since inception, NSE has undergone numerous changes since its commencement which includes enactment of trading and settlement rules, Central depository system, automation of the market, demutualization from mutual company to company ltd by shares **(**NSE, 2016). It is the fourth biggest stock exchange in terms of number of shares traded (Iraya & Musyoki, 2013).

NSE is currently licensed, monitored and supervised by the Capital Markets Authority (CMA) which is the security market regulatory body in Kenya. The member firms are licensed to trade securities on the Nairobi Securities Exchange trading platform once meeting all the licensing requirements of the Nairobi stock exchange articles of association, Capital Markets Act regulations and ultimately Cap.485A of the Laws of Kenya (Nairobi security exchange, 2018).

Currently there are 64 listed companies in the Nairobi securities exchange distributed among various industries such as growth market enterprise segment, manufacturing & allied, Agricultural, Telecommunication &Technology, Insurance, Banking, Construction and allied, Commercial and services, Energy and petroleum, Investment, Investment services and Automobile and accessories. Nairobi security exchange uses NSE 20-share and NSE all share index (NASI as a proxy for measuring the performance of the exchange over time. Since 1964, NSE 20-share has always been used by the Nairobi stock exchange in measuring the performance of 20 blue –chip companies. However, 1n 2008, Nairobi stock exchange changed its performance measure to NSE all share index (NASI) which measures the market performance in its entirety incorporating all the traded shares of the day (Nairobi security exchange, 2018).

1.2 Research Problem

The ever changing capital market conditions as well as the features of the investor have been cited as the underwriting factors to this dynamic nature. The investment management process is quite dynamic (Hameed 2002).

The ability of investors to make above normal returns is dependent on how they develop their investment strategies and align them with market trends (Collins & Brink, 2016). Price volume momentum is one such strategy. The use of past information on price and volume patterns has been a subject of past research. From the studies, it is clear that price patterns can be used to explain future returns (Jegadeesh & Titman 1993; Sehgal & Vasishth, 2015).

However the usefulness of past volume information has generated considerable debate, with some scholars arguing that there's no association between past volume information and stock returns in the future. Conversely, others have argued that it is stock returns which inform volume whereas some argue that there's no association between volume information and stock returns.

Globally, Moskowitz and Grinblatt (1999) indicated that an explanation for the effect of momentum can be deduced from industry's returns momentum. They indicated that return continuation disappears following the correcting for industry effects. Their claim has however been investigated several other studies, which made a contrary conclusion.

For instance, Lee and Swaminathan (2000) affirm that a weakening of the individual momentum emanates from 12.5% to 10.1% per annum, results from correcting for industries, depicting a 20% decline. In Europe, Swinkels (2002) found out an empirical evidence to ascertain that industry momentum exists, contrary to the Japanese stock market. Nijman *et al.,* (2004) in his study on individual stock, industry and country,

momentum effects for the European stock market concurrently aimed at separating the components of the country and industry. Their findings suggest that the most pronounced is the effect of individual momentum, with the industry momentum following on the other hand country momentum is essentially non-existent.

Hong and Stein (2001) argued that stocks that exhibited higher trading volume over a period of the past six months had returns that were negatively skewed as opposed to the popular belief that low volume stock reported higher returns as compared to high volume stocks. The study employed monthly stock return data for 470 BSE companies from 1997 to 2013.

Agathee (2012) investigated the effects of momentum on Mauritius stock exchange and established that an inverse relationship exists between volume and returns at the Mauritius stock exchange which was attributed to the emerging market status of Mauritius. Studies on momentum strategies in emerging market especially Kenya is limited.

Locally, Lishenga (2011) carried out a study investigating the price momentum at the Nairobi security exchange and found out that price momentum in returns existed at the bourse even though in the short run. However, the findings from the cause and extent to which momentum affects the market is still debatable which necessities the need for further study in this area of momentum strategies. Kuria and Riro (2013) asserted that even though momentum returns exist at the NSE they could not be adopted by the multifactor models adopted in the studies.

Nairobi Securities exchange (NSE) is a vibrant security market in Kenya and East African region in general. Nairobi security exchange is usually classified as the largest security market in the east Africa region with respect to market capitalization and the number of companies listed (ASEA, 2015). Equity investors at the exchange has grown to a high of 1.6M over the last ten years (CMA, 2016), with a big proportion being individual investors. Despite numerous attempts by many researchers to document on Momentum Strategies, none of the studies have been carried out investigating the effect of momentum strategies effects on the performance of listed companies at Nairobi Security Exchange.

1.3 Research Objective

The general objective of this study was to determine the effects of momentum strategies on the Performance of Listed Companies at Nairobi Security Exchange

1.4 Value of the Study

This research study will help academicians and future researchers in conducting future studies by providing them with the insight and detailed information on how the Effects of Momentum Strategies Effects on the Performance of Listed Companies at Nairobi Security Exchange. It will also expound their knowledge on momentum strategies and provides them with necessary information to be incorporated into their work.

The research study will greatly help Fund Managers and Investment Analysts by providing them with crucial information on which to base their investments decisions.

As it will provide answers to the role of momentum strategies in the Listed Companies at Nairobi Security Exchange. The study would be equally significant for the financial

analyst, finance managers and policy makers as it will avail information on momentum strategies on which they can rely on in making investment choices.

The current study will be beneficial to the Capital Markets Authority and NSE by shedding more light on the state of market efficiency in Kenya. These two regulatory bodies could use the findings to come up with better ways of enhancing efficiency in the market and reducing the extent of momentum in the market. The study will be beneficial to government through the various regulatory agencies such as capital market authority. Finally this research would be useful to both academicians and finance and economics researchers as they will use this research as a guide for carrying out further studies in the area or as empirical evidence.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter deliberated the hypothetical literature in details in so as to grant the study a hypothetical reinforcement. Section 2.2 discussed the theoretical review. Section 2.3 explained the determinants of financial performance. Section 2.4 explored the empirical literature aimed at revealing what has been accomplished in the sector and realization of the remaining conceptual and contextual knowledge gaps. This section discussed the empirical studies on the momentum strategies - financial performance relationship. Section 2.5 explained the conceptual framework while Section 2.6 was a summary of the chapter and it highlights all the main points identified in the literature.

2.2 Theoretical Review

A hypothetical framework refers to a pool of related models. This study is emanates from a theoretical backup, such as the model of Capital Asset Pricing and Three Factor Model by Fama-French.

2.2.1 Capital Asset Pricing Model

As put accross by Mossin (1966), Lintner (1965) and Sharpe (1964), CAPM outlines the projected market rate or market price of return from a particular asset in respect to the projected risk. From the model's perspective, investment uncertainties in financial assets can be broken down into random (unique, specific, residual or diversifiable) risk and methodical (market or non-diversifiable) risk.

The random one is primarily micro and is concerned with a given organization or industry while methodical risk is primarily macro and touches all firms doing business in an economy. An investor may get rid of unsystematic risks through shunning the firm or the industry or by way of well thought diversification while systematic risks are inevitable. Hence the organization's projected rate of returns should exceed the rate that is risk-free capable of recompensing the undertaken systematic risk.

CAPM theorists affirms that, the beta (β) index which quantifies the systematic risk correspondent to the market situation, is the only reason behind the return of a monetary asset and hence it price. Thus, any extra variability or uncertainty arising from unusual events to the specific asset (known as unsystematic risk) can be spread away, insinuating that, the capital markets do not reward investors of risks unnecessarily borne. As described by Brealey and Myers (2003) the only factor that influences stock returns is beta. Ross and Westerfield (1988) contrarily describe CAPM as the SML model where the projected returns from specified assets are a linear function of beta.

2.2.2 Fama-French Three Factor Model

Fama and French (1993) came up with a three factor model in response to the poor performance of CAPM in explaining realized returns that is due to CAPM anomalies. CAPM anomalies are other factors despite beta which affects returns on stock and are left out in the model. The discrepancies disappear largely in the model of three factor. The model demonstrates that the projected profit for the hazard free rate's surpassing parameter is drawn based on its three variables; the market portfolio's surplus profit that is wide, the

disparity between the return of little stocks portfolio and the substantial return of stocks portfolio (little less enormous).

According to Fama and French (1996), organizations which are weak having progressively low profit margins appear to have high book-to-market-equity as well as positive slopes when it comes to high minus low; well to do organizations with persistently high profit margins have a book-to-market-equity that is low besides negative slopes when it comes to high minus low. Explaining returns using high minus low showcases return variation attributable to corresponding distress essentially not considered by the market return that is recompensed in average returns.

In the same way, applying the criterion of small minus big in describing returns shows a covariation in small stocks returns not considered in the market return which receives recompense in average returns. In summary, there exists a size - average return negative relationship and book-to market equity - average return positive relationship.

2.3 Determinants of Financial Performance

2.3.1 Leverage

According to Thaddeus and Chigbu (2012) leverage entails purchasing an asset with the bigger proportion of fund being borrowed, alluding that its income will be higher than its borrowing expenditure. Usually this assumes that borrowing costs generally exceeds the asset income culminating into losses. Rehman (2013) argues that leverage compounds a financial institution’s potential gains or losses in a position or investment above its possibility by way of a direct investment of internal funds.

Three leverage types exist; embedded, economic and balance sheet. The most visible is the leverage of balance sheet besides being the most recognized (Hart, 2002). The ratio of leverage is hence perceived as a balance sheet measure or its degree of incorporating off-balance-sheet spotlights of economic leverage.

An association can back its business by debt or equity or both. Use of fixed charged finances like obligation and in addition inclination capital other than proprietor's value in the company's capital structure is plot as equipping or money related use (Dare & Sola, 2010). A firm without leverage makes an all-value firm, yet a levered firm is contain speculator's value and in addition debt. Financial leverage compares loan to a credit or other obligation, whose returns are furrowed back gone for winning a more noteworthy rate of restore that surpasses the intrigue cost. Where the marginal rate of return on asset (ROA) in a firm surpasses the interest rate payable on the advance, at that point the aggregate profit for value (ROE) surpasses that of borrowing (Kosmidou, 2008). Normally leverage enables an investor to get greater potential returns than would be available otherwise, though possible loss is also potentially greater: Where investment becomes ineffective, the principal of the loan and all interest accrued on the loan have to be serviced. This makes up financial risk. The extent of this financial risk corresponds to the financial structure of a firm.

2.3.2 Liquidity

Liquidity is explained as a bank’s ability to finance acquisition of more assets besides meeting the resultant obligations, without incurring unnecessary losses (Basel Committee on Banking Supervision, 2008).

According to Bhunia (2010) liquidity is pivotal to the effective operation of a business firm. High level of trading activity is attributable to liquidity. Liquid assets are those that can easily be converted into cash.

Liquidity may also be measured using liquidity ratio. Black, Wright and Bachman (2008) delimit liquidity ratios as the actual cash at hand held by companies and other private entities capable of paying their debt. A company's financial statements in the view of its positional viability make liquidity ratios critical. Greater liquidity ratio depicts a healthier company. Entities with low liquidity and high debt are more risky and likely to fail.

Almajali *et al*., (2012) found that the firm's liquidity significantly influence it's Financial Performance of firms. Liquidity is paramount for a company's existence. It basically influences reduction or growth of financial costs, alteration of sales dynamic, besides influencing the company's risk level. The liquidity's decisive significance means that it is crucial for company development besides being fundamental endogenous factors determining the company market situation.

2.3.3 Firm Size

Firms may be categorized in different sizes based on both visible and invisible parameters. There are therefore diverse ways of classifying a firm's size.

The OECD (2005) classification termed firms with employees between 10 and 250 as SMEs. Micro firms on the other hand were termed as those with less than 10 employees while large firms were defined as those with more than 250. The OECD considers a variation of these definitions amongst country.

For instance in the US, 500 employees is set as the upper limit contrary to 250. Often, micro-sized companies are at times perceived to have up to 49 employees. In this view, SMEs have up to 249 and at least 50 employees. Nevertheless, the European Union considers financial data in defining size bands.

Firm's ownership structure is another critical aspect in firm size classification. It is significant to view large companies' subsidiaries that fall into SME or the micro firm categories based on their turnover or employee number discretely from micro firms or SMEs that are independent. Net assets are in this case considered by the firm as the the measure of size.

2.4 Empirical Review

Lishenga, Magutu, Barasa and Onsongo (2011) conducted a study on momentum strategies profitability. The results of the initial unrestricted tests showcased significant momentum that might form the basis of investment strategies that are profitable. A factor-mimicking portfolios' analysis depicted the discernible size effect's absence, that profitability of momentum is a feature confined only to stocks that face low to medium activity, and is absent in stocks of high volume, and that market risk could not satisfactorily explain the profits. Findings also showed that transaction costs' incorporation in the strategies could critically dissipate the profits, that there was regularity to the profits in the April calendar, and that there was insignificant reversal of profitability in the medium term. Finally, the study concluded that momentum is a time-series rather than a cross sectional phenomenon.

Omuronji (2002) did a research on momentum's empirical analysis in the Nairobi stock exchange prices. By assessing whether the strategy of momentum used on portfolios of

zero-cost for 3, 6, 9, and 12 month periods of holding for a period amounting to six years results in abnormal returns. The hypothesis is tested by use of a t-statistic. The outcome of the investigation depicted stocks registered on the Nairobi Stock Exchange face a continuation in price. Selections centered on these stocks and maintained for of six, nine and twelve months periods depict that momentum profits exist at the Nairobi Stock Exchange. Nevertheless, returns on portfolios kept for three months deliver results that are insignificant. The inference for this research is that the Nairobi Stock Exchange market can be possibly beaten by simply investing in securities whose prices depicts an appreciation in the short run and removing investment from stocks that depreciated in the short term in terms of price.

As found out by the study it could be resolved that the Nairobi Stock Exchange inefficient justifying the presence of the momentum discrepancy.

Alum (2006) based his study on three main trading strategies namely: strategy of momentum, strategy of buy and- hold and the strategy of contrarian. It is an important study because this is a relatively new segment of the financial services market in Kenya as the first fund managers were distinctly recognized in 2002. The research design was by use of a questionnaire that had questions that were applicable and presented in the fund managers' language. The methodology used to analyze the data, was by mean (average) which established the descriptive statistics and intensity of use whilst correlation co-efficient was able to clearly bring out the relationship between the information sources, behavioral patterns and the trading strategies.

The research findings showcases that a majority of fund managers bank on the approaches of buy-and-hold, contrarian and momentum trading, with the buy-and-hold highly

recognized. The strategies are typically applied mutually as shown by the intensity of use. Their source of information is predominantly fundamentally oriented especially for the buy-and-hold trader, and the momentum trader showing a strong inclination towards the technical indicators and colleagues.

Gathathai (2015) conducted a study on the effect of online and mobile trading practices on the active momentum trading at Nairobi securities exchange. The target population was companies listed in Nairobi Securities Exchange and had do make up NSE 20 Share Index. The results of the study were both qualitative and quantitative. Collected quantitative data from NSE 2010 to 2012 historical trade price, NSE 20 share Index value and daily traded number of shares was analyzed using multiple regression method and the correlation was determined in addition to hypothesis testing in a bid to determine the obtained equation's validity. The research found out that indeed internet and mobile device usage has indeed affected momentum trading in Nairobi Securities Exchange. Introduction of Broker Back Office System, (BBOS) in September 2011 which we can highlight as being an activity that did changed the NSE to an online trading practicing.

Using momentum trading strategies which operate on shorting any stock that touches its six month low and longing stock that touches six month high internet has facilitated easier tracking of their price and also efficiency in executing the transaction regardless of the location. The study found that just as the in the banking sector where the influence was there but still low the same happens in the securities exchange.

2.5 Conceptual Framework

A conceptual framework refers to a combination of broad concepts and philosophies outsourced from pertinent fields of survey and applied in the structuring of a subsequent presentation (Mugenda & Mugenda (2003).

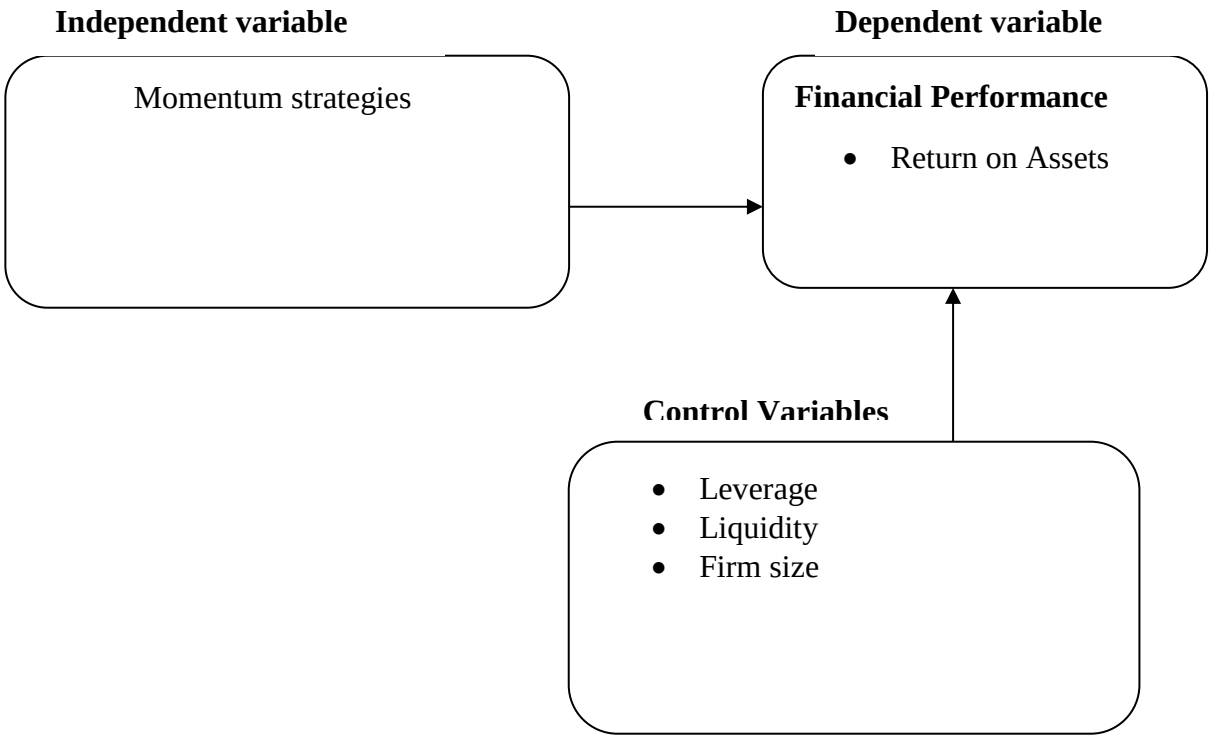

Figure 2.1: Conceptual Framework

2.6 Summary of Literature

Lishenga, Magutu, Barasa and Onsongo (2011) did a study on momentum strategies' profitability in markets that are emerging: Nairobi Stock Exchange Evidence. The study focused on profitability of momentum strategies thus showcasing a conceptual gap.

This study focused on effect of momentum strategies on financial performance. Alum (2006) conducted a study on trading strategies employed by Kenya's fund managers. The investigation focused on fund managers thus depicting a gap in the scope. The current study concentrated on firms listed in Nairobi stock exchange. Gathathai (2015) did an investigation on online and mobile trading practices' effects on the active momentum trading at Nairobi securities exchange. Companies listed in Nairobi Securities Exchange were the target population which makes up NSE 20 Share Index. The current study focused on all the 64 firms listed in Nairobi stock exchange.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlined the methods the researcher intends to use while undertaking the study. It first describes the design of the research which adopted; according to Ritchie, Lewis, Nicholls and Ormston (2013) a critical section of a research is the development of research strategy that is efficient. Fundamentally, issues pertaining to research design, the type of data to be collected, the population, sampling frame, data collection procedure, data collection instrument and the data analysis was discoursed.

3.2. Research Design

A non-experimental explanatory research design was employed in this study to analyze the effect of momentum strategies on the Performance of Listed Companies at Nairobi Security Exchange. The design strives to outline the instrumental relationship between variables (Saunders et al., 2009). A research design that is non-experimental is a methodical empirical enquiry where the investigator lacks direct control on explanatory variables, the manifestations having occurred already (Kerlinger & Lee, 2000).

3.3 Population

Burns and Grove (2003) define population as the whole set of objects, events or individuals with a similar observable characteristic. This study's population comprised of 64 companies listed on the NSE.

3.4 Sampling technique

As affirmed by Polit and Beck (2003), a sample is a part of the population being studied, whereas Kothari (2004) describes a sample as the respondent set aside to represent the population. The research applied census making the sample size to be all the 64 NSE's listed companies. The study period came from 2013 to 2017.

3.5 Data Collection

Secondary data was derived from the statements of finance and websites of the Nairobi security exchange. The secondary data presented an appropriate basis of the information requisite for investigation on the effectual ways for resolving problems in these circumstances (Uma, 2003). Secondary data is usually cheaper and easily obtainable compared to primary data despite being accessible where primary data is not obtainable. In addition it is also economical, effort and expense saving as well as helping in the proper understanding of the problem. It creates a comparison basis for the collected data by the researcher. Secondary data is rarely corresponds to the research factors' framework. Nevertheless, precision of secondary data lacks guarantee and information may be outdated.

3.6 Data Analysis

The data was coded in a spreadsheet for analysis while descriptive statistics was applied to showcase the independent variables' performance in tables. To calculate the coefficients of the independent variables - dependent variable relation, a regression was run. Statistical Package for Social Sciences (SPSS) was used to enable the researcher to determine the impact of the momentum strategies to the performance. For easier understanding and interpretation of results, findings were presented in tables and charts.

The multivariate model was as follows;

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \mu$

Where;

Y = Financial Performance (ROA) (Net Income/ average total assets)

X1 = Momentum strategies (Rate of Change) = (Yt/Yxt))

Where "Y" represents the most recent closing price

Yxt represents the closing price a month ago.

t-time in months

X_2= Leverage (total loans/total assets)

X_3= Liquidity (Current asset/ current liability)

X_4= Firm size (logarithm of total asset)

$\beta 0$ = the constant term.

β_ii= 1….4 was applied in the measurement of the sensitivity of the dependent variable (Y) to the predictor variables' unit change.

μ is the error term

3.6.1 Diagnostic Tests

3.6.1.1 Normality test

Normality test, checks if the variables are normally distributed. Histograms were used to test for normality.

3.6.1.2 Multicollinearity

This refers to a situation where a high degree of association exists between variables that are independent Kothari (2004). It is a problem that makes the regression coefficients unstable by distorting them, hence complicating their interpretation and invalidating significance tests (Cooper & Schindler, 2006) and also infinite standard errors. Variance Inflation Factors (VIF) was used for testing presence of multicollinearity.

3.6.1.3 Serial correlation

Auto or serial correlation is where the error terms for different time periods are correlated (Gujarati, 2003). If not accounted for leads to biased standard errors and inefficient parameter estimates (Wooldridge, 2002).Woodridge F statistic test was employed. A p value of less than the 5% level of significance indicated presence of serial correlation.

3.6.1.4 Heteroscedasticity

Since data involves a cross section of firms it raises the problem of existence of Heteroscedasticity (Gujarati, 2003).The linear regressions assume Homoscedastic (constant variance) of the error term. This problem leads to biased standard errors hence biased or invalid test statistics and confidence intervals Wooldridge (2002). Breusch-Pagan/Godfrey test was used.

3.7 Test of Significance

F test was used to decide the significance of the model. In addition, t test was also used to decide on the coefficient of regression model. Where t was considered to be significant if it was greater that the critical t.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.0 Introduction

This chapter analysed the results of the study.

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
roa	320	0.096	0.135	-0.357	0.565
momentum	320	2.904	3.898	-3.191	23.987
liquidity	320	0.462	0.881	0.001	9.842
leverage	320	2.616	4.331	-12.697	23.211
firm size	320	4.602	3.877	0.053	19.574

The average ROA for the 64 listed firms at Nairobi Securities Exchange over the 5 years were 0.096. The maximum ROA was 0.565 and the minimum was -0.357. The ROA was spread within a standard deviation of 0.135 and this implies that there was a narrow spread of ROA from the average ROA.

The average momentum for the 64 listed firms at Nairobi Securities Exchange over the 5 years were 2.904. The maximum momentum was 23.987 and the minimum was -3.191. The mometum was spread within a standard deviation of 3.898 and this implies that there was a wide spread of momentum from the average momentum.

The average liquidity for the 64 listed firms at Nairobi Securities Exchange over the 5 years were 0.462. The maximum liquidity was 9.842 and the minimum was 0.001. The liquidity was spread within a standard deviation of 0.881 and this implies that there was a wide spread of liquidity from the average liquidity.

The average leverage for the 64 listed firms at Nairobi Securities Exchange over the 5 years were 2.616. The maximum leverage was 23.211 and the minimum was -12.697. The leverage was spread within a standard deviation 4.331 and this implies that there was a wide spread of leverage from the average leverage.

The average firm size for the 64 listed firms at Nairobi Securities Exchange over the 5 years were 4.602. The maximum firm size was 19.574 and the minimum was -0.053. The firm size was spread within a standard deviation 3.877 and this implies that there was a wide spread of firm size from the average firm size.

4.2 Diagnostic Tests

4.2.1 Normality

Results in Figure 4.1 indicated that the residuals for financial performance were normaly distributed.

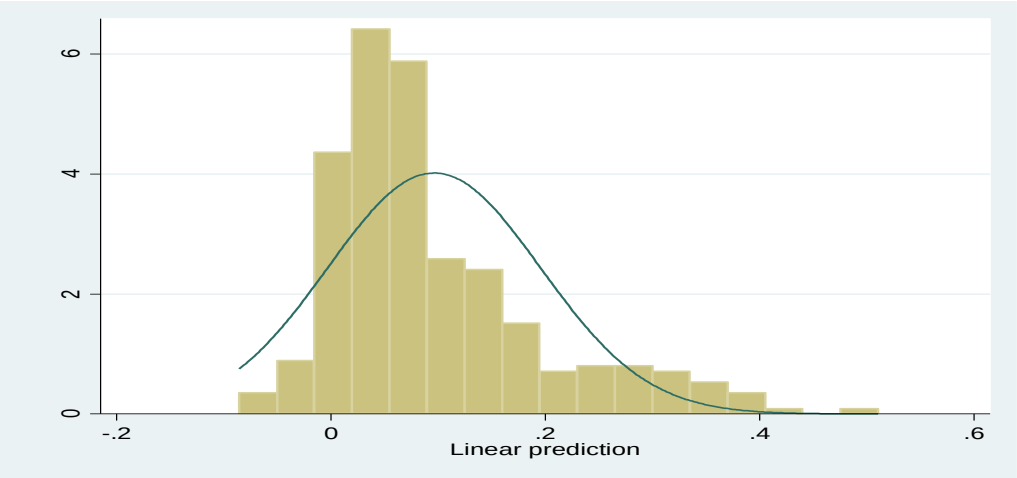

Figure 4.1: Normality Test

4.2.2 Multicollinearity

Multicollinearity results were presented in Table 4.2.

Table 4.2: Multicollinearity

Variable	VIF	1/VIF
firm size	1.55	0.646
momentum	1.27	0.785
liquidity	1.16	0.860
leverage	1.1	0.912
Mean VIF	1.27	

The mean of VIF was 1.27 and thus less than 10. This implied that there was no presence of multicolinearity.

4.2.3 Heteroscedasticity test

Heteroscedasticity results were presented in Table 4.3.

Table 4.3: Heteroscedasticity Results

Modified Wald test for group wise heteroscedasticity
H0: sigma(i)^2 = sigma^2 for all i
chi2 (3) = 472.09
Prob>chi2 = 0.0600

The outcome showed that the p value was 0.060 and thus greater than 0.05. This implied that there was no presence of heteroscedasticity.

4.3 Analytical Model

This section presented the correlation and regression analysis results. The correlation analysis which showed the direction of association of the variables and their level of significance was presented first.

4.3.1 Correlation Analysis

Table 4.4: Heteroscedasticity Results

		Performance	Momentum	Liquidity	Leverage	Firm size
Performane	Pearson Correlation	1.000				
	Sig. (2-tailed)					
Momentum	Pearson Correlation	.473**	1.000			
	Sig. (2-tailed)	0.000				
Liquidity	Pearson Correlation	0.102	0.033	1.000		
	Sig. (2-tailed)	0.068	0.552			
Leverage	Pearson Correlation	.541**	.126*	0.000	1.000	
	Sig. (2-tailed)	0.000	0.024	0.997		
Firm size	Pearson Correlation	.616**	.446**	.337**	.279**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

Results revealed that association between financial performance and momentum strategies is positive and significant (r=0.473, p value=0.000). This implies that an increase in momentum strategies is linked with an increase in financial performance and a decrease in mometum is linked with a decline in financial performance.

Results revealed that association between financial performance and liquidity is positive and insignificant (r=0.102, p value=0.068). This implies that an increase or descrease in liquidity is does not result to any change in financial performance

Results revealed that association between financial performance and leverage is positive and significant (r=0.541, p value=0.000).

This implies that an increase in leverage is linked with an increase in financial performance and a decrease in leverage is linked with a decline in financial performance.

Results revealed that association between financial performance and firm size is positive and significant (r=0.616, p value=0.000).

This implies that an increase in firm size is linked with an increase in financial performance and a decrease in firm size is linked with a decline in financial performance.

4.3.2 Regression Analysis

The results presented in table 4.5 showed that momentum strategies, firm size, leverage and liquidity were suitable variables in amplification of financial performance. This means that momentum strategies, firm size, leverage and liquidity explain 57.8% of the variations in the dependent variable which is financial performance. The adjusted R was 0.578.

Table 4.5: Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760a	0.578	0.572	0.0882939

Table 4.6 indicated that the overall model was significant as reinforced by a p value of 0.000 which is lesser than the critical p value of 0.05. This was reinforced by an F statistic of 107.688 which imply that momentum strategies, firm size, leverage and liquidity are good predictors of project performance.

Table 4.6: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.358	4	0.84	107.688	0.000
Residual	2.456	315	0.008		
Total	5.814	319			

The results in Table 4.7 revealed that momentum strategies and financial performance have a positive and significant effect (β=0.008, p=0.000).

In addition, the results showed that liquidity and financial performance have a positive and insignificant effect (β=0.007, p=0.258).

The results also indicated showed that leverage and financial performance have a positive and significant effect (β=0.012, p=0.000). The results also indicated showed that firm size and financial performance have a positive and significant effect (β=0.014, p=0.000).

Table 4.7: Analysis of Variance

	B	Std. Error	t	Sig.
(Constant)	-0.023	0.008	-2.917	0.004
Momentum strategies	0.008	0.001	5.822	0.000
Liquidity	0.007	0.006	-1.132	0.258
Leverage	0.012	0.001	10.323	0.000
Firm size	0.014	0.002	9.057	0.000

4.4 Interpretation of Findings

The findings revealed that momentum strategies positively and significantly influence the financial performance. This means that a unit increase in momentum strategies increases financial performance by 0.008 units. These findings agreed with that of Lishenga, Magutu, Barasa and Onsongo (2011) who found that momentum strategies have a significant effect on profitability. The findings revealed that liquidity positively and significantly influence the financial performance. This means that a unit increase in liquidity does not results to any change in financial performance.

The findings also stated that leverage positively and significantly influence the financial performance. This means that a unit increase in leverage increases financial performance by 0.012 units. These findings were inconsistent with the findings of Banafa, Muturi and Ngugi (2015) who found that leverage had a negative and significant effect on corporate financial performance. Raza (2013) also established a negative relation between performance and leverage.

The findings revealed that firm size positively and significantly influence the financial performance. This means that a unit increase in firm size increases financial performance by 0.014 units. These findings agreed with that of Njoroge (2012) who found that firm size, both in terms of total assets and in terms of total sales, had a positive impact on the performance in Nigeria. Naran (2013) also found that there was a positive relationship between asset a proxy for company size and firm profitability.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Introduction

This chapter addressed the summary of the findings, the conclusions and the recommendations. This was done in line with the objectives of the study.

5.2 Summary of Findings

The general objective of this study was to determine the effects of momentum strategies on the financial Performance of Listed Companies at Nairobi Security Exchange. The study used momentum strategies as the independent variable and financial performance as the dependent variable. Leverage, liquidity and firm size were used as the control variables. A non-experimental explanatory research design was employed in this study. This study's population comprised of 64 companies listed on the NSE.

The descriptive statistics indicated that the mean of ROA for the 64 listed firms at Nairobi Securities Exchange over the 5 years was 0.096. The mean of momentum for the 64 listed firms over the 5 years was 2.904 while the mean of liquidity for the 64 listed firms at Nairobi Securities Exchange over the 5 years was 0.462. The mean of leverage was 2.616 while the average of firm size for the 64 listed firms at Nairobi Securities Exchange over the 5 years was 4.602.

From regression results momentum strategies, firm size, leverage and liquidity explain 57.8% of the disparities in financial performance. In addition, there was a positive and significant impact between momentum strategies, firm size and leverage. However, liquidity had a positive and insignificant effect on financial performance.

5.3 Conclusions

The study findings revealed that momentum strategies have a significant and positive effect on financial performance of firms listed in NSE. The study concluded that momentum strategies have a positive significant impact on financial performance of firms listed in NSE.

The study findings revealed that leverage have a positive and significant effect on financial performance of firms listed in NSE. The study concluded that leverage have a positive significant impact on financial performance of firms listed in NSE. The study findings revealed that liquidity have a positive and insignificant effect on financial performance of firms listed in NSE. The study concluded that liquidity have a positive insignificant impact on financial performance of firms listed in NSE.

The study findings revealed that firm size have a positive and significant effect on financial performance of firms listed in NSE. The study concluded that firm size have a positive significant impact on financial performance of firms listed in NSE.

5.4 Recommendations

The study concluded that momentum strategies have a significant impact on financial performance. NSE firms should put into consideration momentum strategies when putting into place performance measures. The study concluded that liquidity have a positive insignificant impact on financial performance of firms listed in NSE. To facilitate favorable growth of these NSE firms, strategies to facilitate increased liquidity of NSE firms should be adopted by the firms for their efficiency in financial operations.

The study concluded that financial leverage has a significant impact on financial performance of firms listed in NSE.

The study recommends that the management of the firms listed in NSE firms should ensure they hold adequate level of financial leverage to ensure that they do not affect other functions of the firm. The study concluded that firm size have a significant impact on financial performance of firms listed in NSE.

The top management of listed firms should set up strategies of growth and expansion in sizes for example growth in market segments and shares. One way of achieving growth may be through mergers and acquisition where a small firm in a small industry can decide to merge with another larger firm resulting into one large firm that commands the entire large market. This will help to boost the performance of the firms.

5.5 Limitations of Study

There exist inherent limitations as far as the accuracy of the data is concerned. The study used secondary data and thus the researcher was not conscious of any alteration that were used to formulate and present the data. The analytical methodology was also very scientific. The study failed to extract qualitative information that would have explained the soft and hidden issues that affect the relationship between momentum strategies and financial performance of NSE firms. An open ended questionnaire, an interview or a focus group discussion would have yielded qualitative information and hence collaborate this results.

5.6 Areas for Further Study

The study recommends that a future study should include qualitative analyais of effect of momentum strategies and financial performance of NSE firms. Such a study would include interview guides and questionnaires to the employees of firms listed in NSE.

Another study should also put empasy on an extended lifespan of 10 to 20 years. This would make more clearity of trend changes over the years. Since the R squared was not 100% it appears there are other internal factors variables that were not looked at by the study. Other studies should therefore focus on other momentum strategies that affect financial performance of NSE firms

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