



**RELATIONSHIP BETWEEN COMPANY CHARACTERISTICS AND STOCK RETURN OF COMPANIES LISTED IN
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ABSTRACT

The major objective for all listed companies is to work towards maximizing shareholders wealth. To achieve this, companies continuously make optimal decision to continuously increase capital gain and expected return. Company performance can be influenced by various specific company characteristics. Even though company characteristics have influence on stock returns of listed companies there are empirical disparities on how stock return responds to changes in company characteristics. The main objective of this research was to establish the relationship between company characteristics and stock return of companies listed in Nairobi Securities Exchange. Specifically, the study sought the relationship between size effect, value effect, profitability, investment strategy and stock return among listed companies in Nairobi Securities Exchange. The study was based on agency theory, signalling hypothesis, efficient market hypothesis and stakeholder's theory. Correlation research design was adopted in the study. Census approach of 53 listed companies from December 2011 to December 2016 was adopted. Descriptive statistics, correlation and regression analysis were used to analyse the data. Results of the study revealed positive and significant relationship between value effect, size effect, profitability, investment strategy and stock return on companies listed in Nairobi securities exchange. There is need for efficient utilization of company resources so as to minimize agency and monitoring costs among other company costs to ultimately maximize and increase shareholders wealth.

Key Words: size, value, profitability, investment strategy, stock return

Introduction

Stock markets have greater roles in breaching gaps between deficit fund units and surplus fund units. These markets provide an avenue through which listed companies can access funds to finance their most profitable activities and expand their business operations with sole purpose of maximizing shareholders wealth (Muchiri, 2016). The current and potential investors engage into this market with a sole purpose of earning benefits in form of capital gains and dividends. Despite of the possibilities of earning benefits, these investors are exposing themselves to risk which may minimize their expected returns (Duy & Phuoc, 2016).

Corporate finance experts have endeavoured to explain the causal relationship between firm specific variables, macro-economic variables and stock return. Although, empirical enquiry has shown stock return to be more sensitive to changes in macroeconomic characteristics others have strongly argued on the need to explore the nexus between company characteristics such as earnings, dividends, risk, book to market ratio and announcement effect and stock return in both developed and developing economies (Shafana, Rimziya & Jariya, 2013).

A financial market is an interrelated system which has attracted attention from decision makers as well as theoretical and empirical researchers. There are numerous theories and prepositions which have been brought forth geared towards explaining the prediction of stock return. They can be broadly classified into conventional and non-conventional; in the former stock return is perceived to be a reflection of the publicly available information as stipulated by efficient market hypothesis (EMH) and any possibility to earn superior returns is always met at a cost in form of risk (Kale & Akktya, 2015) while in the later perceive stock return to be a reflection of market anomalies, which can be

explained by individual psychological behaviours (Barberis & Thaler, 2003).

Although, stock prices which are empirically tested to be determined by macroeconomic fundamentals such as interest rates, money supply, inflation rate and gross domestic products among other factors in developed economies (Kirui, Wawire and Onono, 2014). The changes in the selected variables were tested statistically by Ross (1976), through the introduction of Arbitrage Pricing Theory (APT), this was refuted by Chen, Roll and Ross (1986) who purported it was hard to clearly determine which variables to include and exclude in the model. However, Elly and Oriwo (2013) refuted the earlier arguments and purported that there was a causal relationship and that treasury bills interest rates had influence on dividend and discount which systematically influenced stock prices hence stock return.

While, there are certainties which can be anticipated in developed economies, the case for developing economies is different since most of them are very fragile and cannot withstand both internal and external shocks hence their stock returns are so sensitive to changes in both (Kirui et al., 2014).

Despite the fact that earlier models anticipated relationship between risks and returns, most of them were single factor models which left a gap that stock return was sensitive to other factors. The earliest proponents of single factors models were capital asset pricing model (CAPM) by Sharpe (1964). Even though, this model was mirrored by subsequent empirists such as Linter (1965), Black, Jensen and Scholes (1972) and Fama and MacBeth (1973) they were refuted since risk was not the sole determinant of stock return (Kale & Akktya, 2015).

Empirical enquiry was intensified to refute the contribution of beta factor on stock return and future contribution argued that stock return can be explained by other factors such as firm size, book to market value, profitability, general elections and investment strategies (Shafana et al., 2013; Ndungu, Ochieng & Wairimu, 2015). However, most of the investors may not be having the requisite knowledge to understand the dynamic of macroeconomic environment in regard to stock return but they can easily monitor changes of the financial measurements in the annual financial statements.

Moreover, Fama and French (1992) developed FF three-factor pricing model (TFPM) in which they added two supplementary risk factors which are firm size and B-M equity to the CAPM. FF is tested successfully in many markets around the world. Later FF was modified to incorporate profitability and investment strategies and it has also been tested in different markets all over the world for example Yufang (2017) tested the applicability of Fama French five factor model in Chinese stock market whose results refuted the earlier studies by Fama and French since firm size had no significant influence on stock return. A Brazilian case supported Fama and French five factor model.

Regional development of stock market is still at infancy stages since out of 1.5 million companies operating in Africa only 1600 are listed which accounts for less than 1% (0.11) are listed these jeopardizes the role of security market which links savers and fund seekers (Association of Securities exchanges in Africa, ASEA, 2015). Moreover, provision of long term capital for steering economic development will be humped (Issahaku, Ustartz & Domanban, 2013). Despite of these, several proponents has supported the need to develop robust stock market so as to mobilize resources and channel them to investors, for local and international resources diversification, saving

mobilizations so as to spearhead economic development and harmonization of preferences between savers and lenders (Okoli, 2012; Sohail & Hussain, 2009).

Most of the regional studies which has been carried out to examine stock return has limited themselves to relationship between macroeconomic variables and stock return for example Kuwornu (2012) investigated the co-integration between macroeconomic variables and stock return in Ghana using monthly data drawn from 1992 to 2008 and he reported both long-term and short-term relationship existed. Issahau et al. (2013) examined the causal relationship between stock return and macroeconomic variables in Ghana and reported directional causality between stock return and macroeconomic variables. Although, these studies reported similar findings they ignored dividend yields and considered Ghanaian securities exchange (GSI) index. The adaption of this was prone to cross sectional distortions and would limit results applicability to policy makers and consequently excludes investors whose main interest of investment is both capital gains and dividend yields. A Nigerian case was to examine relationship between stock return and inflation was carried out by Ibrahim and Agbaje (2013). In the study autoregressive distributed lag model was applied and stock return was measured using all Nigerian securities exchange index, this measurement failed to exclude those companies which were delisted or suspended during the period under investigation. Moreover, it was appropriate to consider the both capital gains and dividend yield. Similarly an examination of macroeconomic surprises against stock return was carried out by Gupta and Reid (2012). In this study stock return was measured using South African all share index, Top 40 index as well as general industry indexes were used to measure return. Although, the measures were not general their applicability was limited to policy

implications since they did not consider capital gains and dividend yield which are mostly considered by investors.

Locally different studies has been brought forth to examine the macroeconomic effect on stock return for example Kirui et al (2013) measured the stock return using NSE 20 share index despite its exclusion of both capital gain and dividend yields. Ndungu et al., (2015) investigated the effect of general election on stock return the study found significant influence of general election on stock return. Moreover, stock return was measured using a cumulative absolute return which was computed as excess return from NSE 20 share index. In this study there was subjective selection on the number of days before and after elections which would have impacted the outcomes of the results it would have been appropriate to use alternative number of days to examine the influence of election as an event.

An investigation of stock market reactions to mergers and acquisitions was carried out by Kariuki, Muturi and Kiragu (2016) in a sample which was drawn from companies which were listed in East Africa securities exchanges. The study drew a sample of 30 companies which had undertaken mergers and acquisition in the period under investigation. Stock return was measured using both absolute average return and cumulative abnormal returns. Drawing data at different time periods would have influenced the results owing to different prevailing macroeconomic conditions; moreover, the exclusion of dividend yield limited the use of study findings to policy implications and consequently hinder investors from benefiting since they are interested with both dividend and capital gains.

Statement of the Problem

All listed companies are geared towards maximizing shareholders wealth; to achieve this; the company has to continuously increase its capital gain and expected return. The choice of an investment

company to invest on is always determined by a myriad of factors which can be either macroeconomic characteristics or company characteristics, the later will be used to uniquely define a company and a choice made will always be geared towards maximizing stock return (Zaheri & Barkhordary, 2015).

Global and local evidence shows that stock return always reflects the available information and can be used as a yard stick against which company performance can be evaluated (Asghari & Nia, 2015; Farhman & Sharif, 2015; Shaker & Elgiziry, 2014). Through the selected company characteristics, listed companies trend and symbiotic relationship can be clearly explained since any change on a company feature triggers a positive or negative change on stock return depending on how the market responds to specific company characteristic change.

According to WFE (2016) there has been mixed stock return worldwide some markets reporting upward while others are reporting downward trends for example in America; Bermuda stock exchange the annual average change was -3.6%, in Colombia a downward trend of -22.6% was reported, Nasdaq recorded an upward trend of 5.7%. In Asia-pacific Shenzhen Stock Exchange recorded an increase of 63.2% while Taiwan stock exchange declined by 10.4%. In Europe Middle East and Africa, Amman stock exchange recorded an annual decrease of 1.3%, Athen's stock exchange declined by 23.6% and Nigeria securities exchange declined by 17.4%. In Nairobi securities exchange the situation is not different with a trend of 2% between 1998 and 2007. A decline of 1% in 1998 to 2001, 2003 had an increment of 15% while 2004 to 2006 had an increment of 10% (Achia, Wangombe & Anyika, 2010). Recent statistics are not different since a similar trend was reported by Ndungú et al. (2015) who argued that stock return had a tendency to decline during the electioneering period.

Although, there was an increase of 19.1% in NSE index in 2013, in 2014 it increased by 3.2% and in 2015 it declined by 21% (KNBS, 2017).

Even though company characteristics have influence on stock returns of listed companies there are empirical disparities on how stock return responds to changes in company characteristics for example Jianlong, Jaaman and Samsudin (2015) argued stock return cannot be modelled using company characteristics and Abbas, Khan, Azizi and Sumrani (2015) argued that those companies listed in Tehran securities exchange could be influenced by firm specific characteristics and in both cases applicability of Fama French factors models were tested and the studies supported them despite contrasting claims.

Despite of these studies supporting the applicability of asset pricing models their use is inhibited by lack of data base which has consolidated financial statement of listed companies. Moreover, these studies are from financial markets whose legal and technology development may be contrasting and have effect on company performance and would ultimately contrast or support the existing studies.

In summary, both empirical and theoretical documentations have yielded mixed results on the effect of company characteristics on stock return. In Kenya none of the studies has attempted to split company characteristics into value effect, size effect, profitability and investment strategy and study their individual contribution towards stock return. This research only focused on the four aforementioned characteristics because they have been consistently reported to have the highest explanatory power.

Although, most of the studies the researcher came across endeavoured to show the nexus between company characteristics and stock return, none of them hailed purely from Kenya and considered the listed companies from 2011 to 2016. Most of them

have been undertaken in developed economies owing to the availability of data.

Further, most of these studies have glaring shortcomings on their methodological choice and most did not carry out diagnostic tests for the panel data prior to fitting regression model. Consequently the current study was undertaken to breach those gaps.

Objectives of the Study

The main objective of the study was to establish the relationship between company characteristics and stock return of companies listed in Nairobi Securities Exchange. The specific objectives were:-

- To examine the relationship between size effect and stock return among companies listed in Nairobi Securities Exchange.
- To determine the relationship between value effect and stock return among companies listed in Nairobi Securities Exchange.
- To establish the relationship between profitability and stock return among companies listed in Nairobi Securities Exchange.
- To find out the relationship between investment strategy and stock return among companies listed in Nairobi Securities Exchange.

Hypotheses of the Study

The study sought to test the following hypotheses.

- H_{01} : There is no significant relationship between size effect and stock return among companies listed in Nairobi Securities Exchange.
- H_{02} : There is no significant relationship between value effect and stock return among companies listed in Nairobi Securities Exchange.
- H_{03} : There is no significant relationship between profitability and stock return among companies listed in Nairobi Securities Exchange.
- H_{04} : There is no significant relationship between investment strategy and stock return

among companies listed in Nairobi Securities Exchange.

Literature Review

Theoretical Review

Agency Theory

The proponents of agency theory were Jensen and Meckling (1976). The theory evaluates the relationship between principal and agents. In this theory, shareholders who are the owners or principals of the company, hire the agents to perform work. Principals delegate the running of business to the directors or managers, who are the shareholder's agents (Clarke, 2004). Indeed, Clarke (2004) argued that two factors can influence the prominence of agency theory. First, the theory is conceptually and simple theory that reduces the corporation to two participants of managers and shareholders. Second, agency theory suggests that employees or managers in organizations can be self-interested.

Although, there are anticipation of all decisions made to factor in the interest of the principal. This is not always the case and there are possibilities of conflicting interest (Padilla, 2000). In deed Davis, Schoorman and Donaldson (1997) empirically proved the existences of agency conflicts due to differing expectations between agents and principals.

In agency theory, the agent may be succumbed to self-interest, opportunistic behaviour and falling short of congruence between the aspirations of the principal and the agent's pursuits. Even the understanding of risk defers in its approach. Although with such setbacks, agency theory was introduced basically as a separation of ownership and control (Bhimani, 2008).

Moreover, Holmstrom and Milgrom (1994) argued that instead of providing fluctuating incentive payments, the agents will only focus on projects that have a high return and have a fixed wage without any incentive component. Although this will

provide a fair assessment, but it does not eradicate or even minimize corporate misconduct. Here, the positivist approach is used where the agents are controlled by principal-made rules, with the aim of maximizing shareholders value. Hence, a more individualistic view is applied in this theory (Clarke, 2004).

The theory is appropriate for the study since there is need to increase the size, value, profitability of any corporation as such to maximize shareholders wealth. Moreover, the investment strategy adopted by any listed company should foster to increase shareholders wealth and always increase their returns.

Signaling Hypothesis

Signalling hypotheses dates back to studies by Spence (1973). This theory was arrived by Spence (1973) when they argued that whenever a company declares increase of dividends payment then there are prospects for superior performance. Further, empirical examination of voluntary dissemination of information to members of the public has revealed that there is a positive and significant relationship between information disclosure and firm performance (Muiva, 2014), therefore those companies which continuously disseminate their information to members of the public has high chances of superior stock returns as compared to their rivals.

Empirical examination of studies on impact of information asymmetry on stock return has revealed that in developed economies, companies that are transparent have superior performance, more so most profitable companies voluntarily share company trend which triggers stock price increases due to high demand and limited supply (Bini, Giunta & Dainelli, 2010). In contrast those companies which are less making whenever they share information publicly they are perceived to be trying to woo investors upon window dressing their books of account. Whenever companies are

disseminating information to the members of the public, they do so to alert investors about quality and value of their investment.

Additionally, Spence (1973) argued that they through minimization of the level of information asymmetry companies will always share the desired information and consequently trigger certain decision among investors.

The theory is appropriate since the amount of profit made by a company may be used to signal superior performance and through trend and past analysis an investors would be able to compare profit changes with stock return.

Efficient Market Hypothesis

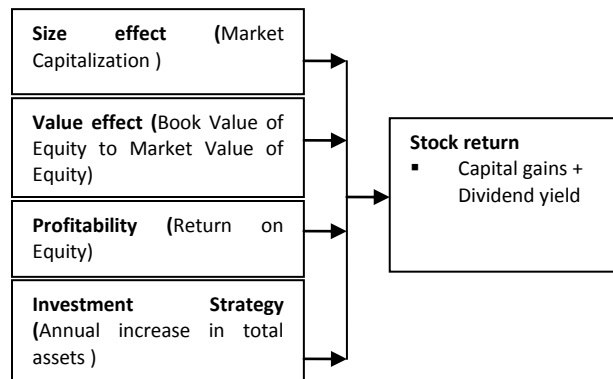
An efficient market is market where the prices reflect all the available information (Fama and French, 1992). Information in an efficient market can be described as any information that has the capacity to influence a change in the stock prices, this information is unknown currently but it will appear in future randomly (Muiva, 2014). According Fama and French (1992) in an efficient market, any information released by the company bad or good will reflect in its share price quickly, bad information will immediately result to decline in the price and good price immediate appreciation of the price. The efficiency of a market depends on how quickly information emerging in that market reflects in the stock prices.

The characteristics of an efficient market hypothesis includes quick reflection of information on the share prices, no investor has an advantage over the others based on available information and that the quantity of shares traded by one investor cannot influence the share price. If a market is efficient, then, no investor can make abnormal returns in that market based on possession of certain information since the same information is available to all the participants in the market. Part of the information emerging in the market is the accounting

information as indicated by financial statements published by companies.

The theory is appropriate for the study since stock return ought to reflect the effect of investment strategy adopted by the management. There are three investment alternatives which are aggressive, defensive and conservative. Adoption of any of these decisions will either increase or decrease investment return and once the information is shared publicly it will be reflected on stock prices.

2.2 Conceptual Framework



Independent variable

Dependent variable

Figure 1: Conceptual Framework

Empirical Review

In the following section past studies which have shown the nexus between company characteristics and stock return will be explored. The main issues to be discussed will be where the study was done, by whom, the main research questions, research design adopted, major findings and the contextual research gaps which emanated from the specific study.

Size Effect and Stock Return

A study by Duy and Phuoc (2016) examined the relationship between firm size and stock return in Ho Chi Minh City Stock Exchange. Longitudinal research design was adopted and purpose sampling was applied to draw 33 companies which were listed in service in period ranging from 2009 to

2014. Relative return was used to measure stock return while firm size was operationalized as natural logarithms of total assets. Market capitalization was not considered since it was considered to be influenced by the prevailing inflation rate. Data was analysed using descriptive and inferential regression analysis. Both correlation and regression analysis revealed a negative and significant relationship between firm size and stock return. It would have been appropriate for the study to carry out diagnostic tests for normality, autocorrelation, homoscedasticity and multicollinearity.

Asghari and Nia (2015) investigated the relationship between firm size, political costs and stock return amongst 85 firms trading in Tehran securities exchange in 2009 to 2012. Multiple regression analysis was used to analyse the data. Although the study found no significant relationship between political costs and stock return there was a positive and significant relationship between firm size and stock return. Although, the data was panel the study did not carry out stationarity, normality, homoscedasticity and multicollinearity test.

An investigation of the impact of firm size on stock return in Karachi stock exchange was carried out by Farhman and Sharif (2015). Purposive sampling was used to draw manufacturing listed companies in Automobile and parts, Construction and materials, Oil and gas and pharmaceutical and Bio tech sectors. Panel secondary data was collected with monthly variation from January 2007 to June 2013. Both OLS and fixed effect regression techniques were used to analyse the data and the results of the study revealed a positive and significant relationship between firm size and stock return. Although, the study used panel data, none of the diagnostic test was reported and it was important to carry out normality, stationarity, and serial correlation and multicollinearity tests.

An Indian case of firm size effect on cross sectional stock return among auto mobile listed companies was examined by Bairagi and Chakraborty (2015), panel research design was adopted in the study and secondary data was collected from annual financial statements of 13 listed companies in 2005 to 2014. Data was analysed using descriptive and inferential statistics. Results of the study revealed a positive and significant relationship between firm size and stock return of listed manufacturing companies. Although the study adopted panel research design it failed to carry out panel data diagnostic tests for normality, serial correlation, stationarity and multicollinearity.

Simlai (2009) investigated the impact of size, book to market value of equity on stock returns. The study adopted panel research design and collected secondary data from all companies which were listed in New York stock exchange, American stock exchange and National association of securities dealers from July 1926 to June 2007. Fama- French was used as the measure of stock return. The study found positive and significant effect of firm size on stock returns. Although, in reality there are so many factors which can influence stock returns the current study narrowed down on only two characteristics, this called for more exploration on the effect of firm characteristics on stock return. Moreover, the study could not incorporate stock market volatility in the Fama- French model which they used to measure the stock returns.

Value Effect and Stock Return

A comparative analysis of asset pricing models in Egypt was carried out by Shaker and Elgiziry (2014). The study adopted GRS test to empirically analyze the applicability of five asset pricing models; the Capital asset pricing model (CAPM), the Fama French three factor model, the Cahart four factor model, the liquidity augmented four factor model and the five factor model. The study collected panel

data from 55 listed companies in Egypt securities exchange. Portfolio formation were formed from listed companies, the study findings revealed that the most appropriate model for stock return was Fama and French while the rest were refuted.

An investigation by Sare and Esumanba (2013) on determinants of abnormal stock returns in Ghana, the study adopted an event study research design. Results of the study revealed a significant effect of earnings volatility, size, and market to book value, dividend and age of the company. Although, the data was panel in nature the study adopted ordinary least squares to analyze the data. It would have been appropriate to adopt panel data analysis approach and test for stationarity, normality and granger causality between the study variables.

Emamgholipour et al. (2013) investigated the effect of performance evaluation on stock return Tehranian securities exchange. Purposive sampling technique was used to select 80 companies which were listed from 2006 to 2010. In that study performance evaluation was operationalized as earnings per share (EPS), price to earnings ratio (P/E) are market value to book value ratio. Although, the data was panel in nature ordinary least squares regression analysis was used to analyze the data whose findings revealed positive and significant relationship between EPS and stock return while PE and book value to market value ratio had inverse and significant relationship. It would have been appropriate to carry out some diagnostic tests such as stationarity, granger causality, normality and serial autocorrelation prior to regression analysis.

Profitability and Stock Return

Allozi and Obeidat (2016) investigated the relationship between profitability, leverage and stock return of Jordanian manufacturing companies listed in Amman stock exchange (ASE). The study adopted longitudinal research design; purposive

sampling was used to select 65 companies which were actively listed from period of 2001 to 2011. Profitability was operationalized as net profit margin (NPM), gross profit margin (GPM), return on assets (ROA), return on equity (ROE) and earnings per share (EPS) and stock return was calculated as an annual return. Data was analysed using descriptive, correlation and regression analysis. Results of the study revealed positive and non-significant relationship between NPM, GPM, ROA, ROE, EPS and stock return. The study concluded that there is need to take measures to increase profitability levels within an organization as such to maximize the stock return. Since the data was panel in nature it was important for the study to carry out diagnostic tests for, normality, stationarity, serial correlation and heteroskedasticity in addition to multicollinearity tests.

A study to investigate the impact of profitability on stock return among companies listed in Tehran securities exchange was carried out by Faroghi and Jahromy (2015). The study adopted longitudinal research and drew 60 companies using purposive sampling and they were actively trading in period from 2005 to 2012. Stock return was measured using both absolute and relative price return and profitability was measured using earnings yield. Data was analysed using descriptive and regression analysis. Regression modelling diagnostic test such as Durbin Watson was used for serial correlation test, variance homogeneity test was used for homoscedasticity test, F limer test was used to tests for any heterogeneity existing between intercept, Hausman test was used to test the most appropriate model between fixed and random effects regression model. Random effects regression (REM) revealed that there was a positive and significant relationship between profitability and stock return.

Ghasempour and Ghasempour (2013) investigated the relationship between operational ratios and

abnormal stock return among 54 purposively selected firms which were listed in Tehran Securities Exchange (TSE) in 2000 to 2008. The study adopted correlational research design. The ratios were grouped into fundamental and risky ratio. Fundamental ratios included ROA, ROE, cash flow from operations (CFO) to total assets and risky ratios included change in leverage and liquidity. Data was analysed using descriptive and inferential statistics. There was a positive and significant relationship between ROE, ROA, CFO and stock return while liquidity and leverage had negative and insignificant influence on stock return.

An Indonesian case on the relationship between financial ratios and stock manufacturing 20 companies listed in period of 2008 to 2013 was carried out by Wijaya (2015). The study adopted correlation research design and data was analysed using multiple linear regression analysis. Profitability, earnings yield, dividend yields and book to market had positive and significant relationship with stock return. In contrast leverage (debt to equity ratio) had negative and significant relationship with stock return. Although, the data was panel in nature the current study did not carry out panel data diagnostic tests such as Jarque Berra for normality, serial autocorrelation test, multicollinearity test and stationarity.

Investment Strategy and Stock Return

An investigation on the applicability of five factors Fama French model was carried out by Nguyen, Ulku and Zhang (2015). The study found that despite the inclusion of profitability and investment strategies the value contribution of market to book value was so significant. Although, most of the companies which are listed in traditional asset pricing models could not capture the stock returns of state owned companies.

An examination-on the applicability of Fama French model in China by Jianlong, Jaaman and Samsudin

(2015). The study hypothesised that there is no empirical model which explains the performance of stock return in China securities exchange. The study tested the applicability of Fama French three factor model. Panel regression analysis revealed an inverse significant relationship between firm size and stock return though there was a positive and significant relationship between stock return and book to market value ratio. Since the explanatory power of the model was so low there are several factors which need to be examined further since they could be influencing stock return.

Abbas, Khan, Azizi and Sumrani (2015) investigated the applicability of Fama French asset pricing model in Karachi securities exchange in 2004 to 2014. The study considered all the companies which were listed in the whole period under investigation. Six portfolios were formed at the intersection of two size weights and three value weights. Regression analysis was used to analyse the data and results of the study revealed positive relationship between value effect and stock return and an inverse relationship between value effect and stock return. It would have been appropriate to adopt panel data research design while analysing the data and carry out panel data diagnostic tests.

Research Methodology

In the current study panel and correlation research design was adopted. Sekaran and Bougie (2013) argued that correlation research design is adopted when the researcher seeks to explain the causal effect between the study variables while panel design is adopted whenever panel data is adopted. The combination of correlation and panel design was the most appropriate since the study sought to examine the causal effect between firm characteristics and stock return of listed companies over a six year period. A multiple regression model followed this basic structural representation:

$$Y_{i,t} = \alpha + \beta_1 X_{1i,t} + \beta_2 X_{2i,t} + \beta_3 X_{3i,t} + \beta_4 X_{4i,t} + \epsilon_{i,t}$$

Y= Stock return X₁= Size effect X₂= Value effect X₃= Profitability X₄= Investment strategy
 $\epsilon_{i,t}$ = Error term.

Results And Discussions

Descriptive Analysis

Descriptive analysis in Table 1 shows that the average stock return was 5.08%, with a minimum of -90.06% and a maximum of 128.71%.

Table 1: Descriptive Analysis.

	Stock Return	Size Effect	Value Effect	Profitability	Investment Strategy
Mean	5.08	22.54	1.93	1.87	18.39
Median	2.79	22.71	0.90	0.15	18.09
Maximum	128.71	27.25	55.56	50.24	25.93
Minimum	-90.06	0.00	-2.37	-5.51	13.07
Std. Dev.	22.08	2.35	4.71	28.09	2.54
Skewness	0.76	1.09	2.09	1.06	1.52
Kurtosis	2.27	2.62	2.86	3.05	3.00
Jarque-Bera	5.42	1.09	2.15	3.50	4.21
Probability	0.65	0.72	0.82	0.62	0.65
Sum	1616.78	7166.58	612.71	594.08	5848.64
Sum Sq. Dev.	154565.00	1749.85	7044.73	250055.40	2040.33
Observations	318	318	318	318	318

Stock return, size effect, value effect, profitability and investment strategy were normally distributed since the p value for Jarque Berra test was greater than 0.05.

The average size effect was 22.54, with a maximum of 27.25 and a standard deviation of 2.35. Despite of this average there was a wide variation in size effect since some companies had nil market capitalization. The average value effect was 1.93, with a maximum of 55.56 ratio of book value to market value; this implies that there was a wide variation on the book value to market value as depicted by standard deviation of 4.71.

The average profitability reported amongst listed companies in NSE was 1.87, with a minimum of -

5.51 and maximum of 50.24; indeed profitability had the highest variation amongst the study variables as indicated by standard deviation coefficient of 28.09. The average change in asset base among listed companies in NSE was 18.39 and a close scrutiny of standard deviation indicated investment strategy changes amongst listed companies has low variations across companies and period under investigation.

Panel Diagnostic Tests

Stationarity Tests

Data adopted in the study was panel in nature and there was need to evaluate its stationarity. According to Balatagi (2005) when data is stationary

finite variance and uniform changes from the mean will be observed. Currently both Augmented Dickey Fuller (ADF) test and Phillip Perrons were used to test for stationarity. In both tests the null hypotheses was that the data had unit roots against the alternative that there was no unit root. Since

the p value for all variables were less than 0.05, then we can reject the null hypotheses and accept alternative hypotheses that stock return, size effect, value effect, profitability and investment strategy all were stationary and integrated at order zero.

Table 2: Unit Root Test at Levels

Variable	Test at levels	ADF Test			Philips Perrons (PP) Test		
		T statistic	Critical Value at 5%	P value	T statistic	Critical Value at 5%	P value
Stock Return	Constant	-4.12	-2.91	0.00	-4.30	-2.91	0.00
	Constant and Trend	-4.26	-3.48	0.00	-5.34	-3.48	0.00
Value Effect	Constant	-4.40	-2.91	0.00	-4.36	-2.91	0.00
	Constant and Trend	-4.35	-3.48	0.00	-4.31	-3.48	0.00
Size Effect	Constant	-3.90	-2.91	0.00	-3.27	-2.91	0.00
	Constant and Trend	-3.86	-3.48	0.00	-4.23	-3.48	0.00
Profitability	Constant	-5.61	-2.91	0.00	-4.57	-2.91	0.00
	Constant and Trend	-4.60	-3.48	0.00	-3.57	-3.48	0.00
Investment Strategy	Constant	-3.65	-2.91	0.00	-3.67	-2.91	0.00
	Constant and Trend	-3.73	-3.48	0.00	-3.73	-3.48	0.00

Correlation Analysis and Multicollinearity Test

Karl Pearson correlation analysis was adopted in the study since all the variables were in ratio scale (Kothari, 2011). Correlation analysis showed the strength of association between the study variables and also served as linearity test. Results of the study revealed positive and significant relationship between size effect and stock return (rho= 0.58, p value <0.05). This implies that an increase in size effect increases stock return. Secondly, there was a positive and significant relationship between value effect and stock return (rho = 0.72, p value <0.05). This implies that an increase in value effect is associated with an increase in stock return. Thirdly,

there was a positive and significant relationship between profitability and stock return (rho = 0.21, p value <0.05). This implied that an increase in profitability is associated with an increase in stock return. Finally, there was a positive and significant relationship between investment strategy and stock return (rho = 0.32, p value <0.05). This implies that an increase in investment strategy is associated with an increase in stock return. Further, there was no multicollinearity among the independent variables since none of them had correlation coefficient greater than 0.8 with each other and none of variance inflation factors was greater than 10 or tolerance limits less than 0.1.

Table 3: Correlation Analysis and Multicollinearity Test

Stock Return	Size Effect	Value Effect	Profitability	Investment Strategy	VIFs	Tolerance

Stock Return	1						
Size Effect	0.58	1				1.88	0.53
	0.00	----					
Value Effect	0.72	0.13	1			1.70	0.59
	0.00	0.02	----				
Profitability	0.21	-0.09	-0.02	1		1.79	0.56
	0.00	0.13	0.74	----			
Investment Strategy	0.32	0.02	0.04	0.04	1	1.72	0.58
	0.00	0.74	0.45	0.47	----		

Breusch Pagan Test

In addition, to collinearity and stationarity test, other diagnostic tests were carried out. First Breusch Pagan test was carried out to examine the most appropriate model to fit the data between

ordinary least squares (OLS) and random effects model. This was summarized in Table 4. Since the p value was less than 0.05, then the most appropriate model to fit in the study was either random effects or fixed effects.

Table 4: Chi-Square values for the Breusch –Pagan LM Test

Dependent variable	χ^2 -value	p-value
Stock Return	3.06	0.000

Time Fixed Effects Test

Secondly, test-parm was used to test whether time fixed effects was necessary prior to fit fixed effects model and appropriateness of introducing dummy variables in the regression model. Table 5 showed

the test results. The test assumes that all the dummies variables are equal to zero. There was no need to introduce dummy variables or carry out two way analysis since the p value was less than 0.05.

Table 5: Test Results for Time Fixed Effects

Dependent variable	F-value	p-value
Stock Return	0.79	0.023

Heteroskedasticity and Serial Correlation Test

Both heteroskedasticity and serial correlation test results were summarized in Table 6. In the current study there was no heteroskedasticity problem and

there was no auto correlation since in both test p values were greater than 0.05, thus the null hypotheses could not be rejected.

Table 6: Result for Heteroskedasticity and Serial Correlation Test

Dependent variable	Test for heteroskedasticity		Serial Correlation	
	χ^2 -value	p-value	F-value	p-value
Stock Return	28.25	0.221	3.334	0.869

Random or Fixed Effects Test

There was need to make a choice between two mutually exclusive models i.e. random and fixed effects hence Hausman test was applied. This was

summarized in Table 7. The test hypotheses that the most appropriate model is random effects, since the p value was less than 0.05; then there was enough evidence to warrant rejection of the null

hypothesis and conclusion that the most appropriate model to fit in the study was fixed effects.

Table 7: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Hausman Test	22.377	4	0.002

Variable	Fixed	Random	Variable (Diff.)	Prob.
Size effect	1.364	0.096	0.626	0.109
Value effect	0.692	0.337	0.083	0.000
Profitability	0.003	0.008	0.000	0.591
Investment Strategy	0.448	0.261	2.511	0.906

Regression Analysis

Regression analysis in Table 8 revealed that size effect, value effect, profitability and investment strategy all had joint combined significant influence on stock return (F= 32.93, P value = 0.000). Moreover, an R squared of 0.38 revealed that 38% of the variation in stock return can be jointly explained by size effect, value effect, profitability and investment strategy while the remaining percentage can be explained by other factors excluded in the model.

The first hypothesis of the study stated that there was no significant relationship between size effect and stock return. Results of the study revealed a positive and significant relationship between size effect and stock return ($\beta = 1.36$, p value <0.05). This implied that while holding value effect, profitability and investment strategy constant. An increase in size effect increase stock return by 1.36 units. These results were in support of signalling hypothesis since any positive information shared publicly will always be interpreted as a signal for better prospect hence increasing the company stock return. Alternatively, negative information will have a negative impact on the stock returns. Moreover, these findings concur with agency theory assertions since when a company is performing

well, there is minimal chances of agency conflict, hence no need to incur huge monitoring costs.

In addition, the findings supported (Zaheri & Barkhordary, 2015; Farhman & Sharif, 2015; Bairagi & Chakraborty, 2015) all whom reported positive and significant relationship between size effect and stock return. On the other hand the study differed with Duy and Phuoc (2016) who reported an inverse and significant relationship between size effect and stock return and they did not concur with Asgharia and Nia (2015) who reported no relationship between size effect and stock return.

The second hypothesis stated that value effect has no significant effect on stock return amongst companies listed in NSE. Results of the study found positive and significant relationship between value effect and stock return ($\beta = 0.69$, p value <0.05). This implies a unit change in value effect while holding size effect, profitability and investment strategy constant increases stock return by 0.69 units. The results of the study were in support of efficient market hypothesis since any positive news concerning an increase in company value (book value to market value) would be quickly adjusted in stock values and consequently increase the stock return. These results mirrored (Shaker & Elgiziry, 2013; Shah et al., 2014; Sare & Esumanba, 2013) who reported positive and significant relationship between value effect and stock return.

The third hypotheses of the study stated that there was no significant relationship between profitability and stock return. Results of the study revealed positive and significant relationship between profitability and stock return ($\beta=0.003$, p value <0.05). This implies that a unit change in profitability while holding size effect, value effect and investment strategy constant increases stock return by 0.003 units.

The results are in agreement with both signalling hypotheses and efficient market hypothesis. Indeed, the amplified profitability can signify better fortune to current and potential shareholders. Moreover, these results are in support of both agency theory and stakeholder's theory since the current management have adhered to the call of maximizing shareholders wealth. The results of the study were in support of (Allozi & Obeidat, 2016; Faroghi & Jahromy, 2015; Ghasempour & Ghasempour, 2013; Wijaya, 2015).

The fourth hypotheses of the study stated that there was no significant relationship between investment strategy and stock return. Results of the study revealed positive and significant relationship

between investment strategy and stock return ($\beta=0.45$, p value <0.05). This implies that a unit change in investment strategy while holding profitability, value effect and size effect constant increases stock return by 0.45 units. These results were in support of agency theory since the management endeavoured to increase shareholders wealth. It's also evident that any company investment strategy plays a fundamental role in the overall company stock return performance. Empirically, the findings were in support of (Nguyen et al., 2015; Abbas et al., 2015) who reported positive and significant relationship between investment strategy and stock return. On the other hand the results differed with Jianlong et al., (2015) who reported negative relationship between investment strategy and stock return.

In conclusion, stock return amongst companies listed in Nairobi Securities Exchange was highly influenced by value effect which reported a significant t-value of 2.76. This was followed by size effect with a t-value of 2.43, investment strategy with a t-value of 2.27, and lastly by profitability with a t-value of 2.05.

Table 8: Fixed Effects Regression on Relationship Between Company Characteristics and Stock Return.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	28.93	34.76	0.83	0.41
Size Effect	1.36	0.56	2.43	0.00
Value Effect	0.69	0.25	2.76	0.00
Profitability	0.003	0.00	2.05	0.00
Investment Strategy	0.45	0.20	2.27	0.00
R-squared	0.38	Mean dependent variable		5.08
Adjusted R-squared	0.37	S.D. dependent variable		22.08
S.E. of regression	22.21	Akaike info criterion		2.20
Sum squared residuals	128744.10	Schwarz criterion		1.87
Log likelihood	-1405.78	Hannan-Quinn criterion		2.47
F-statistic	32.93	Durbin-Watson stat		1.98
Prob (F-statistic)	0.00			

The multiple regression model structural representation was as follows:

$$\text{Stock return} = 28.93 + 1.36 * \text{Size Effect} + 0.69 * \text{Value effect} + 0.003 * \text{Profitability} + 0.45 * \text{Investment Strategy} + \epsilon_{i,t}$$

Chapter Five: Conclusion and Recommendations

Conclusion

Based on the study findings, the following conclusions can be drawn: Since there was a positive and significant relationship between size effect and stock return among companies listed in NSE. There is need for listed companies to foster measures geared towards increasing stock liquidity. Through applying well calculated management strategies, agency conflicts will be decreased which will foster superior stock return for the company. There is need to monitor stock prices and eliminates possibilities of hoarding stock which might have a negative effect on stock's performance.

Secondly, there is need for listed companies to devise measures geared towards increasing their value since there was positive and significant relationship between value effect and stock return. This calls for listed companies to execute strategies which are geared towards increasing the share prices in relation to the book value of these shares. Additionally, there is need for listed companies to rely more on financing options which will not dilute their managerial control.

Thirdly, listed companies should diversify their operations so as to increase their profitability. This will increase their stock returns in both short run and long run. There is need for all listed companies to maximize their revenue generation strategies and this will call for coordinated efforts between research and development team and advertising agents since an increase in sale will increase profitability prospects.

Finally, listed companies should increase their asset base in a calculated way. This can be achieved either through geographical expansion or operational diversification strategies. Through increased operational activities there will be need

for an increase in asset base and this will ultimately increase stock return of listed companies.

Recommendations

From the findings it can be recommended that listed companies should continuously devise measures geared towards increasing their market capitalization through which the wealth of the shareholders will be maximized. An increase in share prices would signal superior performance and will ultimately boost investors' confidence. There is need to increase the level of information sharing more so, those aspects which will ultimately increase market prices even though the forces of demand and supply have a greater role in market pricing.

Secondly, there is need for measures to be deployed to control against decrease in stock prices more so, during the era of turbulent economic challenges and unstable political climate. As per efficient market hypothesis information released in the public ought to be reflected in stock prices. There is need for guarding and hoarding negative information and continuously disseminate positive information so as to foster positive trajectory on stock return.

Thirdly, all listed companies ought to embark on measures which will increase their profitability. This calls for scientific and data based decision making which can be easily attained through establishment of robust research and development department and increase in company sales and product innovation so as to capture new market niches.

Finally, there is need for listed companies to devise measures which will increase their asset base this will be through expansion and opening of branches in new sections. Although, assets can be either financial or physical there is need to increase in both aspects so as to minimize provision on wear and tear associated with physical assets and

maximize on revaluations associated with financial assets.

Suggestions for Further Study

The current study examined the causal effect of company characteristics on stock return of listed companies in NSE. There is need for similar studies to be carried out by incorporating respondents from

every sector, and increasing the number of years for the research from five to ten years. Moreover, the current study relied on balanced data and there is need for a similar study to be undertaken by adopting unbalanced data approach. Lastly, although, the study relied on only four characteristics, there is need to increase company characteristics for a much wider perspective.

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