INVESTMENT DECISIONS AND FINANCIAL PERFORMANCE OF NON-FINANCIAL FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE, KENYA

BY

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A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY

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DECLARATION

This research study is my original work and, to the best of my knowledge, it has not been presented for a degree or diploma award in any other university. All studies that I have referred to have been duly acknowledged.

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We hereby confirm that the work in this research study was achieved under our supervision as the appointed supervisors of the university.

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DEDICATION

This research study is whole-heartedly dedicated to my wife Damacline, my daughters Charlene, Shaz and Shania and my mother Eunice for their immeasurable support and love during my PhD research study.

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OPERATIONAL DEFINITION OF TERMS

Expansion decisions	The decisions made by a firm to obtain new fixed assets. Operationalized by the net book value of property, plant and equipment (PPE) of current period minus the net book value of PPE of previous period divided by the net book value of PPE of previous period.
Financial Leverage	The long term borrowings used by a non-financial firm as a source of capital for its investments. Operationalized by the ratio of long-term borrowings to equity.
Financial Performance	The profitability, market value and efficiency of non-financial firms over a defined period. It is operationalized by return on assets, market share price to book share price ratio and fixed asset turnover ratio. The dependent variable in the study.
Firm size	An indicator of the growth of the total assets of a firm over a defined period. It is obtained from the natural logarithm of total assets of the firm.
Fixed asset turnover ratio	The ratio of net sales to depreciated fixed assets. It represents the efficiency of a firm in utilizing its fixed assets.
Investment decisions	Decisions arrived at by the firm's management on its long-term assets, with the objective of boosting its organic growth. These decisions as used in this research study are Expansion, Replacement and Renewal decisions.

Listed firms	Publicly traded firms. There shares form part of the trade in a securities exchange.
Market share price to book share price ratio	The ratio of the market share price of a non-financial firm in relation to its book share price. It represents the market value of a firm.
Nairobi Securities Exchange	The sole securities market in Kenya.
Non-financial firms	Are firms that belong to the commercial and services, automobiles and accessories, energy and petroleum, manufacturing and allied, agriculture and construction and allied sectors.
Renewal decisions	The decision made by a firm to polish its existing fixed assets. Operationalized by the ratio of maintenance costs on PPE to the net book value of PPE.
Replacement decisions	The decision made by a firm to substitute its worn out fixed assets. It is indicated by the market value to the replacement value ratio of the property, plant and equipment (PPE)
Return on assets	The earnings from one shilling of the assets of a non-financial firm. It is an indicator of the profitability of a non-financial firm.

ABBREVIATIONS AND ACRONYMS

BGLMT	Breusch- Godfrey Langrangian Multiplier test
BPT	Breusch-Pagan test for Heteroscedasticity
CMA	Capital Markets Authority
CLRM	Classical Linear regression method
EBIT	Returns before interest and tax
ED	Expansion Decision
FATR	Fixed Asset turnover ratio
FGLS	Feasible Generalized Least Square
FL	Financial leverage
FS	Firm size
LLT	Levin-Lin-Chu Test
LRT	Likelihood Ratio Test
MBR	Market share price to Book share price ratio
MM	Modigliani and Miller
NASDAQ	United States of America National Relationship of Securities Dealers Automated Quotations Securities market
NSE	Nairobi Securities Exchange, Kenya
PPE	Property, plant and equipment
RD	Replacement decision
RN	Renewal decision
ROA	Return on assets
SACCOS	Savings and Credit cooperative societies
TA	Total Assets
UNCTAD	United Nations Conference on Trade and development
VIF	Variance Inflation factor

WDT	Serial autocorrelation by Wooldridge
WT	Heteroscedasticity by White

ABSTRACT

The expectations of any stakeholder in a firm at the end of a quarter or a financial year is to earn dividends. However, this may not always be the case, since the firm may occasionally post losses. Previous endeavors to boost the financial performance of non-financial firms has been retarded by unsound Investment decisions reached upon by their management. However, other Studies that have been conducted previously portray that practicing prudent Investment decisions has reported an increase in their Financial Performance. Therefore, this research study evaluated the effect of Investment decisions on the Financial Performance of these firms. The specific objectives of this research study were: to evaluate the effect of Expansion decisions, Replacement decisions and Renewal decisions on Financial Performance of listed non-financial firms at the NSE; to establish the effect of firm size and financial leverage as a moderating and a mediating variables respectively on the relationship between Investment decisions and Financial Performance of these firms. The main theory underpinning this research study was the agency theory, supported by the Q theory of investments, accelerator theory of investments, financial constraint theory and the arbitrage pricing theory. This research study involved a census of 30 listed non-financial firms at the NSE as at December, 2018. This research adapted an explanatory non-experimental research design with the main source of data for the study being secondary panel data. A positivism research philosophy and explanatory research design was used and the data was extracted from the Nairobi Securities Exchange and Capital markets authority annual reports by use of document guide review, covering a 6-year period spanning the years 2013 to 2018. This research study analyzed data using descriptive statistics and regression analysis. Diagnostic tests conducted indicated the absence of multicollinearity. The variables were also found not to have a unit root with a normal distribution. The data indicated presence of homoscedasticity and autocorrelation. Model Specification Test was conducted to determine the suitability of either fixed or random effect model. Random effect model was found to be the suitable model for the study. The presence of autocorrelation necessitated the need to run a Feasible Generalized least square regression. It was concluded from the regression results that Expansion decisions had a negative and non-significant effect on return on assets ratio, market share price to book share price ratio and fixed assets turnover ratio. Replacement decisions had a negative and non-significant effect on the return on assets ratio and fixed assets turnover ratio models respectively; However, Replacement decisions had a negative and significant effect on the market share price to book share price ratio; Renewal decisions had a negative and significant effect on the return on assets model. However, Renewal decisions had a negative and non-significant effect on the market share price to book share price ratio and fixed assets turnover ratio, respectively of these firms. Firm size and Financial Leverage did not moderate and mediate respectively the relationship between Investment decisions and the non-financial firms' financial performance. It is therefore recommended that, by evaluating the Expansion Decision of firms, the lenders can carry out a precautionary move against the possibilities of lending to firms whose return on new fixed assets forecast is not promising. By assessing the behavior of the market share price to book share price ratio and the fixed to asset turnover ratio, the investors can be able to make timely Replacement and Renewal decisions. Various researchers are called upon to research on Investment decisions and Financial Performance of non-listed non-financial firms, small and medium firms and financial firms.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Research study

According to Abughniem, Mohamad, Allam and Suliaman (2020), Prudent Financial Performance amongst non-financial firms reflects high growth economies. As a result, many firms globally strive to ensure that they have high returns. Jensen and Meckling (1976) argue that the management of firms try to fulfill the burden bestowed upon their shoulders by the shareholders to maximize returns. As agents, they are expected to ensure the firm is generating positive returns. Muchele and Kombo (2019) assert that management may occasionally promote their interests first which includes creating allowances that favor them, therefore a conflict of prioritization arises between the shareholders and the management.

Firms that perform poorly continuously are exposed to a number of risks including the possibility of being delisted (Kroes & Manikas, 2014). The managers of the firms make decisions to invest in projects that will minimize the costs and maximize the returns of the firm (Hillier, Jaffe, Jordan, Ross, & Westerfield, 2010). The net assets of the firm change as a result, therefore increasing or decreasing the net wealth of various stakeholders. Previous endeavors to boost the Financial Performance of Ukrainian firms has been retarded by unsound Investment decisions reached upon by firm's managers (Iavorskyi & Vakhitov, 2013).

Shrewd Renewal decisions made in relation to the non-current assets of an organization have previously resulted in prudent Financial Performance of a number of Sri Lankan non-financial firms (Madusanka, Rajini & Konara, 2016). The long-term assets of the firm are one of the major

investments that any firm expects to reap a large amount of profits from at the end of a quarter or a financial year (Akparhuere, Duru & Ogbu, 2019). The author continues to argue that returns obtained from long-term assets have a lagged effect. Some firms start to realize them after the end of a year or two. However, long-term assets tend to wear out due to continuous use and wearing out. Therefore, the management of firms will be keen to ensure that the long-term assets of the firm are able are able to produce maximum returns during their economic lifespan.

Purba and Bimantara (2019) argue that Investment decisions arrived upon by firms are not limited to Renewal decisions but also include Replacement, Expansion decisions, strategic investment and working capital investment. Investment decisions have a specific and general contribution to an increase or a decrease in the Financial Performance of firms (Schurina & Prunenko, 2018). This study sought to focus on three investment decisions; expansion decisions, replacement decisions and renewal decisions due to their lagged effect on financial performance (Liurui & Yiwen, 2022). Working capital investment was left out as one of the investment variables given that it has a short-run impact on financial performance. Strategic investment was also not included in this study given its effect on financial performance can either be short-run or long-run.

To evaluate the effect of Investment decisions on Financial Performance, it is necessary to evaluate the specific and general relationship between Investment decisions and Financial Performance of a firm (Gill, Bigger, & Mathur, 2011). According to Davis (2016), Expansion decisions, Replacement decisions and Renewal decisions are interdependent. For example, a manager may decide to repair an existing machine instead of replacing it with a new one. The author argues that the manager may decide to add new fixed assets instead of repairing the existing ones, because of

the belief that this is the decision that will earn the firm more returns in the long run. However, an incorporation of the general effect of these Investment decisions on Financial Performance of non-financial firms has previously not yet been examined.

Investment decisions are vital as they influence returns of Scotland firms (Zhang, Ding, Spaliara, Tsoukalas & Tsoukas, 2016). Many organizations are still struggling to establish the right Investment decisions to make (Madusanka, Rajini & Konara, 2016). Investment decisions are strategic in nature and have a contribution to the net change in wealth of the firms in London, England (Meng, Murinde & Wang, 2013). Chisti, Ali and Sangmi (2013) assert that Investment decisions are significant to a firm and if the management of the firm fails to make them wisely, then the result is lower net cash flow returns from Investment decisions for the firm. The Financial Performance of Australian firms may increase or decrease depending on the Investment decisions managers make (Zhang, Nava, & Lisa, 2009). Managers of a firm must take the management of the long-term assets of the firm as a priority in order to minimize Replacement and Renewal costs (Davis, 2016).

Proper management of these assets increases their lifespan, thereby increasing their production capacity (Theron, 2016). According to Cesca and Novaes (2012), the remaining lifespan of a long-term asset differs from its economic lifespan. A long term asset is said to operate during an economic lifespan, when the expenses incurred are minimized. If the non-current assets continue to be used past their economic lifespan, then there is an increase in the maintenance costs of the firm. Replacement decisions come as a necessity for firms because of technological and statutory changes (Hout, 2016). If it also happens that the assets of the firm are replaced before the end of

their economic lifespan, then the firm will incur a loss too. This loss arises as a result of the failure to optimally use the asset. Spanish metallurgical firms previously also decided to increase their production capacity by deciding to add more non-current assets with the goal of posting higher returns (Muñoz-Porcar, Alonso-Nuez, Flores-García & Duret-Solanas, 2015).

Financial Performance among African countries has also been varying across the financial years because of dynamic Investment decisions made by the managers of the firm (Mauwa, Namusonge & Onyango, 2016). According to Gabow and Iraya (2017), firms that have more non-current assets and focus on their maintenance and Replacement when they are worn out ended up earning more returns in the long run. Shende (2012) also asserts that sugar firms in the manufacturing category have a great contribution to Africa's economy because most of the sugar producing nations have invested heavily on production of sugar. If the southern part of the country was to receive more investment funds to produce sugar, then Africa would not need to import sugar at all. According to a research study conducted by Mugenda, Momanyi & Naibei (2012), the returns of firms in the manufacturing category in Kenya are dependent on the Investment decisions made by a firm. However, this research study recommended an investigation of more sectors of firms.

1.1.1 Investment Decisions

Farah and Altinkaya (2018) assert that Investment decisions are decisions arrived at by the firm's management on its long-term assets in order to boost its organic growth. Schurina and Prunenko (2018) and Madusanka *et al.* (2016) assert that Investment decisions can be categorized into: Expansion decisions, Replacement decisions and renewal decisions. However, Investment decisions arrived upon by firms are not limited to Renewal decisions but also include Replacement, Expansion decisions, strategic investment and working capital investment (Purba & Bimantara,

2019). Investment decisions have a specific and general contribution to an increase or a decrease in the Financial Performance of firms (Schurina & Prunenko, 2018). The author continues to argue that stakeholders of a firm such as investors and lenders majorly look at the investment returns from a firm as forecasted before deciding to invest or lend money to the firm.

This study sought to focus on three investment decisions; expansion decisions, replacement decisions and renewal decisions due to their lagged effect on financial performance (Liurui & Yiwen, 2022). Working capital investment was left out as one of the investment variables given that it has a short-run impact on financial performance. Strategic investment was also not included in this study given its effect on financial performance can either be short-run or long-run. Future returns of firms globally are a consequence of Investment decisions reached upon by the firm's management. These decisions are made by the management of the firm who strive to minimize costs as they maximize returns (Hillier *et al.*, 2010). Therefore, firms are universally responding by employing management with experience and qualifications that can enable the firm make Investment decisions that can increase future returns of the firm (Chua, Newton & Weimin, 2012).

According to Iavorskyi and Vakhitov (2013), Expansion decisions are decisions made by a firm to acquire new fixed assets. They involve decisions to deploy funds on new fixed assets of a firm. The returns thereof span durations of more than a year (Woodhouse, 2014). When Expansion decisions are considered by management to be so influential to the investment funds of a non-financial firms then this decision is taken in the presence of the board of management to demonstrate the future returns it is capable of and how aligned they are to the strategies of the firm (Madusanka *et al.*, 2016). According to International Auditing Standard (IAS) 16, property plant

and equipment are identified as those tangible items with the capability of spanning more than a financial year and act as raw materials in production, or as rental premises.

Woodhouse (2014) posit that Replacement decisions are the decisions made by a firm to substitute its worn out fixed assets. All global firms prioritize maximizing returns and minimizing costs (Gujarati, 2003). Replacement decisions bring in costs to the firm before giving out returns. The decision to replace existing assets is made after a consideration of the present value of the asset (Munoz-Pocar *et al*., 2015). The decision to replace an existing asset is also made after considering the maximization of the earnings of the firm (Hastings, 2010).

Cesca and Novaes (2012) assert that Renewal decisions are the decisions made by a firm to improve on its existing fixed assets. According to Wendling (2011), the maintenance of fixed assets is an urgent issue that firms must prioritize in order to ensure the continuity of the production process. The maintenance of fixed assets is a continuous process which results in meeting budgeted production targets set by the firm hence maximizing the returns of the firm (Theron, 2016). According to Theron (2016), property, plant and equipment depreciate in value over time, and hence the need to maintain them on a regular basis. If this maintenance is done up to standard, then the fixed assets may go for a long time without the need to replace them.

However, Alabdulkarim, Ball and Tiwari (2015) assert that it's not always possible to perform maintenance of the fixed assets of a firm, and consequently suggesting, the decision to replace them is sometimes made. The decision to replace or maintain the property, plant and equipment is based on previous returns arising from the decisions (Cesca & Novaes, 2012). The assets of the

firm may become obsolete due to age, a point at which further maintenance is impossible. The firm may decide to write off those assets and as a result a Replacement decision is mandatory (Theron, 2016). As a result of the arguments, this research study evaluated the effect of Expansion decisions, Replacement decisions and Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya

1.1.2 Financial Performance of Non-Financial Firms Listed at the NSE

Literature has defined Financial Performance as an indicator of the liquidity, profitability, leverage, market value and efficiency of a firm over a defined period. Previous authors around the globe have selected some of these financial ratios and used them for financial analysis (Farah & Altinkaya, 2018; Kubenka, 2016; Kroes & Manikas, 2014; Niresh, 2012; Njanja & Pellisier, 2011; Dey, 2009). The use of more than one financial ratio to capture either the profitability, market value, liquidity, leverage or efficiency of the firm as aspects of Financial Performance, makes the conclusions of the study to be richer (Ricci & Vito, 2000). It is represented by Return on equity, Return on assets, market share price to book share price ratio and fixed asset turnover ratio (Naser & Mokhtar, 2004).

Warrad and Omari (2015) assert that turnover ratios are more definitive for firms since they indicate the efficiency of the firm while profitability ratios indicate the general performance of the firm. Tilehnouei and Shivaraj (2015) argue that the market share price to book share price ratio that non-financial firms attain is an indicator of the market value of the firm. The market share price to book share price ratio has previously been used as an indicator of the net value minus the market value of the assets of the firm, therefore depicting the premium offered by the market on the net assets of the firm (Kubenka, 2016).

Non-financial firms listed at the NSE, Kenya have been experiencing a decline in Financial Performance (Makori, Jagongo & Simiyu, 2017; Mwangi, Makau, & Kosimbei, 2014; Ngugi, Amanja, & Maana, 2009). Table 1.1 shows the financial performance of the listed firms in the NSE, Kenya spanning the years 2001 to 2018.

Table 1.1 Financial Performance of Listed Non-Financial Firms

YEAR	ROA-NSE KENYA (%)	ROA-AFRICA (%)	ROA-WORLD (%)	MBR-NSE KENYA	MBR-AFRICA	MBR-WORLD	FATR-NSE KENYA	FATR-AFRICA	FATR-WORLD
2001	1.11	1.40	1.25	0.94	1.49	1.15	0.25	0.74	1.45
2002	1.22	1.62	1.24	1.04	1.72	1.80	1.99	1.84	1.79
2003	1.26	1.74	1.73	1.45	1.47	2.01	1.00	1.45	1.74
2004	1.75	2.80	2.25	1.71	2.05	2.22	1.46	1.71	2.80
2005	2.01	1.83	2.03	1.54	2.20	2.15	1.45	1.74	1.83
2006	2.21	2.05	2.33	1.67	2.16	2.33	1.44	1.67	2.05
2007	2.69	1.99	2.37	1.73	2.24	2.18	1.73	1.63	1.19
2008	2.94	1.84	2.09	1.29	1.63	2.22	1.45	1.29	1.84
2009	1.70	1.65	1.05	1.28	-0.12	1.70	0.32	1.28	1.69
2010	0.94	1.70	1.84	1.41	2.17	1.58	1.35	1.41	1.70
2011	0.62	1.97	2.04	1.34	1.42	1.86	1.59	1.34	1.37
2012	1.58	1.72	1.80	1.66	1.73	1.38	1.50	1.86	1.12
AVERAGE	**1.67**	**1.86**	**1.84**	**1.42**	**1.68**	**1.88**	**1.29**	**1.50**	**1.71**
2013	1.08	2.70	2.44	0.84	2.78	1.96	0.34	2.70	2.84
2014	1.16	1.48	2.07	0.94	1.68	1.97	0.48	1.48	1.94
2015	1.18	1.75	2.15	1.25	1.93	2.52	1.88	1.75	2.25
2016	0.15	2.93	2.43	0.78	1.96	2.63	0.84	2.93	2.78
2017	1.17	1.77	2.07	0.91	1.10	2.68	1.07	1.77	2.91
2018	1.19	1.92	1.96	0.53	1.80	1.86	1.09	1.92	1.53
AVERAGE	**0.99**	**2.09**	**2.18**	**0.88**	**1.88**	**2.27**	**0.95**	**2.09**	**2.38**

Source: World Bank Group Report (2018)

The average Return on Assets at the NSE, Kenya was 1.67 percent from 2001 to 2012, signifying profitability of the firms in relation to its total assets. The average Return on Assets was 0.99 percent between the years 2013 to 2018 signifying profitability of the firms in relation to its total

assets. However, the average Return on Assets at the NSE, Kenya between the years 2001 to 2012 was higher than the average Return on Assets at the NSE, Kenya between the years 2013 to 2018 signifying a decline in the financial performance between the years 2013 to 2018. The average Return on Assets in Africa was 1.86 percent from 2001 to 2012, signifying an increase in profitability of the firms in relation to its total assets. However, the average Return on Assets was 2.09 percent between the years 2013 to 2018 signifying a further increase in profitability of the firms in relation to its total assets.

The average Return on Assets in the world was 1.84 percent from 2001 to 2012, signifying an increase in profitability of the firms in relation to its total assets. However, the average Return on Assets was 2.18 percent between the years 2013 to 2018 signifying a further increase in profitability of the firms in relation to its total assets. The average Return on assets in the entire world between 2001 and 2012 is lower compared to the average Return on assets between 2013 and 2018 in the world. However, the average Return on assets in the NSE, Kenya between 2001 and 2012 is higher compared to the average Return on assets between 2013 and 2018. This result implies that the investment return on assets in the NSE, Kenya is declining between the years 2013 to 2018 unlike an increase in the same period by the other countries in the world therefore creating a knowledge gap that necessitated the need to carry out this research.

The average Market share price to book share price ratio at the NSE, Kenya was 1.42 from 2001 to 2012, signifying the stock of the firm was performing well in relation to its net assets. However, the average yearly Market share price to book share price ratio was 0.88 which is less than the market average of 1 between the years 2013 to 2018, implying the stock of the firm is undervalued

in relation to its net assets. The average Market share price to book share price ratio in Africa was 1.68 from 2001 to 2012, signifying the stock of the firm was performing well in relation to its net assets. However, the average yearly Market share price to book share price ratio was 1.88 between the years 2013 to 2018, implying the stock of the firm was even performing better in relation to its net assets.

The average Market share price to book share price ratio in the world was 1.88 from 2001 to 2012, signifying the stock of the firm was performing well in relation to its net assets. However, the average yearly Market share price to book share price ratio was 2.27 between the years 2013 to 2018, implying the stock of the firm was even performing better in relation to its net assets. The average Market share price to book share price ratio in the entire world between 2001 and 2012 is lower compared to the average Market share price to book share price ratio between 2013 and 2018 in the world. However, the average Market share price to book share price ratio in the NSE, Kenya between 2001 and 2012 is higher compared to the average Market share price to book share price ratio between 2013 and 2018. This result implies that the non-financial firms listed at the NSE, Kenya are undergoing tough times and consequently suggesting their Financial Performance is poor unlike the rest of the countries in Africa and in the world, therefore creating a knowledge gap that necessitated the need to carry out this research.

The average fixed asset turnover ratio at the NSE, Kenya was 1.29 from 2001 to 2012, an indication that these firms generate an average of 1.29 shillings for every 1 shilling of fixed assets. However, the average yearly fixed asset turnover ratio was 0.95 between the years 2013 to 2018. Since the fixed assets turnover ratio is less than one, it implies that these firms take more time to generate

revenue from their fixed assets. The average fixed asset turnover ratio in Africa was 1.50 from 2001 to 2012, an indication that these firms generate an average of 1.50 shillings for every 1 shilling of fixed assets. However, the average yearly fixed asset turnover ratio was 2.09 between the years 2013 to 2018, an indication that these firms generate an average of 2.09 shillings for every 1 shilling of fixed assets.

The average fixed asset turnover ratio in the world was 1.71 from 2001 to 2012, an indication that these firms generate an average of 1.71 shillings for every 1 shilling of fixed assets. However, the average yearly fixed asset turnover ratio was 2.38 between the years 2013 to 2018, an indication that these firms generate an average of 2.38 shillings for every 1 shilling of fixed assets. The average fixed asset turnover ratio in the entire world between 2001 and 2012 is lower compared to the average fixed asset turnover ratio between 2013 and 2018 in the world. However, the average fixed asset turnover ratio in the NSE, Kenya between 2001 and 2012 is higher compared to the average fixed asset turnover ratio between 2013 and 2018. This result implies that the non-financial firms listed at the NSE, Kenya have a lower efficiency in utilizing the non-current assets of the firm to generate revenue and are undergoing tough times and consequently suggesting their Financial Performance is poor unlike the rest of the countries in Africa and in the world, therefore creating a knowledge gap that necessitated the need to carry out this research.

Previous research portrays that practicing prudent Investment decisions have reported an increase in Financial Performance (Chebii *et al.,* 2011). Some of the firms have been facing investment problems due to lack of sufficiency in the investment funds availed to them. Poor Financial Performance among firms is attributed to unwise Investment decisions reached upon by their

management. (Gabow & Iraya, 2017). Therefore, the current research study examined the cause for the decrease in return on assets of the non- financial firms listed at the NSE, Kenya.

Table 1.2: Financial Performance of Non-Financial Firms Listed at the NSE

	Average ROA ratio	Average MBR ratio	Average FATR ratio
Non-financial firms	0.99	0.88	0.95

Source: NSE Reports (2018)

Table 1.2 indicates the average Financial Performance of all the non-financial firms listed in the NSE, Kenya. The Return on assets was 0.99 while the average yearly market share price to book share price ratio was 0.88 (NSE reports, 2018). From the statistics, the profitability of the non-financial firms in relation to its total assets signify an increase spanning the years 2013 to 2018 as illustrated by the statistics provided for the Return on assets. However, the average ROA for non-financial firms between the years 2013 to 2018 is 2.09 (Table 1.1) in Africa signifying non-financial firms in the NSE, Kenya have a lower return on assets of 0.99 compared to 2.09, the average return on assets in Africa. The average ROA for non-financial firms in the world between the years 2013 to 2018 is 2.18 (Table 1.1) also signifying non-financial firms in the NSE, Kenya have a lower return on assets of 0.99 compared to 2.18, the average return on assets in the world. This implies there is a decrease in profitability of the non-financial firms in the NSE, Kenya in relation to its total assets.

The average yearly market share price to book share price ratio was 0.88. The average yearly market share price to book share price ratio is less than the market average of 1, implying the stock market is undervalued. It is also, an indication that the non-financial firms are undergoing tough times and consequently suggesting their Financial Performance is poor. However, the average

MBR for non-financial firms between the years 2013 to 2018 is 1.88 (Table 1.1) in Africa signifying non-financial firms in the NSE, Kenya have a lower MBR of 0.88 compared to 1.88, the average MBR in Africa. The average MBR for non-financial firms between the years 2013 to 2018 is 2.27 (Table 1.1) in the world also signifying non-financial firms in the NSE, Kenya have a lower MBR of 0.99 compared to 2.27, the average MBR in the world, implying the stock of non-financial firms in the NSE, Kenya is undervalued in relation to its net assets.

The average fixed asset turnover ratio for the non-financial firms is 0.95 (NSE report, 2019), an indication that these firms generate an average of 0.95 shillings for every 1 shilling of fixed assets. Since the fixed assets turnover ratio is less than one, it implies that these firms take more time to generate revenue from their fixed assets. However, the average FATR for non-financial firms between the years 2013 to 2018 is 2.09 (Table 1.1) in Africa signifying non-financial firms in the NSE, Kenya have a lower FATR of 0.95 compared to 2.09, the average FATR in Africa. The average FATR for non-financial firms between the years 2013 to 2018 is 0.95 (Table 1.1) in the world also signifying non-financial firms in the NSE, Kenya have a lower FATR of 0.95 compared to 2.38, the average FATR in the world, indicating that the non-financial firms in the NSE, Kenya have a lower efficiency in utilizing the non-current assets of the firm to generate revenue.

According to Naser and Mokhtar (2004), the market share price to book share price ratio, Return on assets and fixed asset turnover ratio are a better reflection of Financial Performance of firms as they create a variety of financial ratios. Higher financial ratios imply prudent Financial Performance consequently suggesting higher returns arising from Investment decisions made by the managers of the firm (Chebii *et al.*, 2011).

1.1.3 Firm Size

According to Mohamud, Elegwa and Nzulwa (2016) manufacturing firms investigated at the Nairobi securities Exchange, Kenya were of various sizes. It was noted that the returns of these firms was different in the various years analyzed as a result of many factors. Firm size was noted to affect the strength of the relationship between management decisions and financial performance of non-financial firms. Mohamud, Elegwa and Nzulwa (2016) continue to note that the ability of firms to invest depends on their ability to come up with a given amount of investment funds; it's easier for larger firms to invest more and therefore most of them are likely to get bigger returns.

Firm size is an indicator of the growth of the cumulative assets of a firm over a defined period (Davis, 2016). Firms having more non-current assets post a better Financial Performance than those with fewer non-current assets. This is because their input resources on investment activities is large and as a result their output becomes larger (Moussawi, LaPlante, Kieschnick & Baranchuk, 2006). According to Ali, Mukulu, Kihoro and Nzulwa (2016), corporate management decisions directly influence the Financial Performance of firms as these decisions are central to the running of any business. Meng *et al*. (2013) asserts that corporate decisions include financing decisions, Investment decisions and dividend decisions. According to Jensen and Meckling (1976), managers have an obligation to serve as agents for their shareholders. Therefore, as agents, they are expected, to maximize returns of the firm by making management decisions that will bring more earnings to the firm. The author argues that firms having more resources for production purposes will have an edge over those ones that have fewer resources.

It is obtained as the natural logarithm of total assets (Davis, 2016; Moussawi *et al.,* 2016). Adelegan (2009) asserts that the relationship between Investment decisions and Financial

Performance of firms is in neither way influenced by firm size. On the other hand, big firms make more Investment decisions more easily and conveniently compared to smaller firms, consequently increasing their Financial Performance (Madusanka *et al.,* 2016). Akinyomi and Adebayo (2013) realized that it is a determinant of the returns Nigerian firms are likely to receive. According to Makori *et al.* (2017) and Mwangi *et al.* (2014), it influences the relationship between corporate decisions and Financial Performance. Therefore, this research examined the effect of firm size as a moderating variable on the relationship between Investment decisions and Financial Performance of non-financial firms listed at the NSE, Kenya.

1.1.4 Financial Leverage

According to Dehkordi (2018), investment decisions that a firm makes obligates the firm to obtain investment funds that can enable it make these decisions to be put in real practice. However, the author continues to argue that resources are limited and hence not all firms are therefore able to raise these funds on their own and hence the need to obtain external sources of funds. This therefore implies that financial leverage is caused by investment decisions and as a result influences the financial performance of the firms as a result. In this study, financial leverage was therefore adapted as a partial mediating variable on the relationship between investment decisions and the financial performance of non-financial firms listed at the Nairobi securities Exchange, Kenya.

Financial Leverage is the long term borrowings used by a firm to finance its investments (Soewarno & Arifin, 2017). According to Noghondari and Noghondari (2017), firms get various investment projects but some of these projects are not able to be implemented by the management of these firms because of insufficient investment funds. The author continues to argue that, management have to knock on the doors of various lending institutions to finance these investment

projects. However, these funds obtained externally are hard to access and when accessed they carry additional costs such as repayment with interest. According to Almajari, Alamro and AlSoub (2012), managers are faced with tough decisions on whether to expand, replace or renew the non-current assets of the firm because these decisions are dependent on investment funds available to the managers. However, external sources of funds are expensive to access because they have costs (Myers & Majluf, 1984). Previous studies have defined Financial Leverage as the ratio of long-term borrowings to equity ratio (Ali & Muriu, 2014: Davis, 2016 and Soewarno & Arifin, 2016).

Financial Leverage affects the Financial Performance of firms (Fama & French, 1993). According to Madusanka *et al.* (2016), the non-current assets of the firm have a given duration during which they are productive with the firm incurring minimal expenses. After this duration, the firm must decide upon Expansion, Replacement or Renewal of these existing non-current assets of the firm, decisions of which the firm may not have sufficient internal sources of funds. Hastings (2010) assert that the firm opts to use external sources of funds to finance these decisions in order for the firm to continue performing well financially. Therefore, this research study examined the mediating effect of financial leverage on the relationship between investment decision and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

1.1.5 Non-Financial Firms Listed at the Nairobi Securities Exchange, Kenya

The capital market is vital in availing funds to non-financial firms listed in the Securities exchange, fostering growth and creation of wealth in the country (Muturi & Omondi, 2013). The NSE is the sole securities market in Kenya. The NSE received its first registration under the society's act in the year 1954 and currently has a total listing of 68 firms. These firms are categorized into thirteen sectors which are: agricultural, banking, insurance, automobiles and accessories, investment,

construction and allied, exchange traded fund, manufacturing and allied, real estate investment trust, investment service, commercial and services, energy and petroleum and telecommunication and technology (NSE report, 2019).

The current number of the non-financial firms which are listed at the NSE, Kenya stands at thirty. The non-financial firms are categorized according to six sectors (see appendix II). The sectors include Commercial and Services; the Agricultural; the manufacturing and allied; automobiles and accessories, the construction and allied and the energy and the petroleum sectors (NSE reports, 2018; Nabi, 2014). Some of the firms are facing investment decision problems due to lack of sufficiency in the investment funds availed to them (Gabow & Iraya, 2017).

Non-financial firms listed in the NSE, Kenya such as Uchumi Supermarket, Pan Paper mills, Kenya Cooperative Creameries and Hutchings Biemer have previously experienced poor Financial Performance (Makori *et al.,* 2017; Koori, Korir & Gachanja, 2015; Mwangi *et al.*, 2014). Some of these firms such as Uchumi supermarket, Kenya Airways, Mumias Sugar and Kenya Cooperative creameries have received government bail-outs but have not managed to perform well thereafter due to lack of good Investment decisions made by their management (Government of Kenya, 2018). Consequently, this research encompassed non-financial firms listed at the NSE, Kenya.

1.2 Statement of the Problem

According to the World Bank group report (2018), Financial performance from Investment decisions made in Kenya are lesser compared to other nations. Investment decisions influence the financial performance of firms (Chebii, Kipchumba & Wasike, 2011). There was a decline in the financial performance of non-financial firms listed at the Nairobi Securities Exchange, Kenya from

the year 2013 to 2018 as compared to an increase in the financial performance of the firms from the year 2001 to 2012. Non-financial firms across other parts of the world have indicated an increase in the financial performance from the year 2001 to 2018. There was an average percentage increase in Return on Assets by 1.67 percent from 2001 to 2012, signifying an increase in profitability of the firms in relation to its total assets. However, the average percentage increase in Return on Assets was 0.99 percent between the years 2013 to 2018 signifying a decrease in profitability of the firms in relation to its total assets, NSE reports (2018).

The World Bank Group report (2018) also postulates that the average Market share price to book share price was 1.42 from the year 2001 to 2012, implying the stock of the firm was performing well in relation to its net assets. However, the average yearly Market share price to book share price was 0.88 which is less than the market average of 1 for the years 2013 to 2018, implying the stock of the firm is undervalued in relation to its net assets, NSE reports (2018). The report continues to assert that average fixed asset turnover ratio was 1.29 from the year 2001 to 2012 indicating that the firms had higher efficiency in utilizing the non-current assets of the firm to generate revenue. However, the average fixed asset turnover ratio was 0.95 between the years 2013 to 2018, which is less than the market average of 1 indicating that the firms had a lower efficiency in utilizing the non-current assets of the firm to generate revenue.

Studies by Nzewi, Chiekezie and Arachie (2016); Bivona and Fuzhuang (2015) portray that practicing prudent Investment decisions has reported an increase in financial performance. This contradicts the World Bank Group report (2018) which asserts that there is a decrease in financial performance of non-financial firms thus creating a knowledge gap. A study conducted in New

York stock Exchange, USA obtained a negative significant relationship between investment decisions and financial performance (Cordis & Kirby, 2017). However, this market is way far ahead of the Kenyan market in which the current study was conducted thus creating a contextual gap. Another study evaluated the effect of Expansion decisions on Financial Performance of fifty-three firms from the period 2009 to the period 2013. The study used descriptive design. Data was analyzed through cross sectional multiple regression analysis and correlation by use of SPSS (Ali & Altinkaya, 2018). The current study used explanatory design and regression analysis on panel data which catered for the cross-sectional aspect consequently breaching the methodological gap (Blundell & Bond, 2000). The current study also included the mediating and moderating variables which have previously not been included by other researchers in investigating the relationship between Investment decisions and financial performance consequently creating a conceptual gap.

1.3 Objectives of the Research study

1.3.1 General Objective

To investigate the effect of Investment decisions on Financial Performance of non-financial firms listed at the NSE, Kenya.

1.3.2 Specific Objectives

The study tested the following specific objectives:

i. To establish the effect of Expansion decisions on Financial Performance of listed non-financial firms at the NSE, Kenya.
ii. To determine the effect of Replacement decisions on Financial Performance of listed non-financial firms at the NSE, Kenya.
iii. To establish the effect of Renewal decisions on Financial Performance of listed non-financial firms at the NSE, Kenya.

iv. To determine the moderating effect of firm size on the relationship between Investment decisions and Financial Performance of listed non-financial firms at the NSE, Kenya.

v. To establish the mediating effect of financial leverage on the relationship between Investment decisions and Financial Performance of listed non-financial firms at the NSE, Kenya.

1.4 Research Hypothesis

The study examined the following null hypotheses:

i. H_{01}: Expansion decisions have no significant effect on Financial Performance of listed non-financial firms at the NSE, Kenya.

ii. H_{02}: Replacement decisions have no significant effect on Financial Performance of listed non-financial firms at the NSE, Kenya.

iii. H_{03}: Renewal decisions have no significant effect on Financial Performance of listed non-financial firms at the NSE, Kenya.

iv. H_{04}: Firm size has no significant moderating effect on the relationship between Investment decisions and Financial Performance of listed non-financial firms at the NSE, Kenya.

v. H_{05}: Financial Leverage has no significant mediating effect on the relationship between Investment decisions and Financial Performance of listed non-financial firms at the NSE, Kenya.

1.5 Significance of the Research study

Managers stand to benefit a lot from this research study in regards to the running of the businesses. They could be able to consider an incorporation of Expansion, Replacement and Renewal decisions when making important Investment decisions for the firm instead of dealing with each investment decision separately. The managers should be keen on the Expansion Decision ratio of

the firm at a given time as it negatively affects the Financial Performance of firms. However, since the effect is insignificant, management should monitor the ratio since previous authors have obtained a positive significant relationship between expansion decisions and financial performance.

Investors would also be in a good position to evaluate the investment patterns of the firms they to choose to invest in. By assessing Replacement and Renewal decisions of firms, investors are able to know when the firm is misusing its resources by not repairing them in time or when new assets are being bought to replace existing assets that are still productive for the firm, hence choosing wisely where to invest. The investors would also use the market share price to book share price ratio to evaluate about the firm's performance before deciding whether to invest or not. The shareholders can also evaluate Replacement and Renewal decisions to determine if the management maintains the existing assets or replaces them before the end of their economic lifespan and the impact of this decision on the financial performance of the firm

This research study would be of importance to various financiers of the firm. Before lenders give their money to the firm, they would go through the various investment patterns of the firm to analyze how these firms carry out their Investment decisions. This would be a precautionary move for the lenders to guard against the possibilities of lending to firms whose return on assets forecast is not promising. This research study would also provide a very great input to the researchers. The results and recommendations from this research study would be an eye opener to various researchers to venture into Investment decisions and Financial Performance of non-listed firms, small and medium firms and financial firms. The findings of the study would be beneficial to

policy makers by enabling them to make investment policies that would improve the economy of the country.

1.6 Scope of the Research study

This research study evaluated the effect of Investment decisions on the financial performance (market value, efficiency and profitability) of non-financial firms listed at the NSE, Kenya. The study concentrated on the non-financial firms listed at the Nairobi, securities market. These firms, were firms that belonged to the agriculture, energy and petroleum, commercial and services, automobiles and accessories, allied and manufacturing, allied and construction sectors. The Investment decisions that were examined in these study were limited to Expansion, Replacement and Renewal decisions. The main source of data for the study was secondary panel data. There was a decline in the financial performance of non-financial firms listed at the NSE, Kenya from the year 2013 to 2018 as compared to an increase in the financial performance of the firms from the year 2001 to 2012. Non-financial firms across other parts of the world have indicated an increase in the financial performance from the year 2001 to 2018. Therefore, secondary data was extracted from the NSE and Capital markets authority annual reports by use of document guide review, covering a 6-year period spanning the years 2013 to 2018.

1.7 Limitations of the Research study

This research study investigated three investment decisions which include expansion decisions, renewal decisions and replacement decisions. However, investment decisions are many including working capital investment, strategic investment and modernization investment. Future researchers are called upon to research on these remaining investment decisions and therefore add more knowledge to the finance literature,

1.8 Organization of the study

The research is divided into five chapters. Chapter one includes the introduction of the research study, statement of the problem, research objectives and the hypothesis, significance of the research study, the scope and limitations of the research study. The background of the study entails Investment decisions, Financial Performance, firm size, Financial Leverage and non- financial firms. Chapter two encompasses the Literature review of the study which started with a theoretical review, an empirical review of literature and a diagrammatical Summarized the variables used in the research study.

Chapter three of the study has the methods used for research. It entails the philosophy and the design of the research study, an empirical representation, measurement of the dependent and independent variables, the population targeted, sampling technique and design, the data collection instrument, data enquiry methods and ethical considerations. Chapter four of this research study presents the breakdown of the data discussed, while the last chapter presents the Summarized the findings and future directions of this research study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

A presentation of the Review of the theoretical literature using previous studies is conducted in this chapter. The theories that support this research study are highlighted. A critical review of previous literature contributions by other scholars is also presented through the review of the Empirical literature. A Summarized empirical literature review is presented in tabular form in order for the research gaps to be unfolded, consequently providing a knowledge gap for the current research study. Finally, this chapter conceptually demonstrates the relationship between Investment decisions and Financial Performance of firms through a conceptual framework consequently pointing out the variables adapted.

2.2 Review of the theoretical literature

The research was supported mainly by the agency theory. The arguments in this theory are that the manager-shareholder relationship is vital in Investment decisions, UNCTAD (2018). The manager who is an agent of the shareholders is tasked with the responsibility of maximizing the returns of a firm by making prudent investment decisions. Other theories supporting this research study are: Q theory of investments, accelerator theory of investments, financial constraint theory and the arbitrage pricing theory.

2.2.1 Agency theory

Jensen and Meckling (1976) provided arguments that led to this famous theory. The shareholders as the principals delegate the responsibility of managing the resources of the firm to the managers. However, the interests of the management may not always rhyme with the wishes of the shareholders. When this happens, a bone of contention between the management and the

shareholders arises. According to Mitnick (2012), the managers of an organization can decide instead to struggle to ensure the firm expands so that they enjoy more perks and allowances. The managers may decide to acquire more property, plant and equipment to be used in production activities at the expense of shareholders getting short run profits. However, this struggle by the managers to expand the firm comes with Expansion costs.

Shareholders may not be in agreement with the managers' decisions to expand as this means the shareholders are obligated to incur these Expansion costs. The manager can also decide to use equity, borrowings or retained earnings so as to cater for these Expansion costs (Leepsa & Panda, 2017). Borrowings is associated with fixed charges that the firm must repay. The choice of investment funding will determine the investments a firm will make. The author argues that a firm using borrowings will have smaller Expansion decisions and instead engage in short term investments for fear of being declared bankrupt in case they are unable to pay the principal and fixed charge on the borrowings. However, the author argues that the prioritization of borrowings as investment capital minimizes the conflict between the shareholders and the managers. However, Opler, Pinkowitz, Stulz and Williamson (1999) argument is that there are higher costs associated with the lack of investment funds.

Managers may opt to give dividend payouts instead of investing so as to minimize the outstanding conflict (Foroughi & Fooladi, 2011). The manager-shareholder relationship is vital in Investment decisions, UNCTAD (2018); since the indices of shareholder's power and manager's responsibilities are influential on investments. Dittmar *et al.,* (2003) argue that when the indices of shareholder's power are high in a country, then managers are likely to engage in less Expansion

activities because they are afraid of losing their jobs. When the indices of manager's responsibilities are also high, managers are also likely to engage in more Expansion decisions of which shareholders may see it as reduction in their short term returns.

This theory will support the relationship between investment decisions and financial performance. Financial performance being the dependent variable in this study becomes the focus of every stakeholder in the firm (Foroughi & Fooladi, 2011). Every stakeholder wants to ensure that the firm has good returns at the end of a quarter or a financial year. Therefore, shareholders who have delegated the responsibility of managing the resources of the firm so as to maximize profits, will be keen to monitor if the returns are forthcoming at the end of a quarter or a financial year (Leepsa & Panda, 2017). However, managers may want to receive more benefits and a prestigious tenure at the expense of the shareholder, therefore a conflict of interest arising between the shareholders and the management.

This theory will support the relationship between Expansion decisions and financial performance. When Expansion decisions are financed, the manager is likely to experience more perks and allowances and consequently suggesting an increase in the returns to the shareholders thereby reducing agency costs (Jensen & Meckling, 1976). Since the main delegated function from shareholders to managers is to maximize the firm' returns, this research study evaluated the effect of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya.

2.2.2 Q theory of Investment

The main proponent of this theory was Tobin and Brainerd (1968). The Q signifies the ratio of the market value of the stocks of the firm to the Replacement cost of the non-current assets of the firm. If the value of Q exceeds one, then the stocks of the firm are considered to be overvalued in relation to the Replacement cost of the non-current assets of that firm, therefore the firm can opt to continue using those assets for production purposes which will increase the returns of the firm. If the value of Q is less than one, then the stocks of the firm are considered to be undervalued in relation to the Replacement cost of the non-current assets of that firm. The firm will opt to replace the assets of the firm with more productive assets (Siddika & Micah, 2007).

According to Madusanka, Rajini and Konara (2016), the non-current assets of the firm undergo obsolescence over a period of time and as a result may need to be replaced in order to continue bringing in more returns for the firm. However, the firm can opt to ensure the value of Q is equal to or greater than one by continuously opting to maintain the non-current assets of the firm, so as to ensure the production process brings positive returns to the firm (Wendling, 2011). When the value of Q is equal to one, then the firm is considered to be in equilibrium. However, the Renewal of assets cannot go on continuously; a time comes when the managers of the firm must make the decision to replace the non-current assets of the firm so as to ensure future maintenance costs reduce and returns are maximized (Theron, 2016).

This theory will support the relationship between Replacement decisions and financial performance. This theory contributes to the study by enabling managers to be alert on the Replacement (Q value) of defunct non-current assets in order to avoid bigger losses which may arise as a result. Timely Replacement of these assets will maximize returns. Since Replacement

decisions are taken by firm's managers with the goal of higher returns, this research study evaluated the effect of Replacement decisions on Financial Performance of firms.

2.2.3 Accelerator Theory of Investment

Lensink and Sterken (2000) posit that investment funds are directly proportionate to the returns of the firm. However, this theory assumes that the input and the output ratio is a constant. In reality, the ratio of input capital and output can vary. An addition of human labor to the input alters the fixed ratio of input to the output (Lukas, 1967). Firms may also not be able to meet short-run demands, as it might turn out to be too expensive for the firm. However, given enough time, these firms may be able to meet the new increases in demand. Renewal decisions are expected to aid the firm in finding more creative ways of meeting the sudden increase in demand. However, Bo and Lensink (2005) posit that this expectation is uncertain.

The non-current assets are so instrumental to the returns of the firm. However, as they continuously get to be used for the production process, they undergo wear and tear. The firm must as a result set aside maintenance costs with the goal of higher returns of the firm (Cesca & Novaes, 2012). Firms opt to employ technicians who can deal with the maintenance of the non-current assets of the firm rather than outsourcing them. In doing so, the firm is considering altering the input to output ratio (Cooper, Gulen & Schill, 2008). If this ratio is adjusted by making Renewal decisions, the returns of the firm may increase positively, and if these decisions are not made for the benefit of the firm, the non-current assets of the firm are likely to wear out therefore negatively affecting Financial Performance (Davis, 2016).

This theory will support the relationship between Renewal decisions and financial performance. Firms should be on the alert to monitor the input to output ratio of the firm so as to ensure the output is always higher than the input (Cooper, Gulen & Schill, 2008). By doing so, defunct non-current assets can be maintained with the goal of higher returns. Thus, as a result of the arguments from this model, the study evaluated the relationship between Renewal decisions and Financial Performance of firms.

2.2.4 Financial Constraint Theory

Modigliani and Miller (1961) asserted that the investment fund a firm decides to use does not affect its investment projects. No costs are associated with the funding chosen for investments. However, these investment funds come along with various costs except for a perfect market in which any of the investment funds can be chosen by the firm to fund an investment project. However, a perfect market rarely exists. Fazzari, Hubbard and Petersen (2000) assert that the presence of financial constraints derails the investment projects of a firm. According to Hellmann and Stieglitz (2000), firms classified to own more assets can access more investment funds than firms owning lesser assets.

Mansour and Chichti (2011) assert that firms that are facing financial constraints find it hard to compete in the job market. These firms have lesser investments and most of them are small. They may hence decide to borrow funds so as to fund their investment opportunities. However, larger firms find an easier access to investment funds and can hence make Investment decisions easily. Investment funds accessed externally come with a cost. External borrowings from the lender might be friendly to the lender since they are usually accompanied by a collateral. According to Akerlof (1970), asymmetry of information implies that access to investment funds is not similar to all

managers. Some of the firms may have access to more investment funds due to cheaper costs associated with the investment funds.

This theory contributes to the study by preparing managers that prudent Financial Performance is a result of the preparedness that will allow them to access investment funds, hence also access investment opportunities. To access borrowings, banks may look at their size and the ability to acquire investment funds. Investment funds can be obtained either internally or externally. However, firms to depend on external sources of funds given that internal sources are limited and costly to acquire. This theory will anchor the variable Financial Leverage, since Financial Leverage can be a source of investment funds for the firm. This research study will also support the variable firm size, since it is a determinant on the amount of investment funds a firm can receive. This research study consequently examined the effect of firm size and financial leverage as a moderating and a mediating variables respectively on the relationship between Investment decisions and Financial Performance of firms.

2.2.5 Arbitrage Pricing Theory

The main author of this theory was Ross (1976). The researcher asserted that the returns of the non-current assets of a firm are expressed as a linear function of more than one variable. This therefore implies that the prices of the stocks of a firm are determined by more than one variable. According to Fama and French (1977), the stock market is inefficient and as a result the prices of the stocks are sometimes mispriced by the market itself temporarily but adjust slowly back to the fair value. Therefore, interested parties such as investors will be keen to monitor the prices of the stocks of the firm in order to take an opportunity when it arises.

This opportunity arises when the prices shift from the fair value of the market. Hastings (2010) asserts that the returns of the investor and other parties is determined by the decisions they make. Most investors will prefer to buy stocks when they are underpriced and sell them when they are overpriced in order to earn more returns. Soewarno and Arifin (2016) and Barclay, Heitzman and Smith (2013) portray that the stock prices of the firm are evaluated using ratios such as earnings per share, market share price to book share price ratio and market value per share. In the current research study, Financial Performance (which is the main variable supported by this theory) was operationalized using market share price to book share price ratio in order to represent stock prices.

The Financial Performance of a firm arises from a series of Investment decisions managers make, which end up creating a variety of investment patterns (Fama & French, 1977). Apart from the independent variable, the moderating and mediating variables also influence or explain respectively the dependent variable (Adediran & Alade, 2013). The significance of this theory to this research study is that firms should choose portfolios (Investment decisions to be financed) that will maximize their returns after carefully considering the risks associated (Ross, 1976). Financial performance variables (Return on Assets, Market share price to book share price and fixed asset turnover ratio) were expressed as a linear function of expansion decisions, renewal decisions, replacement decisions, firm size and financial leverage. As a result of the arguments, this research study evaluated the relationship between Investment decisions and Financial Performance of firms. This research study also examined the effect of firm size and financial leverage as a moderating and a mediating variables respectively on the relationship between Investment decisions and Financial Performance.

2.3 Empirical Literature Review

Quite a number of scholars have previously researched on the relationship between Investment decisions and the Financial Performance of firms. The variables of Investment decisions empirically reviewed against the Financial Performance of firms are: Expansion decisions, Replacement decisions and renewal decisions. An empirical review of firm size, Investment decisions and Financial Performance; Financial Leverage, Investment decisions and Financial Performance is also presented.

2.3.1 Expansion decisions and Financial Performance

Abughniem, Mohamad, Allam and Suliaman (2020) evaluated the impact of expansion decisions on the financial performance of industrial firms listed at the Amman stock Exchange, Jordan from the year 2001 to the year 2015. Panel data was analyzed through multiple regression analysis. However, this research study narrowed down on the industrial sector only. This research study also focused on profitability only as a measure of Financial Performance. The current study evaluated the effect of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. Financial Performance was operationalized using Return on assets (profitability), market share price to book share price ratio (market value) and fixed asset turnover ratio (efficiency). The current study incorporated Expansion decisions, Replacement decisions and Renewal decisions.

Muchele and Kombo (2019) evaluated the effect of Expansion decisions on profitability of 71 firms in the manufacturing sector in Kenya for the years 2015 to 2018. Primary data was obtained by use of questionnaires and data analyzed through multiple regression analysis and correlation by use of SPSS. The study obtained a positive significant relationship between Expansion decisions

and financial performance of the firms in the industrial category. However, this research study narrowed down on the industrial sector only. This research study also focused on profitability only as a measure of Financial Performance. The current study evaluated the effect of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. Financial Performance was operationalized using Return on assets (profitability), market share price to book share price ratio (market value) and fixed asset turnover ratio (efficiency). The current study also incorporated Expansion decisions, Replacement decisions and Renewal decisions and panel data was analyzed.

Ali and Altinkaya (2018) evaluated the effect of Expansion decisions on profitability of firms in the manufacturing sector in Uganda for the years 2006 to 2015. Primary data was obtained by use of questionnaires and data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. The study obtained a positive significant relationship between Expansion decisions and profitability of the firms in the manufacturing category. However, this research study narrowed down on the manufacturing sector only. This research study also focused on profitability only as a measure of Financial Performance. The current study evaluated the effect of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. Financial Performance was operationalized using Return on assets (profitability), market share price to book share price ratio (market value) and fixed asset turnover ratio (efficiency). The current study also incorporated Expansion decisions, Replacement decisions and Renewal decisions and used panel data regression analysis.

Cordis and Kirby (2017) evaluated the effect of Expansion decisions on Financial Performance of non-financial firms listed in the NASDAQ and New York Stock Exchange, USA. The dataset was obtained from all non-financial firms listed in the NASDAQ and New York Stock Exchange, USA from the period 1963 to the period 2012. A two-period model was adapted and analyzed using cross- sectional regression method. Expansion decisions negatively correlated with Financial Performance. These results were attributed to poor Investment decisions reached upon by the firm's management. This research study used a cross sectional data thereby ignoring the time series aspect. The current study used panel data regression in order to provide richer conclusions. This research study was also performed in the United States of America with a contrasting social, political and economic platform. This research study was also dependent on parametric methods and obtained a non-linear relationship between the Investment decisions and returns. The current study used non-parametric panel data regression.

Taipi and Ballcocki (2017) studied thirty Albanian construction firms to examine the effect of Expansion decisions on Financial Performance of those firms. The data set was obtained from the period 2008 to 2015. The study was guided by a linear regression model which included Expansion decisions, Leverage and Size of the firm as the independent variables. Expansion decisions and leverage were found to positively correlate with Financial Performance while firm size depicted a negative correlation. However, this research study concentrated on the construction sector only and was conducted in Albania with differing economic and political set-ups to those in Kenya. This research study did not conduct significant tests. The current study conducted t-tests and F-tests to determine the significance of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. This

research study only used one investment decision that is Expansion decisions. The current study instead used Firm size as a moderator and Financial Leverage as a mediating variable in order to determine their effect on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya.

2.3.2 Replacement decisions and Financial Performance

Ali and Altinkaya (2018) analyzed the relationship between Replacement decisions and profitability of firms in the manufacturing sector in Uganda for the years 2006 to 2015. Primary data was obtained by use of questionnaires and data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. The study established that Replacement decisions had a significant effect on the profitability of the firms in the manufacturing category. The study also obtained a negative relationship between Replacement decisions and profitability of the firms in the manufacturing category. However, this research study narrowed down on the manufacturing sector only. The current study evaluated the effect of Replacement decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size. The current study included Firm size as a moderator.

Teodoro-Filho, Costa-Lima and Costa (2018) modelled the replacement of 64 non-current assets in Brazil. The variables modelled included time and the uncertainty between failures. Depreciation, probabilistic distributions and decommissioning costs were used to represent the variables modelled. An efficient frontier method was used to model the variables for a number of non-current assets. The modelling results provided different replacement techniques. This study noted that the

replacement strategy chosen depended on the cost of the replacement. It was noted that it would be too expensive to replace all the 64 assets at the same time. However, a systematic replacement of assets strategy would be suitable based on the availability of funds in the firm. The current study evaluated the mediating effect of financial leverage on the relationship between Replacement decisions and the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size. The current study included Firm size as a moderator.

Liang, Singhal and Parkash (2016) evaluated the relationship between Replacement decisions and Financial Performance of listed firms in the New York stock Exchange, USA between the years 1988 to 2004. Replacement decision was operationalized using Tobin Q while financial performance was operationalized using the ratio of cash flows to total assets. The result obtained was that Financial Performance was very high when the Tobin Q ratio was also very high. However, this research was conducted in the USA which has differing economic and political set-ups to those in Kenya. The data was analyzed by use of compustat. The current study applied regression on panel data to incorporate Expansion decisions, Replacement decisions and renewal decisions. The study did not control for other variables in the study. The current study applied Firm size as a moderator. The current study also performed significant tests.

Bivona, Fuzhuang and Andreas (2015) evaluated the relationship between Replacement decisions and Financial Performance of rented machinery ventures in selected European firms. A review of the lifespan of the asset was conducted and the result obtained was that Financial Performance was

very high when Replacement decision were implemented at the end of the lifespan of the long-term asset. It was also observed that Financial Performance was very high when the rented machinery ventures were big implying size affected the strength of the relationship between Replacement decisions and Financial Performance. However, this research was conducted in Europe which has differing economic and political set-ups to those in Kenya. This research study used system dynamics modelling. The current study applied regression on panel data to incorporate Expansion decisions, Replacement decisions and renewal decisions. The current study applied Firm size as a moderator. The current study also performed significant tests.

2.3.3 Renewal decisions and Financial Performance

Purba and Bimantara (2019) evaluated the effect of Renewal decisions on the financial performance of six transportation companies listed at the Indonesian stock Exchange, Indonesia from the year 2013 to 2017. Renewal decisions were operationalized using fixed asset turnover ratio while financial performance was operationalized using return on assets. A positive significant relationship between Renewal decisions and performance of the firms was obtained. However, this research study was conducted on the six companies only. The current study evaluated the effect of Renewal decisions on the financial performance of non-financial firms listed at the Exchange securities of Nairobi, Kenya. The current study operationalized Financial Performance using Return on assets, market share price to book share price ratio and fixed asset turnover ratio. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. However, this research was conducted in Indonesia which has differing economic and political set-ups to those in Kenya This research study also incorporated Expansion decisions, Replacement decisions and renewal decisions.

Olaoye and Ayodele (2019) analyzed the relationship between Renewal decisions and performance of ten quoted firms in Nigeria from the year 2007 to 2016. Secondary data was obtained from the financial reports of the firms and the data analyzed through panel multiple regression analysis. The study established that Renewal decisions had a positive significant effect on the performance of the ten quoted firms. However, this research study narrowed down on profitability as a measure of financial performance. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size. The current study included Firm size as a moderator.

Akparhuere, Duru and Ogbu (2019) evaluated the effect of Renewal decisions on the profitability of Building and construction firms in Nigeria. Secondary data from the year 2006 to 2017 was analyzed by use of a simple regression analysis. Renewal decisions produced no significant effect on the profitability of the firms. However, this research encompassed firms in the Building and construction category only. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. The current study used panel regression analysis.

Oluwaremi and Memba (2016) analyzed the relationship between Renewal decisions and profitability of listed manufacturing firms in Nigeria from the year 2005 to 2014. Census method was used and data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. The study established that Renewal decisions had a positive significant effect on

the profitability of the firms in the manufacturing category. However, this research study narrowed down on the manufacturing sector only. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size. The current study included Firm size as a moderator.

Nzewi, Chiekezie and Arachie (2016) evaluated the effect of Renewal decisions on returns of 11 Aluminium firms in the state of Anumbra, Nigeria. Primary data was obtained by use of questionnaires and data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. The Probability Figure obtained was 0.0000 which is less than 0.05 implying Renewal decisions significantly affected the Returns of the Aluminium firms. The study also obtained a correlation value of 0.983 depicting a strong positive relationship between Renewal decisions and Returns of the Aluminium firms. However, this research encompassed the Aluminium firms only. The current study used panel regression analysis on the data.

2.3.4 Investment decisions, Firm size and Financial Performance

Santonsa (2020) examined the moderating effect of firm size on the relationship between Investment characteristics and financial performance of firms listed at the Indonesian stock exchange. Investment characteristics was proxied using liquidity, audit committees, leverage, profitability and efficiency. Secondary data was used in panel data analysis. It was observed that all the proxies of Investment characteristics used indicated a positive relationship with market value and efficiency of the firms listed at the Indonesian stock exchange with the exception of liquidity and audit committees which indicated a negative relationship with financial performance.

However, on using firm size as a moderator, it was observed that liquidity and audit committees indicated a positive relationship with financial performance.

Ali, Mukuru, Kihoro and Nzulwa (2016) examined the moderating effect of firm size on the relationship between management decisions and Financial Performance of 176 firms in the manufacturing category in and around Nairobi, Kenya. Primary data was obtained using questionnaires, to obtain a positive correlation between management decisions and Financial Performance of the firms in the manufacturing category in and around Nairobi, Kenya. It was also established that Firm size does not influenced the effect of management decisions on Financial Performance of firms. However, this research study generalized management decisions. Managers are faced with many decisions on a daily basis. Therefore, this research study concentrated on the Investment decisions of a firm.

Mohamud, Elegwa, Kihoro and Nzulwa (2016) carried out a research investigating the moderating effect of firm size on the relationship between a portfolio of management decisions and financial performance of 176 manufacturing firms in Nairobi, Kenya. Primary data was collected by use of questionnaires and analyzed by SPSS. It was noted that management decisions had a positive significant relationship on the financial performance of the firms. It was noted that firm size did not moderate the relationship between management decisions and financial performance. However, this study generalized management decisions. The current study focused on the moderating effect of firm size on the relationship between investment decisions and financial performance. This study also focused on manufacturing firms. The current study focused on non-financial firms listed at the NSE, Kenya. The current study was also able to analyze panel data

unlike the previous data which analyzed time-series data. The current study used secondary data which was historic in nature and not prone to any changes as it had already been obtained. However, this study used primary data which was prone to subjectivity.

2.3.5 Investment decisions, Financial Leverage and Financial Performance

Dehkordi (2018) conducted a study to investigate the mediating effect of financial leverage on the relationship between investment decisions and financial performance of firms listed in the Tehran stock exchange from the year 2007 to 2013. It was noted that financial leverage partially mediated the relationship between investment decisions and financial performance the firms. However, this research was conducted in Asia which has differing economic and political set-ups to those in Kenya. This research study generalized investment decisions. The current study applied regression on panel data to incorporate Expansion decisions, Replacement decisions and renewal decisions. This research study however used cross sectional data. The current study used Secondary panel data in order to provide richer conclusions.

Noghondari and Noghondari (2017) analyzed the mediating effect of financial leverage on the relationship between corporate decisions and Financial Performance of sixty non-financial firms listed at the Tehran Stock Exchange. The data analyzed was obtained from the period 2004 to the period 2014. It was noted that corporate decisions and Financial Performance negatively correlated among the firms. It was also observed that Financial Leverage did not explain the effect of corporate decisions on the non-financial firms' financial performance. However, this research encompassed financing decisions but gave a general conclusion on corporate decisions. This research study recommended that investors and other stakeholders of the firm should consider the camouflaged effect of financial leverage on the relationship between specific corporate decisions and Financial Performance of firms. Therefore, this research study examined the mediating effect

of financial leverage on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

Okiro, Aduda and Omoro (2015) evaluated the mediating effect of financial leverage on the effect of management participation on Financial Performance of non-financial firms listed at the East African securities market. The data was obtained from the period 2009 to 2013 for all the 98 non-financial firms listed in the securities markets of East African Countries. The study obtained a positive correlation between management participation and Financial Performance of the listed firms. However, this research encompassed corporate governance as an aspect of management participation. This research study also examined all non-financial firms listed at the NSE, Kenya. However, the working capital of financial firms does not match the working capital of non-financial firms (Mwangi *et al.*, 2014). This research study examined the mediating effect of financial leverage on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

2.4 Summarized Empirical Literature Review and Research Gaps

Efforts of previous authors in researching on the effect of Investment decisions on Financial Performance of firms are recommendable. However, they concentrated on the various single aspects of Investment decisions on the Financial Performance of firms. This research study examined an incorporation of Investment decisions which included: Expansion decisions, Replacement decisions, and Renewal decisions. The current study used panel data regression analysis to obtain conclusions that reduced collinearity and provided more variations (Blundell & Bond, 2000). The current study focused on non-financial firms listed at the NSE, Kenya. Financial Performance was operationalized using Return on assets (profitability), market share price to book

share price ratio (market value) and fixed asset turnover ratio (efficiency). The use of more than one financial ratio to capture either the profitability, market value, liquidity, leverage or efficiency of the firm as aspects of Financial Performance, made conclusions of the study to be richer (Ricci & Vito, 2000). It also examined the effect of firm size and financial leverage as a moderating and a mediating variables respectively on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

Table 2.2 Summarized Empirical Literature Review

Author and Context of Research study	Objectives	Findings	Knowledge gaps	Research gap filled by the current research study
Abughniem, Mohamad, Allam & Suliaman (2020) Kenya	Evaluated the impact of expansion decisions on the financial performance of industrial firms listed at the Amman stock Exchange, Jordan from the year 2001 to the year 2015	1. A positive significant relationship between Expansion decisions and profitability of the firms in the manufacturing category.	1. This research study narrowed down on the industrial sector only. 2. This research study also focused on profitability only as a measure of Financial Performance	1. The current study evaluated the effect of Expansion decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 2. The current study also incorporated Expansion decisions, Replacement decisions and Renewal decisions.
Muchele & Kombo (2019) Kenya	Evaluated the effect of Expansion decisions on Financial Performance of fifty 71 firms from the period 2015 to the period 2018.	1. A positive significant relationship between Expansion decisions and profitability of the firms in the manufacturing category.	1. Data analyzed through multiple regression analysis and correlation by use of S PSS. 2. This research encompassed the manufacturing sector only. 3. This research study also focused on profitability only.	1. The current study applied regression analysis on panel data. 2. Financial Performance was operationalized using Return on assets (profitability), market share price to book share price ratio (market value) and fixed asset turnover ratio (efficiency). 3. This research study included Firm size as a moderator and Financial Leverage as a mediating variable
Akparhuere, Duru & Ogbu (2019) Nigeria.	evaluated the effect of Renewal decisions on the profitability of Building and construction firms from the year 2006 to 2017	Renewal decisions produced a negative non-significant effect on the profitability of the firms.	1. Secondary data was analyzed by use of a simple regression analysis. 2. However, this research encompassed firms in the Building and construction category only.	1. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 2. The current study used panel regression analysis.

Author and Context of Research study	Objectives	Findings	Knowledge gaps	Research gap filled by the current research study
Purba & Bimantara (2019) Indonesia	Evaluated the effect of Renewal decisions on the financial performance of six transportation companies listed at the Indonesian stock Exchange, Indonesia from the year 2013 to 2017.	A positive significant relationship between Renewal decisions and performance of the firms was obtained.	3. However, this research study was conducted on the six companies only. 4. Financial performance was operationalized using return on assets. 5. This research was conducted in Indonesia which has differing economic and political set-ups to those in Kenya	1. The current study evaluated the effect of Renewal decisions on the financial performance of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 2. The current study operationalized Financial Performance using Return on assets, market share price to book share price ratio and fixed asset turnover ratio.
Olaoye & Ayodele (2019) Nigeria	Analyzed the relationship between Renewal decisions and performance of ten quoted firms in Nigeria from the year 2007 to 2016.	Renewal decisions had a positive significant effect on the performance of the ten quoted firms.	1. This research study narrowed down on profitability as a measure of financial performance 2. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size.	1. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 2. The current study included Firm size as a moderator.
Ali & Altinkaya (2018) Uganda	Evaluated the effect of Expansion decisions on Financial Performance of fifty three firms from the period 2009 to the period 2013.	1. A positive significant relationship between Expansion decisions and profitability of the firms in the manufacturing category.	1. Data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. 2. This research encompassed the manufacturing sector only. 3. This research study also focused on profitability only.	1. The current study applied regression analysis on panel data. 2. Financial Performance was operationalized using Return on assets (profitability), market share price to book share price ratio (market value) and fixed asset turnover ratio (efficiency). 3. This research study included Firm size as a moderator and Financial Leverage as a mediating variable
Dehkordi (2018) Iran .	Conducted a study to investigate the mediating effect of financial leverage on the relationship between investment decisions and financial performance of firms listed in the Tehran stock exchange from the year 2007 to 2013.	It was noted that financial leverage partially mediated the relationship between investment decisions and financial performance the firms	1. Data analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. 2. This research study generalized investment decisions. 3. This research study however used cross sectional data.	1. However, this research was conducted in Asia which has differing economic and political set-ups to those in Kenya. 2. The current study applied regression on panel data to incorporate Expansion decisions, Replacement decisions and renewal decisions. 3. The current study used Secondary panel data in order to provide richer conclusions.

Author and Context of Research study	Objectives	Findings	Knowledge gaps	Research gap filled by the current research study
Teodoro-Filho, Costa-Lima & Costa (2018) Brazil	Modelled the replacement of 64 non-current assets. Depreciation, probabilistic distributions and decommissioning costs were used to represent the variables modelled.	1. This study noted that the replacement strategy chosen depended on the cost of the replacement 2. It was noted that it would be too expensive to replace all the 64 assets at the same time.	1. A systematic replacement of assets strategy would be suitable based on the availability of funds 2. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size.	1. The current study evaluated the mediating effect of financial leverage on the relationship between Replacement decisions and the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 2. The current study included Firm size as a moderator.
Cordis & Kirby (2017) USA	Evaluated the effect of Expansion decisions on Financial Performance of non-financial firms listed in the NASDAQ and New York Stock Exchange, from the period 1963 to the period 2012	Expansion decisions did not significantly affect the Financial Performance	1. This research study used a cross sectional data thereby ignoring the time series aspect. 3. This research study was conducted in the United States of America with a contrasting social, political and economic platform	1. The current study used panel data regression in order to provide richer conclusions. 2. This research study used non-parametric method especially panel data regression 3. The current study was carried out on non-financial firms listed at the NSE, Kenya.
Taipi & Ballcocki (2017) Albania	Evaluated the effect of Expansion decisions on Financial Performance of Albanian firms spanning the years 2008 to 2015	1. Firm size negatively correlated with Financial Performance of firms. 2. Expansion decisions and leverage positively correlated with the performance of non-financial firms listed	1.This research study was conducted in Albania with a contrasting social, political and economic platform 2. This research study only used one investment decision that is Expansion decisions 3. The significance of the relationship between the variables was not established	1. The current study focused on Non-financial firms listed at the NSE, Kenya. 2. This research study included Expansion decisions, Replacement decisions and Renewal decisions in the model and also used Financial Leverage as a mediating variable and Firm size as a mediating variable 3. This research study conducted significant tests such as t-tests and F-tests
Noghondari & Noghondari (2017). Iran	Examined the mediating effect of financial leverage on the relationship between corporate decisions and Financial Performance of sixty non-financial firms listed at the Tehran Stock Exchange from the period 2004 to the period 2014.	A negative correlation existed between corporate decisions and Financial Performance of firms. It was established that Financial Leverage does not explain the effect of corporate decisions.	This research encompassed financing decisions but gave a general conclusion on corporate decisions.	This research study examined the mediating effect of financial leverage on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

Author and Context of Research study	Objectives	Findings	Knowledge gaps	Research gap filled by the current research study
Oluwaremi & Memba (2016) Nigeria	Analyzed the relationship between Renewal decisions and profitability of listed manufacturing firms from the year 2005 to 2014.	The study established that Renewal decisions had a positive significant effect on the profitability of the firms in the manufacturing category.	1. Data was analyzed through cross sectional multiple regression analysis and correlation by use of SPSS. 2. However, this research study narrowed down on the manufacturing sector only. 3. This research study did not control for other variables that may influence the Financial Performance of firms such as firm size.	1. The current study analyzed panel data using STATA. 2. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the Exchange securities of Nairobi, Kenya. 3. The current study included Firm size as a moderator.
Liang, Singhal & Parkash (2016) USA	1. Evaluated the relationship between Replacement decisions and Financial Performance of listed firms in the New York stock Exchange, USA between the years 1988 to 2004. 2. Replacement decision was operationalized using Tobin Q	The result obtained was that Financial Performance was very high when the Tobin Q ratio was also very high	1. However, this research was conducted in the USA which has differing economic and political set-ups to those in Kenya. 2. The data was analyzed by use of compustat. 3. The study did not control for other variables in the study.	1. The current study focused on Non-financial firms listed at the NSE, Kenya. 2. The current study applied regression on panel data to incorporate Expansion decisions, Replacement decisions and renewal decisions. 3. The current study applied Firm size as a moderator. The current study also performed significant tests. .
Mohamud, Elegwa, Kihoro & Nzulwa (2016) Kenya	Investigated the moderating effect of firm size on the relationship between a portfolio of management decisions and financial performance of 176 manufacturing firms in Nairobi, Kenya.	It was noted that management decisions had a positive significant relationship on the financial performance of the firms. It was noted that firm size did not moderate the relationship between management decisions and financial performance	1. Primary data was collected by use of questionnaires and analyzed by SPSS. 2. However, this study generalized management decisions. 3. This study also focused on manufacturing firms.	1. The current study analyzed secondary panel data by use of STATA. 2. The current study focused on the moderating effect of firm size on the relationship between investment decisions and financial performance. 3. The current study focused on non-financial firms listed at the NSE, Kenya.

Author and Context of Research study	Objectives	Findings	Knowledge gaps	Research gap filled by the current research study
Nzewi, Chiekezie & Arachie (2016) Nigeria.	Evaluated the effect of Renewal decisions on returns of 11 Aluminium firms	1. Renewal decisions had a significant effect on the Returns of the Aluminium firms 2. A strong positive relationship between Renewal decisions and Returns of the Aluminium firms.	1. Data analyzed through cross sectional multiple regression analysis. 2. However, this research encompassed the Aluminium firms only	1. The current study used regression analysis on panel data. 2. The current study evaluated the effect of Renewal decisions on the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.
Ali, Mukuru, Kihoro & Nzulwa (2016). Kenya	Examined Firm size as a moderator on the relationship between management decisions and Financial Performance of 176 firms in the manufacturing category in and around Nairobi, Kenya.	A positive correlation between management decisions and Financial Performance. It was also established that Firm size had no significant influence on the relationship between management decisions and Financial Performance of firms.	However, this research study generalized management decisions.	This research study examined the moderating effect of firm size on the relationship between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya.

Source: Literature review compiled by researcher (2020)

2.5 Conceptual Framework

This is a diagrammatical illustration of the variables adapted in the research study. This research study evaluated the relationship between Investment decisions and the financial performance of non-financial firms listed at the NSE, Kenya. The moderator used in this research study was firm size. The mediating variable in this conceptual framework was Financial Leverage. Investment decisions was used as the independent variable while Financial Performance was adapted as the dependent variable. The variables conceptualizing Investment decisions include: Expansion decisions, Replacement decisions and renewal decisions. The variables conceptualizing Financial Performance are: Return on assets, market share price to book share price ratio and Fixed Asset

turnover ratio. In this research study, ROA represented profitability, fixed asset turnover ratio represented efficiency while market share price to book share price ratio represented the market value of the firm. Figure 2.1 portrays the conceptual framework for this research study:

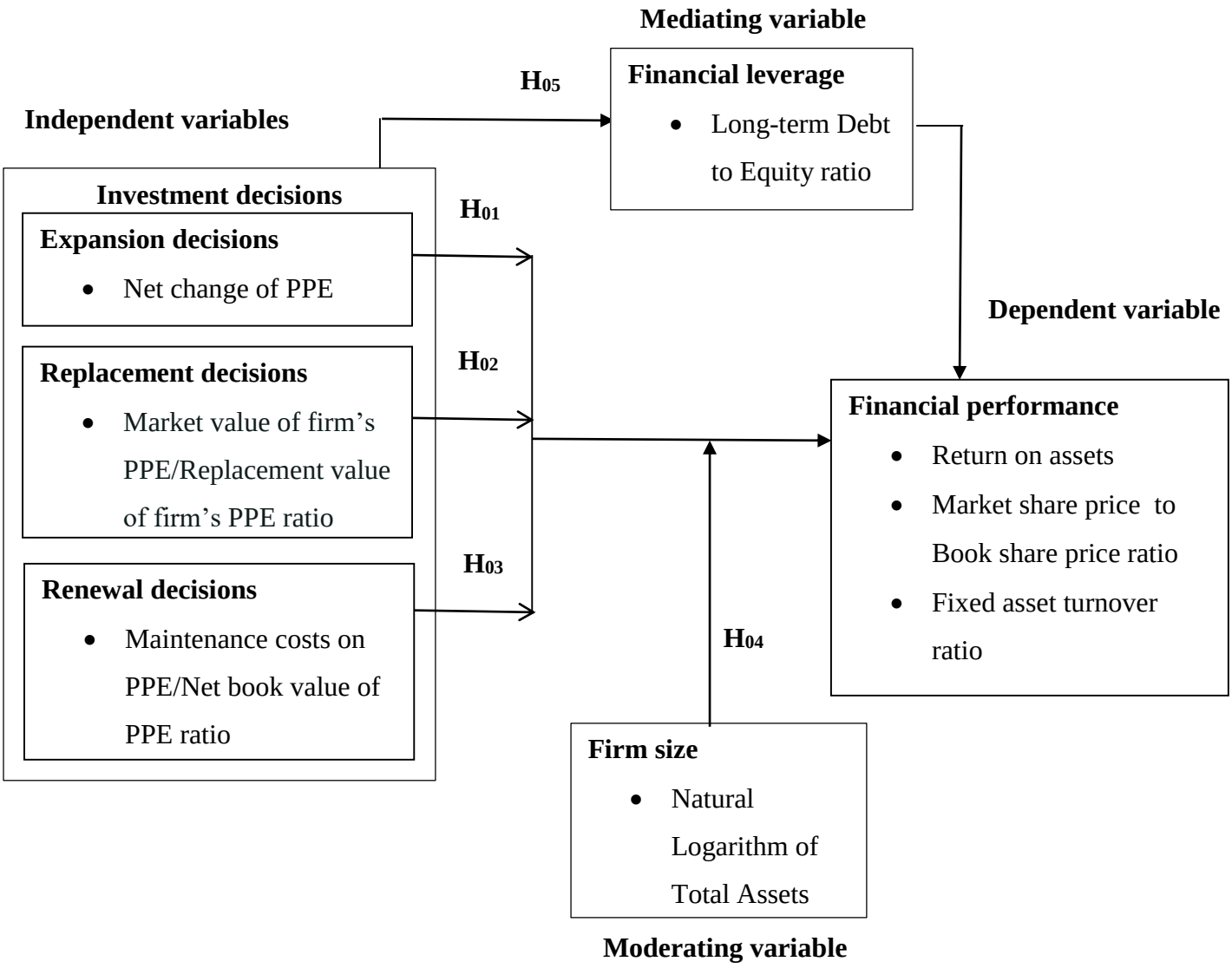

Figure 2.1 Conceptual Framework

Source: Researcher (2022)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents an examination of the philosophy and design of the research study, the target population, sampling design and technique, the data collection instrument, data analysis methods and ethical considerations. This chapter also presents an empirical model, measurement and conceptual use of variables in this research study. The research philosophy and design is probed and as a result justifying the decisions reached upon for this research study. The empirical model is explained followed by the data analysis methods used for the current research study. Finally, all ethical considerations made in this research study are highlighted upon.

3.2 Research Philosophy

According to Saunders *et al.* (2007), a research philosophy entails the creation of knowledge. The process of creation of this knowledge can be subjective or objective. A research philosophy acts a guide to the researcher when collecting, analyzing and drawing conclusions from the data. Greener (2008) notes the existence of two types of research philosophies: positivism and interpretivism. Positivism bases its conclusions on scientific facts while interpretivism focuses on opinion and subjective judgment from the data analyzed qualitatively. Interpretivism justifies its subjective judgment from the fact that data analyzed arises from social statistical interactions. The opinions and thoughts of people are significant to the conclusions arrived at (Carson, Gilmore, Perry & Gronhaug, 2001). The future conclusions to be arrived upon from the data analyzed depend on the previous statistical interactions, beliefs and experiences that these people had (Coopers & Schindler, 2009).

Murya, Dickson and Salama (2010) assert that most studies use the positivism philosophy as the data adapted is not in any way influenced by the researcher. Positivism philosophy creates a distinct line between people and the data to be collected, analyzed and reported. Subjectivity is replaced with objectivity. The data can be explained by previous theories formulated (Bryman & Bell, 2011). The beliefs, thoughts and opinions of the researcher are put aside and the conclusions solely depend on existent scientific procedures which are used to analyze data observed and accepted as knowledge to provide cause and effect conclusions (Coopers & Schindler, 2009).

This research study adapted the positivism philosophy to evaluate the relationship between Investment decisions and Financial Performance of non-financial firms. This is because the data used was quantitative and the researcher had no subjectivity to the data as it had already been obtained by the firms and was available in the NSE reports and the CMA reports. The current study expounded on previous theories formulated by previous researchers. According to Kerlinger and Lee (2000), positivist approach becomes suitable for most studies since it bases its analysis on statistical and inferential statistics which have already previously used and tested by previous researchers.

3.3 Research Design

According to Saunders, Lewis and Thornhill (2009), a research design is a map that guides the researcher when conducting the research study. A research design is a description of the path a researcher follows until they reach the destination. Mugenda and Mugenda (2003) posit that research designs can be classified as explanatory, descriptive and exploratory. An exploratory research design uses theories to explain the observations after which descriptive research design can be used to test hypothesis. However, exploratory and descriptive research designs cannot be

used to disapprove a hypothesis (Cooper & Schindler, 2008). In a non-experimental research, there are totally no changes or influences made on the independent variable. Efforts are made to determine the influential factors on the dependent variable without influencing or making any changes on the independent variables, as they had already been recorded previously and are representative of an historical occurrence for the firm (Kerlinger & Lee, 2000). An explanatory non-experimental research design was adapted so as to evaluate the effect of Investment decisions on the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya. This implies that the researcher simply did a description of the relationship between investment decisions and financial performance of the non-financial firms without influencing the relationship between the two variables. This is because their data was historical in nature and could not be altered. (Kerlinger & Lee, 2000).

3.4 Empirical Model

According to Sarkar and Zhang (2013), Investment lagging is core since investment of the current period cannot be felt by firms in that current year. Investment that a firm makes is felt in the next financial year after investment (Liurui & Yiwen, 2022). Therefore, this research study lagged Investment decisions by a period of one year so that the firms could get to experience the effect of the Investment decisions on their Financial Performance. There has been a decline in the financial performance of non-financial firms listed at the NSE, Kenya from the year 2013 to 2018 as compared to an increase in the financial performance of the firms from the year 2001 to 2012. Non-financial firms across other parts of the world have indicated an increase in the financial performance from the year 2001 to 2018. This therefore necessitated the need to conduct this study. This research study adapted the panel regression model by Mwangi *et al.,* (2014) as shown in equation 3.1.

The general empirical model defined is:

$Y_{it}=\alpha+X_{it-1}\mu+È_t$ ..... Equation 3.1

So that:

Y_{it} represents Financial Performance (dependent variable) of firm i at time t; X_{it} represents a vector of Investment decisions (independent variable) of firm i at time t-1; i stands for the number of 30 non-financial firms whose data was collected; t signifies the data collection period 2013,…, 2018; μ signifies the coefficients of the explanatory variables while $È_t$ signifies the composite error term; while ∞_i signifies the heterogeneity effects. To facilitate the panel analysis process, equation 3.1 was broadened to generate equations 3.2, 3.3 and 3.4 as shown:

3.4.1 Direct Effect Model

$ROA_{it}= \alpha+\mu_1EDit-1+ \mu_2RDit-1+\mu_3RNit-1 +È_{it}$ ..... Equation 3.2

$MBR_{it}= \alpha+\mu_1EDit-1+ \mu_2RDit-1+\mu_3RNit-1 +È_{it}$ ..... Equation 3.3

$FATR_{it}= \alpha+\mu_1EDit-1+ \mu_2RDit-1+\mu_3RNit-1 +È_{it}$ ..... Equation 3.4

So that:

ROA_{it}=return on assets of firm i at time t

MBR_{it}= market share price to book share price ratio of firm i at time t

$FATR_{it}$= fixed asset turnover ratio of firm i at time t

α= Regression Constant

μ_s=are the coefficients of the explanatory variables

EDit-1= Expansion decisions of firm i at time t-1

RDit-1 = Replacement decisions of firm i at time t-1

RN_{it}= Renewal decisions of firm i at time t-1

$È_{it}$= Observable histocastic error term

3.4.2 Moderating effect Model

To assess the moderating effect of firm size on the interrelation between Investment decisions and the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya. Three procedures by Baron and Kenny (1986) were adapted. The first procedure was to estimate equation 3.5, equation 3.6 and equation 3.7 as the base models. This was necessary so as to examine the effect of Investment decisions on Financial Performance of firms with Firm size included as an independent variable.

$ROA_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 SIZE_{it} + È_{it}$ ..... Equation 3.5

$MBR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 SIZE_{it} + È_{it}$ ..... Equation 3.6

$FATR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 SIZE_{it} + È_{it}$ ..... Equation 3.7

Secondly, to evaluate the moderating effect, the study lead to equations 3.8, 3.9 and 3.10 which interacted the moderating variables and the independent variables with the objective of assessing the effect of Investment decisions on Financial Performance of the firm as depicted:

$ROA_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 (EDit\text{-}1 * SIZE_{it}) + \mu_5 (RDit\text{-}1 * SIZE_{it}) + \mu_6 (RNit\text{-}1 * SIZE_{it}) + È_{it}$ ..... Equation 3.8

$MBR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 (EDit\text{-}1 * SIZE_{it}) + \mu_5 (RDit\text{-}1 * SIZE_{it}) + \mu_6 (RNit\text{-}1 * SIZE_{it}) + È_{it}$ ..... Equation 3.9

$FATR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_4 (EDit\text{-}1 * SIZE_{it}) + \mu_5 (RDit\text{-}1 * SIZE_{it}) + \mu_6 (RNit\text{-}1 * SIZE_{it}) + È_{it}$ ..... Equation 3.10

Basing on MacKinnon, Krull and Lockwood (2002) criteria of decisions, if μ_4 to μ_6, in equation 3.8, 3.9, and 3.10 are not significant but μ_4 to μ_6 in equation 3.5, 3.6, and 3.7 are significant, therefore Firm size are just independent variables. However, if μ_4 to μ_6, in equation 3.8, 3.9, and 3.10 are significant, then Firm size are moderators whose effect and direction are given by the μ_{is}.

3.4.3 Mediating effect Model

To examine the mediating effect of financial leverage on the interrelation between Investment decisions and Financial Performance of firms, four procedures from Baron and Kenny (1986) were adapted. The first procedure was to estimate equations 3.2, 3.3 and 3.4 as the base models. This was necessary in order to find out the effect of Investment decisions on Financial Performance of firms. Secondly, to evaluate the mediation, the study lead to equation 3.11 which evaluated the effect of Investment decisions on Financial Leverage as depicted:

$FL_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + È_{it}$ ..... Equation 3.11

Where:

FL=Financial Leverage which is the mediating variable

The third procedure was to include Financial Leverage as one of the explanatory variables in the study and consequently generate equation 3.12, equation 3.13 and equation 3.14 as illustrated:

$ROA_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_7 FL + È_{it}$ ..... Equation 3.12

$MBR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_7 FL + È_{it}$ ..... Equation 3.13

$FATR_{it} = \alpha + \mu_1 EDit\text{-}1 + \mu_2 RDit\text{-}1 + \mu_3 RNit\text{-}1 + \mu_7 FL + È_{it}$ ..... Equation 3.14

Table 3.1 shows an interpretation guide to the mediation process

Table 3.1: Mediation Decision Table Guide

	Output	Conclusion
A	μ_1- μ_3 are significant in equations 3.2, 3.3 and 3.4	Total mediation
	μ_1- μ_3 are significant in equation 3.11	
	μ_1- μ_3 are not significant but μ_7 is significant in equation 3.12, equation 3.13 and equation 3.14	
	μ_1- μ_3 are significant in equations 3.2, 3.3 and 3.4	

B	μ_1- μ_3 are significant in equation 3.11	Partial mediation
	μ_1- μ_3 are more significant in equations 3.2, 3.3 and 3.4 than in equation 3.12, equation 3.13 and equation 3.14 μ_7 is significant in equation 3.12, equation 3.13 and equation 3.14	
C	μ_1- μ_3 are not significant in equations 3.2, 3.3 and 3.4	No mediation
	μ_1- μ_3 are not significant in equation 3.11	
	μ_1- μ_3 are significant in equations 3.2, 3.3 and 3.4 and equal to μ_1- μ_3 in equation 3.12, equation 3.13 and equation 3.14 μ_7 is not significant in equation 3.12, equation 3.13 and equation 3.14	

Source: Baron and Kenny (1986)

3.5 Variables operationalized

Table 3.2 displays the various variables used in the research study, how they have been operationalized and operationalized. The variables in table 3.2 have previously been used and their validity ascertained by other scholars as discussed in the literature review.

Table 3.2 Variables operationalized

Classification of variable	Name of variable	Operationalization	Measurement	Scale of measurement
Dependent variable (Financial Performance)	Return on assets (ROA)	The profits obtained by non-financial firms from one shilling of its assets	ROA=Returns before tax and interest/Total Assets	Ratio
	Market share price to Book share price ratio (MBR)	A measure of the firm's market share price in relation to its book share price.	MBR=Market share price/ (Total assets- Total liabilities)/shares outstanding	Ratio
	Fixed asset turnover ratio (FATR)	The ratio of net sales to depreciated fixed assets	FATR=Net revenues/Average fixed assets-Accumulated depreciation	Ratio

Independent variable (Investment decisions)	Expansion decisions (ED)	The decision made by a firm to acquire new fixed assets	ED= (Net book value of Property, plant and equipment of current period- Net Book value of Property, plant and equipment of previous period)/ Net Book value of Property, plant and equipment of previous period	Ratio
	Replacement decisions (RD)	The decision made by a firm to substitute its worn out fixed assets	RD= Market value of firm's property, plant and equipment/Replacement value of firm's property, plant and equipment	Ratio
	Renewal decisions (RN)	The decision made by a firm to polish its existing fixed assets	RN= (Maintenance costs on PPE of current period - Maintenance costs on PPE of previous period) / (Net book value of Property, plant and equipment of current period- Net Book value of Property, plant and equipment of previous period)	Ratio
Moderating variable (Firm size)	Firm size	A measure of the growth of the total assets of a firm over a defined period	SIZE= Natural Logarithm of Total assets of the firm	Interval
Mediating variable (Financial Leverage)	Financial Leverage (FL)	The long term borrowings used by a non-financial firms	FL= Long-term Borrowings/Equity	Ratio

Source: Researcher (2022)

3.6 Target Population

The study comprised of 30 non-financial firms listed at the NSE, as at February, 2019. This is because, spanning the years 2013 to 2018, there was a decline in the market value, efficiency and profitability of non-financial firms listed at the NSE, Kenya. This is reflected in an average yearly

decrease of 3.57 percent in the non-financial firms' financial performance listed at the NSE, Kenya (NSE report, 2019). Only the listed firms were taken into consideration because their data passed the international audit tests subjected to them by various international auditing standards. These listed firms were also used in this research study because they get the encouragement from the security market to struggle to ensure their stock returns are attractive to investors (Lazaridis & Tryfonidis, 2006).

Table 3.3 Population Distribution

Category	**No. of firms**	**Percentage of non-financial firms (percent)**
Agriculture	6	20
Commercial and services	7	23
Manufacturing and allied	6	20
Automobiles and accessories	1	3
Construction and allied	5	17
Energy and petroleum	5	17
Total	**30**	**100**

Source: NSE reports (2019)

Table 3.3 presents the population distribution of the target population used for this population. The non-financial firms are categorized according to six categories (NSE report, 2019) namely (See appendix III): Agriculture with a contribution of twenty percent; Commercial and Services contributing twenty-three percent; Manufacturing and allied contributing twenty percent; Automobiles and Accessories forming three percent while Construction and allied and Energy and petroleum making up seventeen percent respectively of the non-financial firms used. From the analysis in table 3.3, the Commercial and Services depicted the highest percentage share of twenty-three percent; Agricultural sector and Manufacturing and allied sector at twenty percent respectively; the Construction and allied and Energy and petroleum making up seventeen percent

respectively of the non-financial firms used while Automobiles and Accessories at three percent of the non-financial firms listed at the NSE, Kenya.

3.7 Sampling Design

According to Saunders *et al.* (2009), sampling is fundamental to a research process as it enables research to be more objective by narrowing down to the research area. However, a complete use of all the population will give a more real measure of the population being studied. Lavakras (2008) assert that census method is the step by step procedure of obtaining data for all the members of a population. There was no sampling in this study since census method adapted involved using every single member of the population. This was necessary in order to provide a true detailed information about the selected firms. This research study examined the data obtained from the selected target population so as to test if it was complete and approved for use by the respective appointed auditors (Mwangi *et al.,* 2014).

3.8 Data Collection Instrument

A data collection tool is instrumental to a study as it aids in the collection of data (Mathuva, 2010). This current study adapted panel data which was obtained from the CMA reports, the statement of financial position, the income statement and all other published financial statements available at the NSE, Kenya. Panel data, which consists of time series and cross sectional data, provides richer and reliable observations than when using time series or cross sectional data only (Gujarati, 2003). Data analyzed spanned the years 2013 to 2018. There was a decline in the financial performance of non-financial firms listed at the Nairobi Securities Exchange, Kenya from the year 2013 to 2018 as compared to an increase in the financial performance of the firms from the year 2001 to 2012. Non-financial firms across other parts of the world have indicated an increase in the financial

performance from the year 2001 to 2018. The data collection instrument used in this research study was a document examination guide (See appendix IV).

3.9 Data Collection Procedure

The researcher used secondary panel data consequently obtaining richer and reliable observations than when using time series or cross sectional data only (Gujarati, 2003). The cross sectional data entailed all the non-financial firms while the time series was made up of data of each firm spanning the years 2013 to 2018. The origin of this data was the CMA reports, the statement of financial position, the income statement and all other published financial statements available at the NSE, Kenya spanning the years 2013 to 2018. This was in harmony with previous researchers who used the data for the period of reference and the CMA reports (Makori *et al.,* 2014; Koori *et al.,* 2014; Mwangi *et al.,* 2014; Mathuva, 2010). The researcher adapted document review guide as shown in appendix IV to simplify the extraction of data from this voluminous NSE reports and CMA reports. This research study considered ethics in the data collection process by getting a data collection warranty from Kenyatta University and National Council for Science, Technology and Innovation (NACOSTI).

3.10 Data Analysis and Presentation

According to Gujarati (2003), data only becomes significant when we can derive meaning from it. This meaning can be derived from various relationships and Figures calculated that bring meaning to the users. The data used for this research study was secondary in nature, implying it represented historical events that could not be manipulated in any way, but would only be analyzed to give meaningful, reliable information (Kerlinger & Lee, 2000). Gujarati (2003) asserts that a panel data analysis approach was the most convenient approach for this research study as it provided more degrees of freedom than either cross sectional or time series data.

According to Gujarati (2003), statistical analysis techniques can be broadly classified into quantitative techniques and qualitative techniques. Quantitative data techniques critically examined numerical data unlike qualitative techniques which explored the patterns among the data obtained (Gujarati, 2003). This research study used quantitative data analysis techniques since the data obtained was of a numerical nature. Microsoft excel was used in order to compute financial ratios. The data was then analyzed using STATA version 16.0 based on a secondary panel data model using descriptive techniques and panel data regression. STATA was chosen because it had the ability to accommodate panel data analysis (Makori *et al.*, 2017).

This current study examined the panel data by use of either fixed effect method, random effects method or the pooled effects method. To determine the most suitable model for the research study, Haussmann Specification test was adapted (Hansen, Hausman and Newey, 2008). The data was then presented using mean, median and standard deviation so as to enable the interrelation between Investment decisions and Financial Performance to be appreciated. Tables, Figures and charts were used to present results obtained.

3.11 Diagnostic Tests

In a bid to ensure the assumptions of CLRM were upheld, the necessity to conduct a variety of diagnostic tests was pertinent (Gujarati, 2003). Brooks (2008) contends that the validity and reliability of conclusions obtained from the analysis is at stake if these assumptions of CLRM are not upheld. These assumptions were laid down and observed before regressing equations 3.2, 3.3 and 3.4. Therefore, in this research study the diagnostic tests that were performed included:

multicollinearity, heteroscedasticity, autocorrelation, Model Specification Tests, normality and panel unit root tests (Martins, 2011).

3.11.1 Multicollinearity

The presence of correlation among the variables of a model suggests the presence of multicollinearity (Williams, 2003). According to Cooper and Schindler (2008), failure to test and put into account multicollinearity will lead to huge standard errors in the case of imperfect multicollinearity while indeterminate coefficients of regression and infinite standard errors will be witnessed in the case of one hundred percent multicollinearity. In the case of the variance inflation factor (VIF) exceeding 10, then there exists multicollinearity while when it's less than 10, then there is lack of multicollinearity (Field, 2009). The decision to reject or fail to reject hypothesis becomes hectic. The severity of multicollinearity rather than its presence is of key concern (Gujarati, 2003). The null hypothesis used is that panel data has no multicollinearity.

3.11.2 Heteroscedasticity

The error term in a CLRM is assumed to have a constant variance (Gujarati, 2003). However, violation of this assumption is what is referred to as heteroscedasticity. Heteroscedasticity can be present due to cross sectional data available in a panel data. The need to account for heteroscedasticity is motivated by the need to obtain coefficients that are unbiased. This research study used the Breusche Pagan test (BPT) for heteroscedasticity to examine the presence of heteroscedasticity (Poi & Wiggins, 2001). This research study also adapted the White test (WT) for heteroscedasticity to examine the presence of heteroscedasticity (Ohtani & Honda, 2008). The default hypothesis adapted indicated that there is homoscedasticity in the error variance. The model suitable in solving the heteroscedasticity challenge is the FGLS.

3.11.3 Autocorrelation

In CLRM, serial correlation is assumed to be nil (Manuel & Bond, 1991). However, aggregating cross sectional and time series data increases the presence of serial correlation in the CLRM adapted. Ignorance to examine and solve the puzzle of serial correlation in a model would lead to coefficients that are biased consequently results that will be misleading (Wooldridge, 2002). This research study used the Breusch- Godfrey Langrangian Multiplier test for Autocorrelation for Autocorrelation to examine serial autocorrelation in the model. The model suitable in examining the presence of serial autocorrelation is FGLS as the panel data was assumed to contain serial autocorrelation. The null hypothesis used is that panel data has no serial autocorrelation.

3.11.4 Normality Test

The CLRM makes an assumption that the data portrays a normal distribution. In order to be able to perform hypothesis tests about the parameters, then the model assumed a normal distribution (Brooks, 2008). If the distribution assumes normality, then it will depict a symmetrical distribution about its mean leading to a linear scatter plot. However, some distributions can portray asymmetrical behavior that implies the presence of Skewness in the distribution and therefore leading to a scattered scatter plot (Brooks, 2008). The graphical method in such a case might not be so reliable and consequently the study applied the Jarque-Bera test enhancing the study by Jarque and Bera (1981). The null hypothesis of the Jarque-Bera test was that the error disturbances were normally distributed. In case the Probability Figure reduced to below 5 percent, then the null hypothesis was rejected and therefore the need to use a non-parametric test. The normality test was of much significance to this research study since, if it was violated, the F-test would be insignificant (Razali & Wah, 2011). If the null hypothesis was rejected, then the study adapted Kolmogorov-Smirnov and Shapiro Wilk test.

3.11.5 Panel Unit Root Test

The kind of data used in this research study necessitated the need to conduct stationarity tests (Gujarati, 2003). This research study analyzed panel data which was composed of cross sectional and time series data. The nature of time series data brings about the concept of non-stationarity of data which can be tested for using the fisher tests of stationarity (Blundell & Bond, 2000). This research study adapted Levin-Lin-Chu unit root test.

The default hypothesis adapted indicated that all panels have unit root. The alternate hypothesis adapted indicated that all panels do not have unit root (Manuel & Bond, 1991). In case a panel was examined and found to have a unit root, then a differential of the unit root was conducted and if it did not have unit root, then it was used to run equation 3.2, 3.3 and 3.4. Gujarati (2003) argues that an estimate of panel data taken with the ignorance of testing and fixing non-stationary of data resulted to unreliable and misleading results. This research study conducted single panel unit root test in order to test the stationarity of the single sectors of the non-financial firms .This research study also conducted common unit root test in order to test common stationarity of all the sectors of the non-financial firms (Im, Pesaran, & Shin, 2003).

3.11.6 Model Specification Test

The models used was either a fixed effects model or a random effects model. However, this effect was guided by the Model Specification Test (Lee & Okui, 2011). In a situation where the fixed effects model was declared suitable by the Model Specification Test, then an F-test was performed to determine if the dummies for all the years were equating to nil. In a case where all the dummies for the years were nil, then the test was not performed (Greener, 2008). However, if a random effects model was arrived at by the Model Specification Test, then Breusche Pagan multiplier Langrangian test (BPLMT) was used in order to choose between running a simple OLS or the

random effects model (Breusche & Pagan, 1990). The null hypothesis used in this study was that there was no panel effect.

Table 3.4 Data analysis methods

	Specific Objective	Methodology
a)	To analyze the effect of Expansion decisions on Financial Performance of listed non-financial firms at the NSE.	Panel Data regression
b)	To assess the effect of Replacement decisions on Financial Performance of listed non-financial firms at the NSE.	Panel Data regression
c)	To examine the effect of Renewal decisions on Financial Performance of listed non-financial firms at the NSE.	Panel Data regression
d)	To determine the moderating effect of firm size on the interrelation between Investment decisions and Financial Performance of listed non-financial firms at the NSE.	Moderated multiple regression analysis
e)	To assess the mediating effect of financial leverage on the interrelation between Investment decisions and Financial Performance of listed non-financial firms at the NSE.	Stepwise regression

Source: Researcher (2022)

3.12 Ethical Considerations

The researcher took due concern to ensure due care and precaution was taken to ensure the correctness of the whole process of analyzing data. Where the work of other authors was used, then due acknowledgement was done and referencing done by use of the APA referencing style to avoid plagiarism (Saunders *et al.,* 2009). The researcher was authorized by Kenyatta University and NACOSTI with the goal of supporting extraction of data found in the CMA reports and NSE reports. The data collected was solely used for this research study. The findings obtained from this research study are available to the public courtesy of Kenyatta University and NACOSTI.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The results of this research study are presented using statistics in tabular and descriptive form. The results are descriptive and inferential in nature. The chapter also presents an analyzed trend analysis and discussion of results on the basis of specific objectives and hypotheses of the research study. Diagnostic tests that were conducted in the study are also presented. Results obtained from correlation analysis, Feasible Generalized Least Square method and regression analysis are also presented in this chapter. Mediation and moderation test results are also presented in this chapter. This chapter finally presents a summary of the results in a tabular format.

4.2 Descriptive statistics Analysis

The financial ratios are presented in the order of the variables used in this research study which include Investment decisions, Financial Performance, Financial Leverage and firm size. This section further presents financial ratios which relate the variables used in this research study. Table 4.1 shows summarized statistics that were obtained after analysis. Summarized descriptive statistics is also provided for Firm size and Financial Leverage which were used as the moderating and mediating variables respectively in this research study.

Table 4.1 Summarized Descriptive Statistics

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
ROA	180	0.0674444	0.1237028	-0.31	0.477
MBR	180	-3.00345	35.53099	-172.816	227.533
FATR	180	5.410078	34.00464	0.078	426.819
ED	180	0.5121944	3.67785	-1	35.413
RD	180	1.58445	0.9157386	0.001	4.774
RN	180	0.1699056	1.138262	-2.051	12.931

FS	180	15.71376	1.958108	10.221	19.755
FL	180	0.8116778	2.359268	-3.32	16.727

Source: Study data (2022)

As depicted in table 4.1, the average ROA for all the firms was 0.0674444 spanning the years 2013 to 2018. This value obtained was positive depicting that the profitability of the non-financial firms listed at the Nairobi securities market, Kenya was on average 6.7 percent for every shilling of total assets invested spanning the years 2013 to 2018. The standard deviation obtained for ROA was 12.37 percent, an indication that the ROA for the firms was fluctuating at a rate of 12.37 percent over the period 2013 to 2018 as indicated by the firm having the lowest ROA at -0.31 and the firm having the highest ROA at 0.477.

The average yearly MBR was -3.00345. This value was lesser than the market average of 1, an indication that the stock market was undervalued. The negative value was also, an indication that the firms were generally undergoing tough times and consequently the non-financial firms' financial performance was poor. The standard deviation obtained for MBR was 35.53 with the firm having the lowest MBR at -172.816 and the firm having the highest MBR at 227.533. This implies some of the firms were performing very well in contrast to others that were performing dismally.

The average fixed asset turnover ratio for the firms was 5.410078, an indication that these firms generated an average of 5.41 shillings for every 1 shilling of fixed assets invested. Since the FATR was greater than one, it implied that these firms took lesser time to generate revenue from their fixed assets. The standard deviation obtained for fixed asset turnover ratio was 34.00464 with the

firm having the lowest fixed asset turnover ratio at 0.078 and the firm having the highest fixed asset turnover ratio at 426.819. This implied some of the firms generated only 0.078 for every 1 shilling of fixed assets invested while others earned 426.819 for every 1 shilling of fixed assets invested.

The average Expansion decision ratio for all the firms was 0.512 spanning the years 2013 to 2018. This positive value obtained indicated that the fixed assets of the firms expanded at an increased average rate of 51.2 percent annually. The standard deviation obtained for Expansion decision ratio was 3.67785 with the firm having the lowest Expansion decision ratio at -1 and the firm having the highest Expansion decision ratio at 35.413.

The average Replacement decision ratio for all the firms was 1.514 spanning the years 2013 to 2018. This value obtained was greater than 1 depicting that the stocks of the firms were overvalued compared to the cost of replacing the fixed assets of the firm. The standard deviation obtained for Replacement decision ratio was 0.9157386 with the firm having the lowest Replacement decision ratio at 0.001 and the firm having the highest Replacement decision ratio at 4.774.

The average Renewal decision ratio for all the firms was 0.151 spanning the years 2013 to 2018. This value was positive depicting that the firms opted to maintain their fixed assets at an increased rate of 15.1 percent annually spanning the years 2013 to 2018 instead of replacing those assets. The standard deviation obtained for Renewal decision ratio was 1.138262 with the firm having the lowest Renewal decision ratio at -2.051 and the firm having the highest Renewal decision ratio at 12.931.

The average Firm size as represented by the natural logarithm of total assets for all the firms was 15.71376 spanning the years 2013 to 2018. The standard deviation obtained for the natural logarithm of total assets was 1.958108 with the firm having the lowest natural logarithm of total assets at 10.221 and the firm having the highest natural logarithm of total assets at 19.755. The average Financial Leverage for all the firms was 15.71376 spanning the years 2013 to 2018. The standard deviation obtained for Financial Leverage was 0.8116778 with the firm having the lowest Financial Leverage at -3.32 and the firm having the highest Financial Leverage at 16.727.

4.3 Analyzed trend analysis

An analyzed trend analysis of Investment decisions, Financial Performance, Firm size and Financial Leverage is presented in this chapter. Investment decisions were used in this research study as the independent variables. They were classified into Expansion decisions, Replacement decisions and renewal decisions. Financial Performance was used as the dependent variable and was represented using ROA, MBR and fixed asset turnover ratio. Firm size was represented by the natural logarithm of total assets and it was used as the moderator in this research study. Financial Leverage was represented using the ratio of long-term borrowings to equity ratio and was used as a mediating variable in this research study. This research study used panel data comprising both the time series nature and cross sectional aspect of data. Therefore, a panel analysis was essential so as to evaluate all the variables used in this research study over the duration 2013 to 2018:

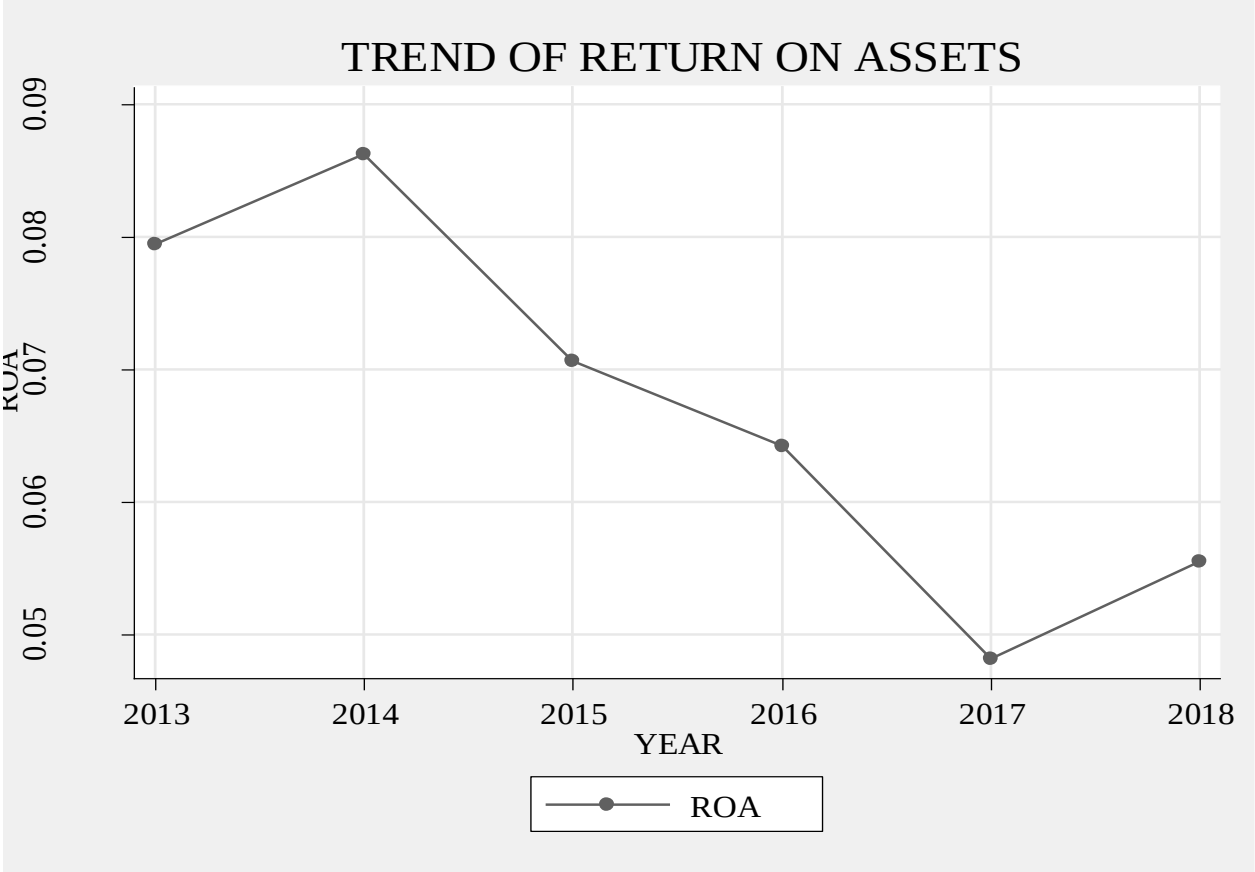

Figure 4.1 Analyzed trend of Return on assets

Source: Study data (2022)

Figure 4.1 portrays the analyzed trend of the ROA of the firms spanning the years 2013 to 2018.The Return on assets increased from 0.079 in 2013 to 0.086 in 2014 before decreasing to 0.0707 in 2015. The ROA further decreased to 0.064 in 2016 and a further decrease to 0.048 in 2017. However, in 2018, the Return on assets slightly improved to a value of 0.056. The general analyzed trend of Return on assets was a decline from 0.079 in 2013 to a value of 0.056 in 2018, an indication that the analyzed trend of the non-financial firms' financial performance was declining.

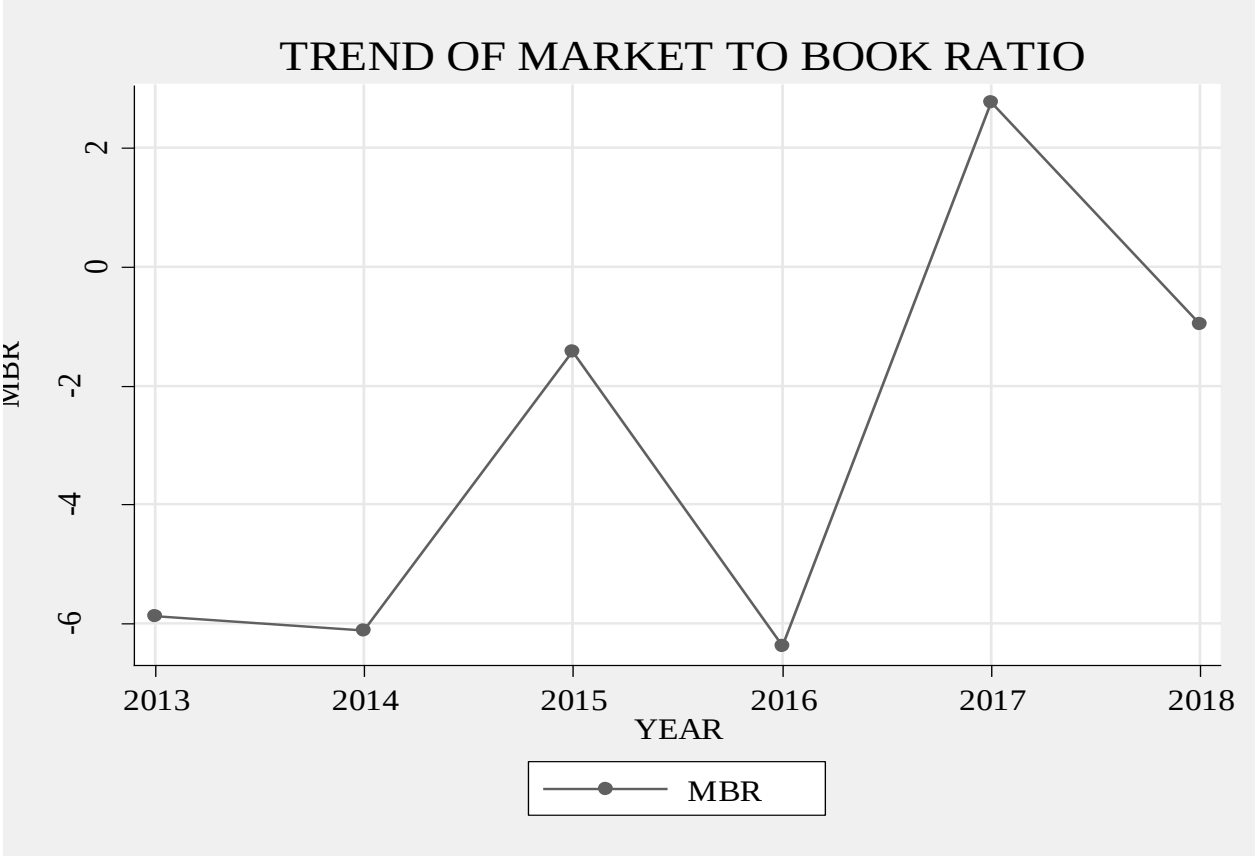

Figure 4.2 Analyzed trend of market share price to book share price ratio

Source: Study data (2022)

Figure 4.2 portrays the analyzed trend of the MBR of the firms spanning the years 2013 to 2018. The MBR decreased from -5.87 in 2013 to -6.12 in 2014 before decreasing to -1.42 in 2015. However, as much as there was an increase in the MBR from the period 2014 to the period 2015, the MBR was still a negative value consequently, an indication that the firms were generally undergoing tough times and hence their Financial Performance was poor. The MBR further decreased to -6.38 in 2016 before increasing to 2.75 in 2017. However, in 2018, the Return on assets decreased to a value of -0.969.

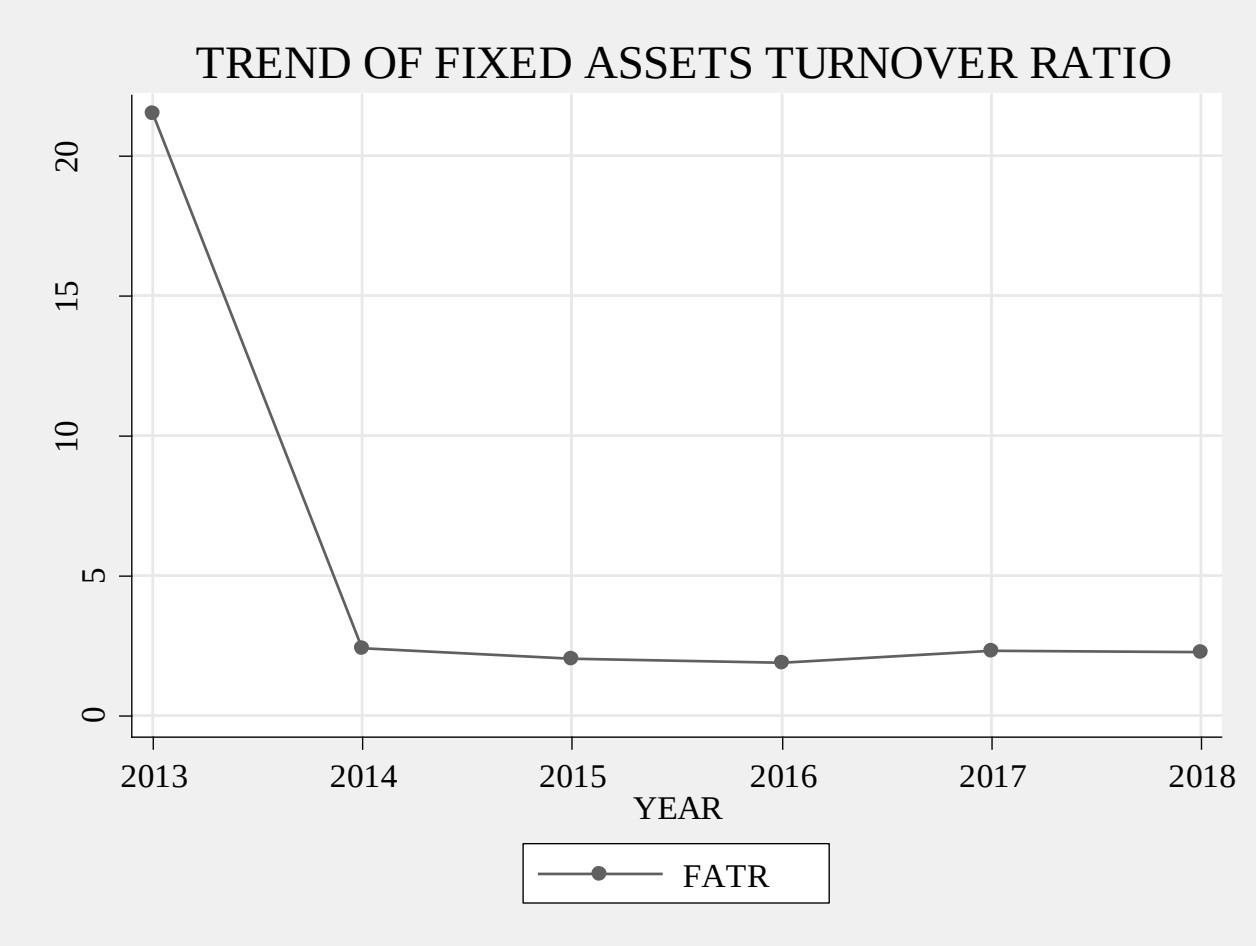

Figure 4.3 Analyzed trend of fixed asset turnover ratio

Source: Study data (2022)

Figure 4.3 portrays the analyzed trend of fixed asset turnover ratio of the firms spanning the years 2013 to 2018. The fixed asset turnover ratio decreased from 21.52 in 2013 to 2.40 in 2014 before decreasing to 2.04 in 2015. The fixed asset turnover ratio further decreased to 1.91 in 2016 but slightly increased to 2.32 in 2017. However, in 2018, the fixed asset turnover ratio slightly decreased to a value of 2.27. The general analyzed trend of fixed asset turnover ratio was a decline from 21.52 to a value of 2.27 from the period 2013 to the period 2018, an indication that the analyzed trend of Financial Performance was declining. The amount of revenue generated from fixed assets invested by the firms was decreasing spanning the years 2013 to 2018.

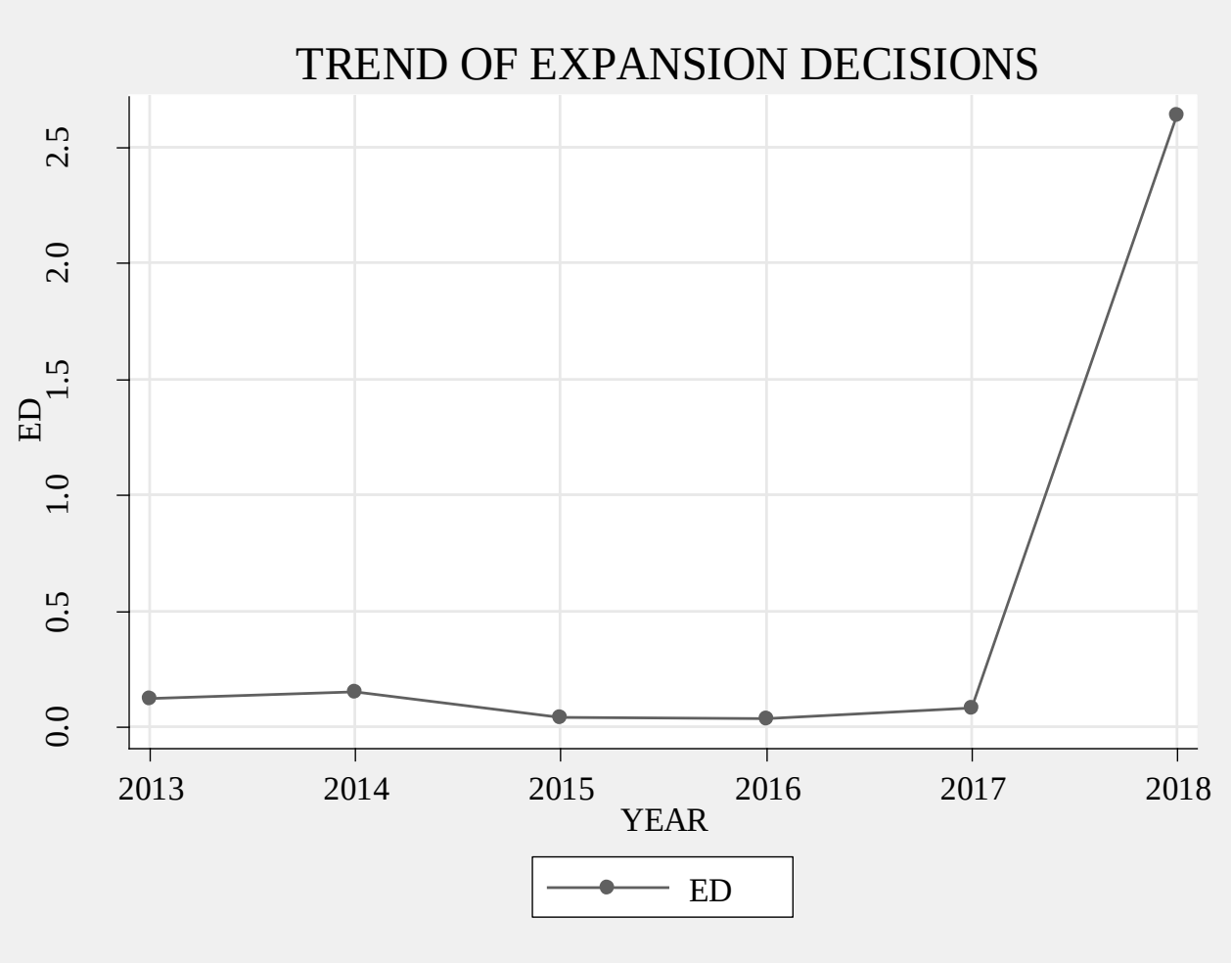

Figure 4.4 Analyzed trend of Expansion decisions

Source: Study data (2022)

Figure 4.4 portrays the analyzed trend of Expansion decisions of the firms spanning the years 2013 to 2018. The Expansion decisions ratio increased from 0.125 in 2013 to 0.153 in 2014 before decreasing to 0.043 in 2015. The Expansion decisions ratio further decreased to 0.0343 in 2016 but slightly increased to 0.0829 in 2017. However, in 2018, the Expansion decisions ratio increased to a value of 2.63. The general analyzed trend of Expansion decisions ratio was an increase from 0.125 from the period 2013 to the period 2018, an indication that the firms are investing in more fixed assets.

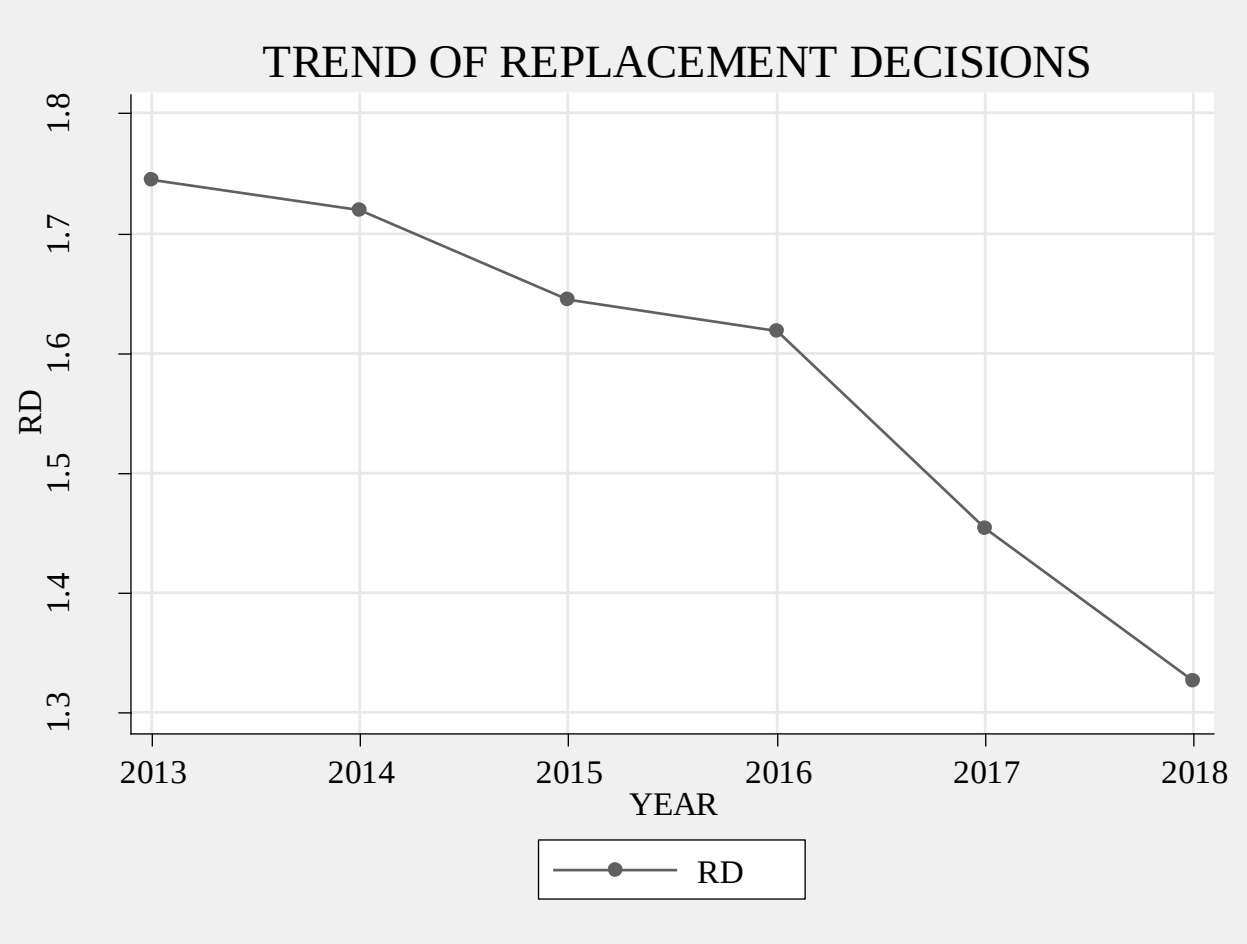

Figure 4.5 Analyzed trend of Replacement decisions

Source: Study data (2022)

Figure 4.5 portrays the analyzed trend of Replacement decisions of the firms spanning the years 2013 to 2018. The Replacement decisions ratio decreased from 1.744 to 1.719 from the period 2013 to the period 2014 before decreasing to 1.645 in 2015. The Replacement decisions ratio further decreased to 1.618 in 2016 to 1.454 in 2017. In 2018, the Replacement decisions ratio decreased to a value of 1.327. The general analyzed trend of Replacement decisions ratio was a decline from 1.744 in 2013 to a value of 1.327 in 2018, an indication that the firms are slowly refraining from the decision to replace their fixed assets with new ones.

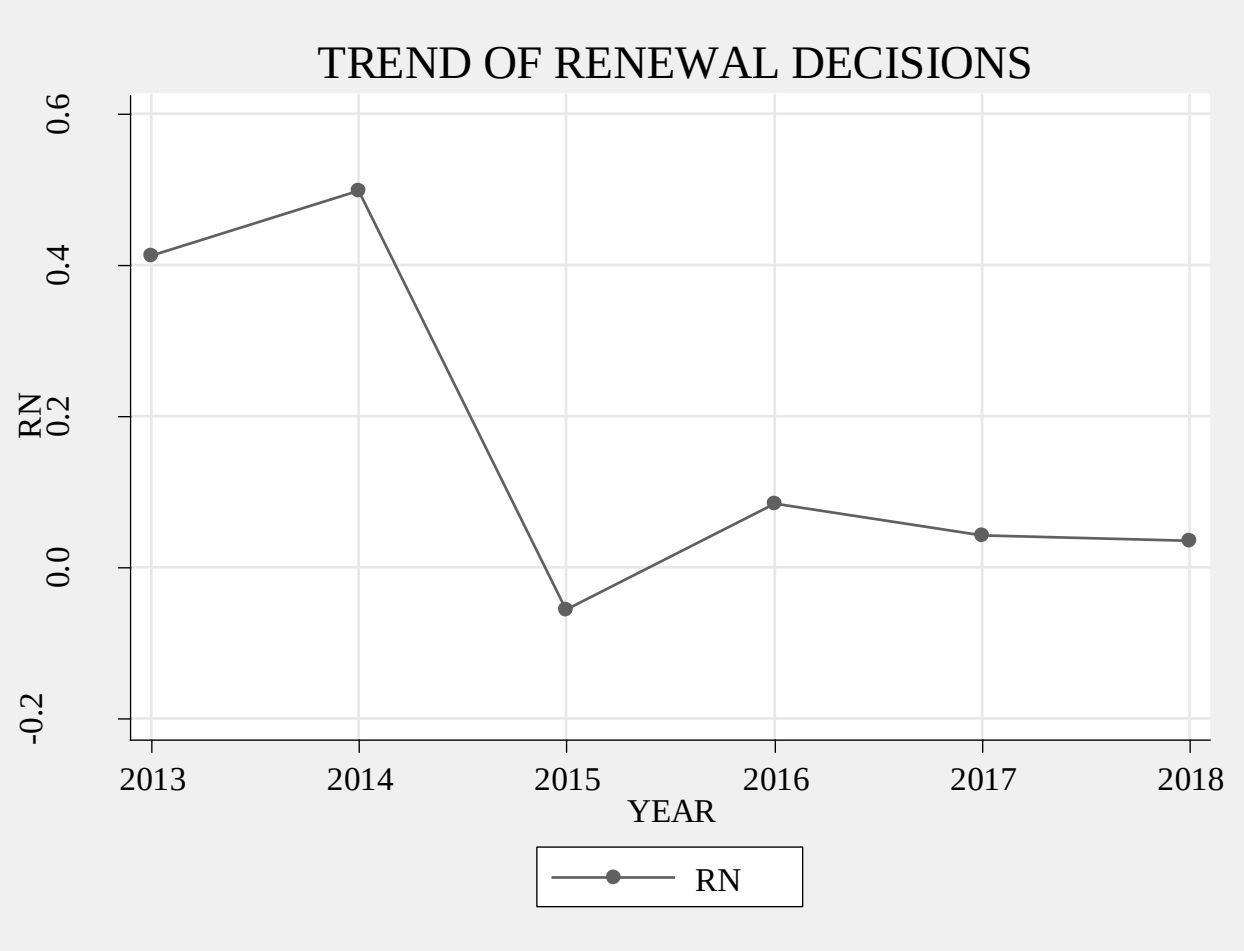

Figure 4.6 Analyzed trend of Renewal decisions

Source: Study data (2022)

Figure 4.6 portrays the analyzed trend of Renewal decisions of the firms spanning the years 2013 to 2018. The Renewal decisions ratio increased from 0.413 to 0.499 from the period 2013 to the period 2014 before decreasing to -0.0553332 in 2015. The Renewal decisions ratio However, increased to 0.084 in 2016 and a slight decrease to 0.0435 in 2017. In 2018, the Renewal decisions ratio slightly decreased to a value of 0.0353. The general analyzed trend of Renewal decisions ratio was a decline from 0.413 in 2013 to a value of 0.0353 in 2018, an indication that the firms were trying to minimize their maintenance costs on Property, Plant and Equipment with the goal of higher profits.

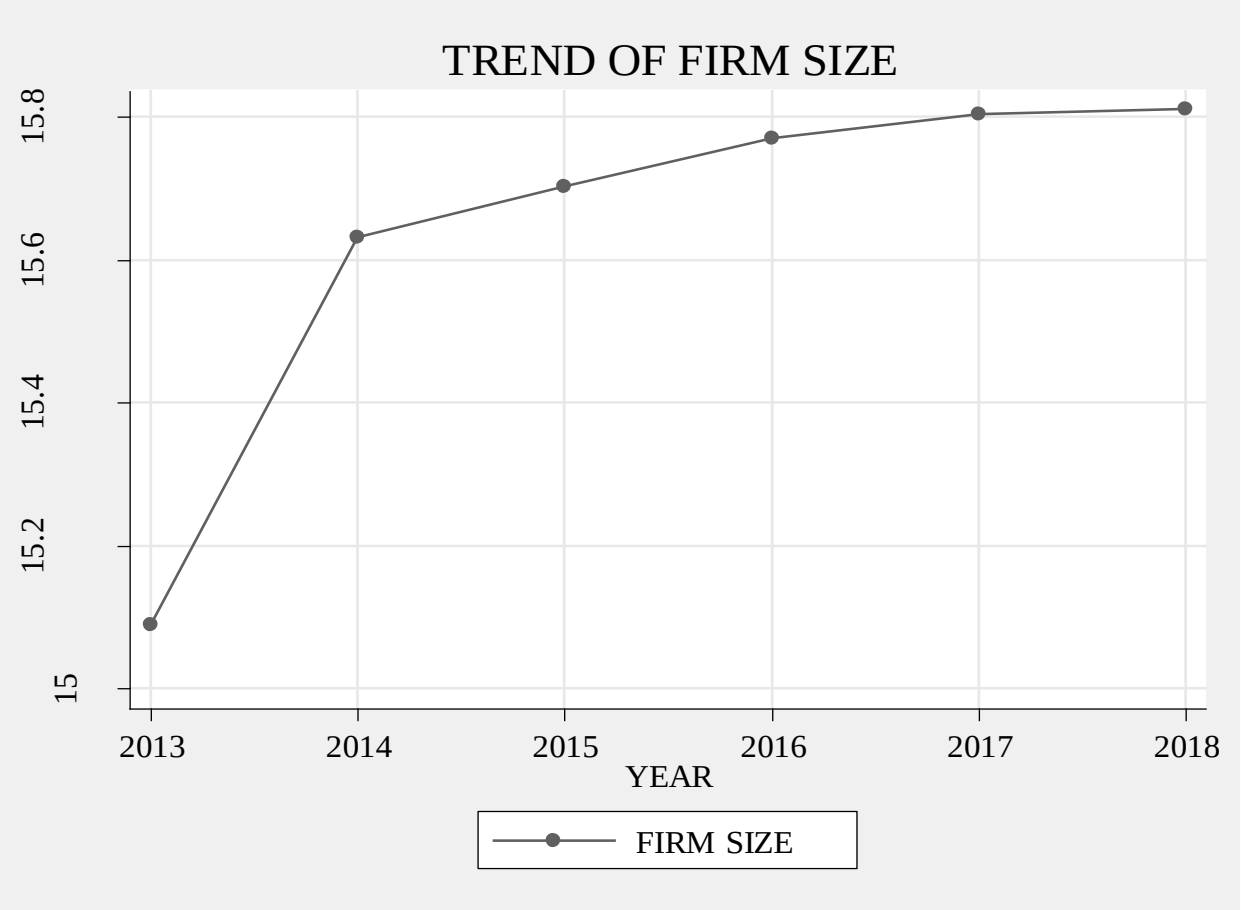

Figure 4.7 Analyzed trend of Firm size

Source: Study data (2022)

Figure 4.7 portrays the analyzed trend of Firm size of the firms spanning the years 2013 to 2018. The natural logarithm of total assets ratio increased from 15.09 to 15.63 from the period 2013 to the period 2014 before increasing to 15.70 in 2015. The natural logarithm of total assets ratio continued to increase to 15.77 in 2016 and a slight increase to 15.80 in 2017. In 2018, the natural logarithm of total assets ratio slightly increased to a value of 15.81. The general analyzed trend of natural logarithm of total assets ratio was an improvement from 15.09 in 2013 to a value of 15.81 in 2018, an indication that the size of the firms was increasing.

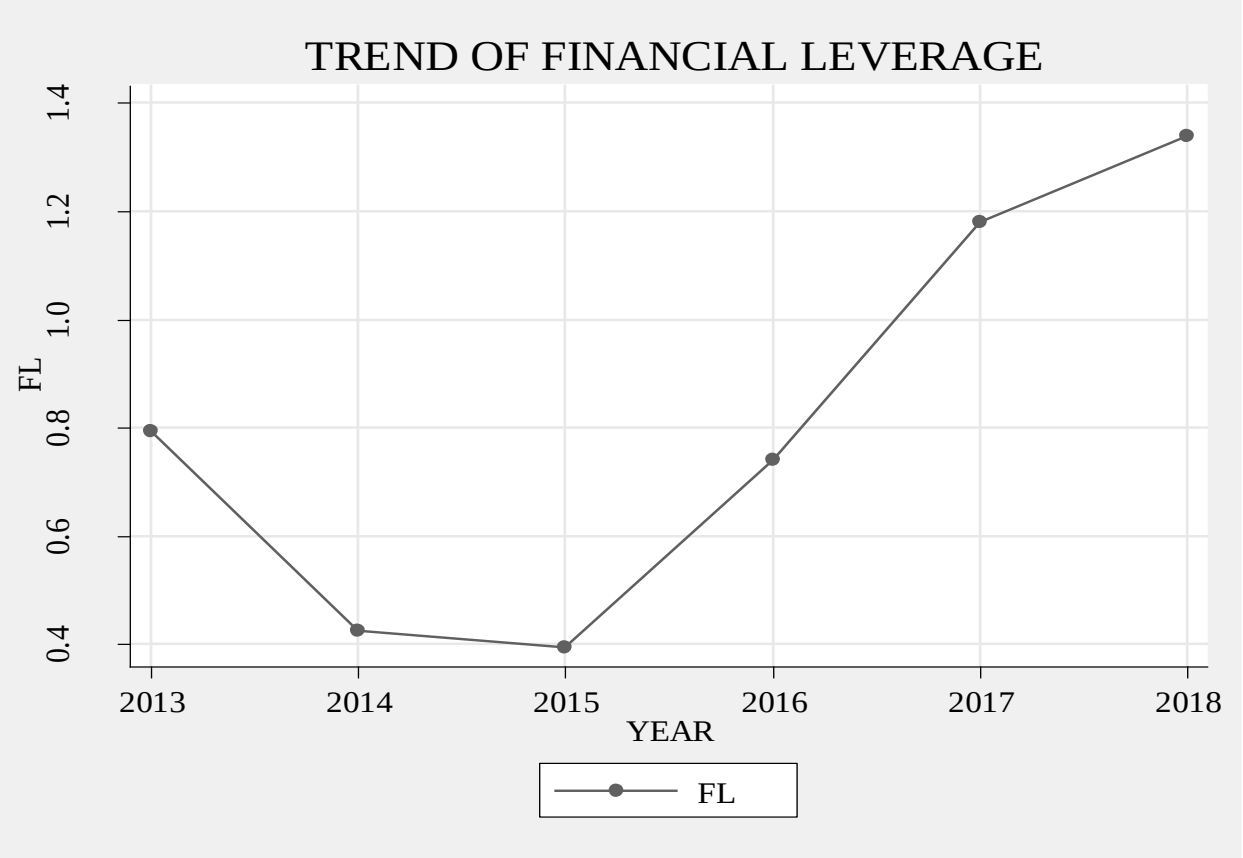

Figure 4.8 Analyzed trend of Financial Leverage

Source: Study data (2022)

Figure 4.8 portrays the analyzed trend of Financial Leverage of the firms spanning the years 2013 to 2018. The Financial Leverage decreased from 0.793 to 0.425 from the period 2013 to the period 2014 before decreasing to 0.393 in 2015. The Financial Leverage continued to increase to 0.740 in 2016 and a very high increase to 1.180 in 2017. In 2018, the Financial Leverage slightly increased to a value of 1.338. The general analyzed trend of Financial Leverage was an improvement from 0.793 in 2013 to a value of 1.338 in 2018, an indication that the firms are borrowing more long-term funds compared to their dependency on equity for investment in order to improve on their performance.

4.4 Diagnostic Tests

In order to ascertain the assumptions of CLRM, the necessity to conduct a variety of diagnostic tests was pertinent. This was mandatory so as to ensure the validity and reliability of conclusions obtained from the Data analysis process. Therefore, in this research study the diagnostic tests that were performed included: panel unit root test, multicollinearity, heteroscedasticity, autocorrelation, Model Specification Test and normality tests.

4.4.1 Results for Multicollinearity test

Table 4.2 portrays the variance inflation factors (VIF) and Tolerance values of the non-financial firms spanning the years 2013 to 2018. This values are used to explain the presence and level of collinearity in data.

Table 4.2 Variance Inflation factor and Tolerance results

Variable	Label	Variance inflation factor	Tolerance
Replacement decisions	RD	1.14	0.873447
Firm size	FS	1.14	0.877075
Financial leverage	FL	1.01	0.986718
Expansion decisions	ED	1.01	0.994514
Renewal decisions	RN	1.00	0.995298
Mean	Mean	1.06	0.94541

Source: Study data (2022)

The average VIF obtained as shown in table 4.2 was 1.06. This value was lesser than 10 depicting lack of multicollinearity in the data. The individual inflation factors obtained for the explanatory variables were also lesser than 10 with the highest being Replacement decisions and Firm size at 1.14. This therefore implies that there is lack of multicollinearity in all the individual explanatory variables. The average tolerance value obtained as shown in table 4.3 was 0.94541. This value is larger than 0.1, an indication that there is lack of multicollinearity in the data. The individual

tolerance values obtained for the explanatory variables are also greater than 0.1 with the highest tolerance value of 0.995298 observed for Renewal decisions implying therefore that there is lack of multicollinearity in all the individual explanatory variables

4.4.2 Results for Heteroscedasticity test

This research study used the Breusch Pagan test (BPT) and the White (WT) test for heteroscedasticity to examine heteroscedasticity in the study data. The default hypothesis adapted indicated that there is homoscedasticity in the error variance. Detailed results obtained for the Breusch Pagan test (BPT) and the White test (WT) are shown in Table 4.3 and Table 4.4. The Breusch Pagan test obtained a Probability Figure of 0.9688 which was greater than 0.05 consequently the null hypothesis failed to be rejected depicting the presence of homoscedasticity.

Table 4.3: Breusch pagan test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity
Ho: Constant variance
chi2(1) = 0.00
Prob > chi2 = 0.9688

Source: Study data (2022)

The White test obtained a Probability Figure of 0.9763 which was greater than 0.05 consequently the null hypothesis also failed to be rejected, depicting the presence of homoscedasticity.

Table 4.4: White test for Heteroskedasticity

Source	chi2	df	p
Heteroscedasticity	9.50	20	0.9763
Skewness	4.74	5	0.4487
Kurtosis	4.37	1	0.0366
Total	18.61	26	0.8525

Source: Study data (2022)

4.4.3 Results for Autocorrelation test

Breusch Godfrey Langrangian Multiplier test (BGLMT) was used to examine serial autocorrelation in the model. The default hypothesis adapted indicated that panel data had no serial autocorrelation in the error term. The results obtained are shown in Table 4.5. The chi-square value obtained was 0.0143 which is smaller than 0.05 implying rejection for the null hypothesis. Therefore, this necessitated correction of the CLRM assumption using FGLS regression since the data indicated the presence of autocorrelation.

Table 4.5: Breusch- Godfrey Langrangian multiplier test

lags(p)	chi2	df	Prob > chi2
1	6.000	1	0.0143

H0: no serial correlation

Source: Study data (2022)

4.4.4 Results for Normality test

The study applied the Jarque-Bera test enhancing the study by Jarque and Bera (1981). The null hypothesis was that the error disturbances had a normal distribution. In case the Probability Figure reduced to below 5 percent, then the null hypothesis was rejected and therefore the need to use a non-parametric test. The Jarque Bera test results are shown in Table 4.6. The Probability Figure

obtained was 0.7942, consequently the null hypothesis failed to be rejected, implying the data was normally distributed.

Table 4.6: Jarque-Bera test

Jarque-Bera normality test:		
0.4609	Chi(2)	0.7942
Jarque-Bera test for Ho: normality:		

Source: Study data (2022)

4.4.5 Results for Panel unit root test

This research study analyzed panel data which was composed of cross sectional and time series data. The nature of time series data brings about the concept of non-stationarity of data which was tested for using the Levin Lin Chu Unit root test. The results for the Levin Lin Chu Unit root test for the variables in level and their first differentials are presented in table 4.7.

Table 4.7 Levin Lin Chu unit root test

Label	Variable	Statistic	Probability Figure
ROA	Return on assets	-32.8941	0.0022
D.ROA	First Difference of Return on assets	-1.3511	0.1678
MBR	Market share price to Book share price ratio	-44.7873	0.0123
D.MBR	First Difference of market share price to book share price ratio	-2.6074	0.5787
FATR	Fixed assets turnover ratio	-31.4686	0.0324
D.FATR	First Difference of fixed assets turnover ratio	-1.8579	0.2760
ED	Expansion decisions	-21.0378	0.0111
D.ED	First Difference of Expansion decisions	-3.8737	0.0790
RD	Replacement decisions	17.0270	0.0167
D.RD	First Difference of Replacement decisions	-1.7229	0.0980
RN	Renewal decisions	-121.0378	0.0412
D.RN	First Difference of Replacement decisions	-1.7229	0.2340
FS	Firm size	-791.0378	0.0345
D.FS	First Difference of Firm size	-0.9545	0.3460
FL	Financial Leverage	-521.0378	0.0023
D.FL	First Difference of Financial Leverage	-1.4947	0.2765

Source: Study data (2022)

The Probability Figures obtained for ROA, MBR, fixed asset turnover, Expansion decisions, Replacement decisions, Renewal decisions, Firm size and Financial Leverage, as shown in table 4.7, are lesser than 5 percent (0.05), consequently we reject the null hypothesis which states that ROA, MBR, fixed asset turnover ratio, Expansion decisions, Replacement decisions, Renewal decisions, Firm size and Financial Leverage respectively have a unit root. The Probability Figures obtained for the first differential of ROA, MBR, Fixed Asset Turnover, Expansion decisions, Replacement decisions, Renewal decisions, Firm size and Financial Leverage respectively as shown in table 4.7 are above 5 percent (0.05), consequently we fail to reject the null hypothesis which states that ROA, MBR, Fixed Asset Turnover, Expansion decisions, Replacement decisions, Renewal decisions, Firm size and Financial Leverage have a unit root. Therefore, this research study concluded that the variables used for the regression model were the variables at their first level that did not have unit root. The variables at the first difference were not used to run the regression model.

4.4.6 Results for Model Specification Test

A fixed effects model or a random effects model was chosen for the research study. However, this choice was guided by Model Specification Test (Lee & Okui, 2011). The null hypothesis of the test was that random effects model was preferable to fixed effects model while the alternate hypothesis adapted indicated that the fixed effects model was preferable to random effects model. The Model Specification Test for ROA indicated a chi-square value of 4.42 with a Probability Figure of 0.4913 which is larger than 0.05 consequently the conclusion that the null hypothesis failed to be rejected. These results are represented in table 4.8. Therefore, this research study used the random effects model for ROA.

Table 4.8 Hausman ROA test

	Coefficients			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
Variable	fe	re	Difference	S.E.
ed_lag1	0.0015486	0.0006334	0.0009152	0.0030034
rd_lag1	0.0142204	0.0055245	0.0086959	0.0104484
rn_lag1	-0.0146988	-0.0159049	0.0012062	0.0017528
FS	-0.02143	0.0104263	-0.0318563	0.0341402
FL	-0.0063364	-0.0080959	0.0017595	0.0015765
Chi Square (6) = (b-B)'[(V _b-V _BY'(-l)](b-B) = 4.42				Prob>chi2 = 0.4913

Source: Study data (2022)

The Model Specification Test in table 4.9 for MBR indicated a chi-square value of 9.08 with a Probability Figure of 0.136 which is larger than 0.05 consequently the conclusion that the null hypothesis failed to be rejected. Therefore, this research study used the random effects model for MBR.

Table 4.9: Hausman MBR test

	Coefficients			
Variable	(b)	(B)	(b-B)	sqrt(diag(V_b-
	fe	re	Difference	S.E.
ed_lag1 |	-0.5778773	-0.6221065	0.0442292	.
rd_lag1 |	-3.638692	-5.879551	2.240859	3.65824
rn_lag1 |	-1.471947	-0.6024085	-0.8695382	0.43831
FS|	3.392691	3.18382	0.2088709	11.00897
FL |	-3.612797	-1.81592	-1.796876	0.505907
Chi Square (6) = (b-B)'[(V _b-V _BY'(-l)](b-B) = 9.08				Prob>chi2 = 0.136

Source: Study data (2022)

The Model Specification Test in table 4.10 for fixed asset turnover ratio indicated a chi-square value of 6.80 with a Probability Figure of 0.1059 which is larger than 0.05, consequently the conclusion that the null hypothesis failed to be rejected. Therefore, this research study used the random effects model for FATR.

Table 4.10: Hausman FATR test

	Coefficients			
Variable	**(b)**	**(B)**	**(b-B)**	**sqrt(diag(V_b-**
	fe	**re**	**Difference**	**S.E.**
ed_lag1 |	0.4195553	0.4315057	-0.0119504	.
rd_lag1 |	0.0301956	-0.0458575	0.0760531	0.2201326
rn_lag1 |	-0.037332	0.0005114	-0.0378434	0.0328228
firmsize|	-2.294721	-0.0987752	-2.195946	0.8827868
fl |	-0.0438968	-0.0256511	-0.0182457	0.0311587
Chi Square (6) = (b-B)'[(V _b-V _BY'(-l)](b-B) = 6.80			Prob>chi2 = 0.1059	

Source: Study data (2022)

4.5 Correlation analysis

The study performed a correlation analysis in order to determine how the variables used in the objectives correlated. The results of the correlation were conducted at a confidence level of 95 percent and are presented in table 4.12 depicting the correlation between ROA and ED, RD, RN, FIRM SIZE and FL respectively; MBR and ED, RD, RN, FIRM SIZE and FL respectively; FATR and ED, RD, RN, FIRM SIZE and FL respectively.

It was observed as shown in table 4.11, that Expansion decisions and Firm size had a positive interrelation of 0.1280 and 0.1576 respectively with ROA of the firms. This is in accordance with Warrad and Omari (2015) who established that, as the firm increases its assets, its size is also likely

to increase therefore boosting the returns the firm earns. Replacement decisions, Expansion decisions and Financial Leverage posted a negative correlation of -0.1040, -0.1301 and -0.2888 respectively with the ROA of the firms. This corresponds with the results obtained by Tilehnouei and Shivaraj (2015) that the decision to replace an existing asset with a new one, maintain it or borrow funds comes with a cost consequently this may affect the returns of the firm negatively.

Table 4.11: Correlation analysis results for ROA

Variable|	roa	ed	rd	rn	firmsize	fl
roa |	1.0000					
ed |	0.1280	1.0000				
rd |	-0.1040	-0.0282	1.0000			
rn |	-0.1301	-0.0172	-0.0295	1.0000		
firmsize |	0.1576	-0.0037	-0.3707	0.0651	1.0000	
fl |	-0.2888	-0.0585	0.0996	0.0075	-0.0513	1.0000

Source: Study data (2022)

It was observed as shown in table 4.12, that Expansion decisions, Firm size and Financial Leverage depicted a positive interrelation of 0.0227, 0.1899 and 0.1680 respectively with MBR of the firms. This is in accordance with Ali and Altinkaya (2018) who established that as the firm increases its assets, its size is also likely to increase therefore improving the market value of the shares of a firm. When the firm borrows more funds to invest, its share capital will increase therefore increasing the Market to Book returns of the firm. Replacement decisions and Renewal decisions indicated a negative correlation of -0.2841 and -0.0092 respectively with the MBR of the firms. This corresponds with the results obtained by Tilehnouei and Shivaraj (2015) that the decision to replace an existing asset with a new one, maintain it or borrow funds to invest comes with a cost consequently this may affect its Financial Performance negatively.

Table 4.12: Correlation analysis results for MBR

Variable |	mbr	ed	rd	rn	firmsize	fl
mbr |	1.0000					
ed |	0.0227	1.0000				
rd |	-0.2841	-0.0282	1.0000			
rn |	-0.0092	-0.0172	-0.0295	1.0000		
firmsize |	0.1899	-0.0037	-0.3707	0.0651	1.0000	
fl |	0.1680	-0.0585	0.0996	0.0075	-0.0513	1.0000

Source: Study data (2022)

It was observed as shown in table 4.13 that Expansion decisions and Firm size depicted a positive interrelation of 0.0219 and 0.0090 respectively with fixed asset turnover ratio. This is in accordance with Warrad and Omari (2015) who established that as the firm increases its assets ,its size is also likely to increase therefore boosting the returns the firm earns from the fixed assets invested. Replacement decisions, Renewal decisions and Financial Leverage indicated a negative correlation of -0.0486, -0.0183 and -0.0410 respectively with the fixed asset turnover ratio. This corresponds with results obtained by Bivona *et al.*, (2015) that the decision to replace an existing asset with a new one, maintain it or borrow funds to invest comes with a cost consequently this may affect the returns the firm earns from the fixed assets invested.

Table 4.13: Correlation analysis results for FATR

Variable |	fatr	ed	rd	rn	firmsize	fl

fatr |	1.0000					
ed |	0.0219	1.0000				
rd |	-0.0486	-0.0282	1.0000			
rn |	-0.0183	-0.0172	-0.0295	1.0000		
firmsize |	0.0090	-0.0037	-0.3707	0.0651	1.0000	
fl |	-0.0410	-0.0585	0.0996	0.0075	-0.0513	1.0000

Source: Study data (2022)

4.6 Feasible Generalized Least Square Regression

According to Sarkar and Zhang (2013), Investment lagging is core since investment of the current period cannot be felt by firms in that current year. . Investment that a firm makes is felt in the next financial year after investment (Liurui & Yiwen, 2022). Therefore, this research study lagged Investment decisions by a period of one year so that the firms could get to experience the effect of the Investment decisions on their Financial Performance. From the diagnostic tests conducted in section 4.4, it was noted that the data indicated presence of autocorrelation. This necessitated running of Feasible Generalized Least Square (FGLS) for the ROA, MBR and FATR models. This was necessary in order to make the data to have zero correlation in order to uphold CLRM assumptions (Gujarati, 2003).

4.6.1 Feasible Generalized Least Square Regression for return on assets

The panel FGLS regression was performed in order to test the interrelation between Investment decisions and ROA. The null hypothesis that were tested for ROA are:

H_{01}: Expansion decisions have no significant effect on return on assets of the listed non-financial firms at the NSE.

H_{02}: Replacement decisions have no significant effect on return on assets of the listed non-financial firms at the NSE.

H_{03}: Renewal decisions have no significant effect on return on assets of the listed non-financial firms at the NSE.

H_{04}: Firm size has no significant effect on return on assets of the listed non-financial firms at the NSE.

H_{05}: Financial Leverage has no significant effect on return on assets of the listed non-financial firms at the NSE.

Table 4.14: FGLS test for ROA

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	-0.0100955	0.0309329	-0.33	0.744
rd_lag1 |	-0.0063515	0.0107193	-0.59	0.553
rn_lag1 |	-0.0251601	0.0076728	-3.28	0.001
firmsize |	0.0113935	0.0052032	2.19	0.029
fl |	-0.0166273	0.004004	-4.15	0.000
_cons |	-0.0845521	0.0899372	-0.94	0.347

Source: Study data (2022)

The results obtained as shown in table 4.14 in for hypothesis H_{01} at a confidence level of 95 percent indicated a coefficient of Expansion decisions of -0.0100955 and a Probability Figure of 0.744 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Expansion decisions have a negative non-significant effect on the return on assets of the firms. This is in agreement with results obtained by Cordis and Kirby (2017) who evaluated the effect of Expansion decisions on Financial Performance of listed non-financial firms at NASDAQ and New York Stock Exchange.

The results obtained for hypothesis H_{02} at a confidence level of 95 percent indicated a coefficient of Replacement decisions of -0.0063515 and a Probability Figure of 0.553 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This is in agreement with Ali and Altinkaya (2018) who evaluated the effect of Replacement decisions on Returns of manufacturing firms in Uganda from the period 2009 to 2013 and obtained a negative non-significant correlation between Replacement decisions and Returns of the firms. This therefore means that Replacement decisions have a negative non-significant effect on the ROA of the firms.

The results obtained for hypothesis H_{03} at a confidence level of 95 percent indicated a coefficient of Renewal decisions of -0.0251601 and a Probability Figure of 0.001 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Renewal decisions have a negative significant effect on the ROA of the firms. This corresponds to Nzewi, Chiekezie and Arachie (2016) who evaluated the effect of Renewal decisions on returns of 11 Aluminium firms in the state of Anumbra, Nigeria and obtained a negative significant relationship between Renewal decisions and Returns of the Aluminium firms.

The results obtained for hypothesis H_{04} at a confidence level of 95 percent indicated a coefficient of Firm size of 0.0113935 and a Probability Figure of 0.029 which is smaller than 0.05, an indication that the null hypothesis was rejected. This corresponds to Ali, Mukuru, Kihoro and Nzulwa (2016) who evaluated the effect of firm size on the Financial Performance of 176 firms in the manufacturing category and obtained a positive correlation between the variables. This therefore means that Firm size has a positive but significant effect on the ROA of the firms. The results obtained for hypothesis H_{05} at a confidence level of 95 percent indicated a coefficient of

Financial Leverage of -0.0166273 and a Probability Figure of 0.000 which is smaller than 0.05, an indication that the null hypothesis was rejected. This therefore means that Financial Leverage has a negative and significant effect on the ROA of the firms. This is in agreement with results obtained by Noghondari and Noghondari (2017) that Financial Leverage has a negative significant relationship with the ROA of the firm.

4.6.2 Feasible Generalized Least Square Regression for MBR

The panel FGLS regression was conducted so as to evaluate the interrelation between Investment decisions and MBR. The null hypothesis that were tested for market share price to book share price ratio are:

H_{01}: Expansion decisions have no significant effect on market share price to book share price ratio of the listed non-financial firms at the NSE.

H_{02}: Replacement decisions have no significant effect on market share price to book share price ratio of the listed non-financial firms at the NSE.

H_{03}: Renewal decisions have no significant effect on market share price to book share price ratio of the listed non-financial firms at the NSE.

H_{04}: Firm size has no significant effect on market share price to book share price ratio of the listed non-financial firms at the NSE.

H_{05}: Financial Leverage has no significant effect on market share price to book share price ratio of the listed non-financial firms at the NSE.

Table 4.15: FGLS test for MBR

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	-0.2308809	8.990662	-0.03	0.980
rd_lag1 |	-9.641889	3.115563	-3.09	0.002
rn_lag1 |	-0.635497	2.230112	-0.28	0.776
firmsize |	2.744617	1.512304	1.81	0.070
fl |	3.042488	1.163769	2.61	0.009
_cons |	-32.20167	26.14026	-1.23	0.218

Source: Study data (2022)

The results obtained as depicted in table 4.15 for hypothesis H_{01} at a confidence level of 95 percent indicated a coefficient of Expansion decisions of -0.2308809 and a Probability Figure of 0.980 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Expansion decisions have a negative non-significant effect on the market share price to book share price ratio of the firms. This is in agreement with results obtained by Taipi and Ballcocki (2017) who evaluated the effect of Expansion decisions on Financial Performance of Albanian firms spanning the years 2008 to 2015 and obtained a negative non-significant relationship between Expansion decisions and the non-financial firms' financial performance.

The results obtained for hypothesis H_{02} at a confidence level of 95 percent indicated a coefficient of Replacement decisions of -9.641889 and a Probability Figure of 0.002 which is smaller than 0.05, an indication that the null hypothesis was rejected. This therefore means that Replacement decisions have a negative significant effect on the market share price to book share price ratio of the firms. This therefore means that Replacement decisions have a negative significant effect on the market share price to book ratio of the firms.

The results obtained for hypothesis H_{03} at a confidence level of 95 percent indicated a coefficient of Renewal decisions of -0.635497 and a Probability Figure of 0.776 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Renewal decisions have a negative non-significant effect on the market share price to book ratio of the firms. This corresponds to Nzewi, Chiekezie and Arachie (2016) who evaluated the effect of Renewal decisions on returns of 11 Aluminium firms in the state of Anumbra, Nigeria and obtained a negative significant relationship between Renewal decisions and Returns of the Aluminium firms.

The results obtained for hypothesis H_{04} at a confidence level of 95 percent indicated a coefficient of Firm size of 2.744617 and a Probability Figure of 0.070 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Firm size has a positive but non-significant effect on the market share price to book ratio of the firms. The results obtained for hypothesis H_{05} at a confidence level of 95 percent indicated a coefficient of Financial Leverage of 3.042488 and a Probability Figure of 0.009 which is smaller than 0.05, an indication that the null hypothesis was rejected. This therefore means that Financial Leverage has a positive and significant effect on the MBR of the firms. This is in agreement with results obtained by Makori *et al.,* (2017) that Financial Leverage has a positive and significant effect on the market share price to book ratio of the firm.

4.6.3 Feasible Generalized Least Square Regression for fixed asset turnover ratio

The panel FGLS regression was conducted so as to test the interrelation between Investment decisions and FATR. The null hypothesis that were tested are:

H_{01}: Expansion decisions have no significant effect on fixed asset turnover ratio of the listed non-financial firms at the NSE.

H_{02}: Replacement decisions have no significant effect on fixed asset turnover ratio of the listed non-financial firms at the NSE.

H_{03}: Renewal decisions have no significant effect on fixed asset turnover ratio of the listed non-financial firms at the NSE.

H_{04}: Firm size has no significant effect on fixed asset turnover ratio of the listed non-financial firms at the NSE.

H_{05}: Financial Leverage has no significant effect on fixed asset turnover ratio of the listed non-financial firms at the NSE.

Table 4.16: FGLS test for FATR

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	-0.1422509	1.032973	-0.14	0.890
rd_lag1 |	-0.3964654	0.3579594	-1.11	0.268
rn_lag1 |	-0.2311638	0.2562264	-0.90	0.367
firmsize |	0.1739625	0.1737546	1.00	0.317
fl |	-0.1702178	0.13371	-1.27	0.203
_cons |	0.2951168	3.003358	0.10	0.922

Source: Study data (2022)

The results obtained as shown in table 4.16 for hypothesis H_{01} at a confidence level of 95 percent indicated a coefficient of Expansion decisions of -0.1422509 and a Probability Figure of 0.890 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore

means that Expansion decisions have a negative non-significant effect on the FATR of the firms. This is in agreement with Davis (2016) who evaluated the effect of Expansion decisions on profitability of assets and obtained a negative non-significant relationship between Expansion decisions and profitability of the assets.

The results obtained for hypothesis H_{02} at a confidence level of 95 percent indicated a coefficient of Replacement decisions of -0.3964654 and a Probability Figure of 0.268 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This is in agreement with Madusanka *et al.,* (2016) who evaluated the effect of Replacement decisions on Financial Performance of physical assets and obtained a negative non-significant correlation between Replacement decisions and Financial Performance. This therefore means that Replacement decisions have a negative non-significant effect on the FATR of the firms.

The results obtained for hypothesis H_{03} at a confidence level of 95 percent indicated a coefficient of Renewal decisions of -0.2311638 and a Probability Figure of 0.367 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Renewal decisions have a negative non-significant effect on the FATR of the firms. This corresponds to Nzewi, Chiekezie and Arachie (2016) who evaluated the effect of Renewal decisions on returns of 11 Aluminium firms in the state of Anumbra, Nigeria and obtained a negative relationship between Renewal decisions and Returns of the Aluminium firms.

The results obtained for hypothesis H_{04} at a confidence level of 95 percent indicated a coefficient of Firm size of 0.1739625 and a Probability Figure of 0.317 which is larger than 0.05, an indication

that the null hypothesis failed to be rejected. This therefore means that Firm size has a positive but non-significant effect on FATR of the firms. The results obtained for hypothesis H_{05} at a confidence level of 95 percent indicated a coefficient of Financial Leverage of -0.1702178 and a Probability Figure of 0.203 which is larger than 0.05, an indication that the null hypothesis failed to be rejected. This therefore means that Financial Leverage has a negative but non-significant effect on the FATR of the firms. These results correspond with the results obtained by Mwangi *et al.,* (2014) that Financial Leverage has a negative but non-significant effect on the interrelation between Financial Performance and financing decisions.

4.7 Moderation test results

This research study used the Baron and Kenny (1986) method to evaluate the moderating effect of firm size on the interrelation between Investment decisions and the non-financial firms' financial performance listed at the Nairobi securities market, Kenya. The results of the Baron and Kenny (1986) moderation test conducted are shown below. The first procedure according to Baron and Kenny (1986) was to determine whether Investment decisions and Firm size jointly explained Financial Performance. This was done earlier and the results obtained are shown and explained in section 4.6.1, 4.6.2 and 4.6.3 above. The result obtained is that Investment decisions and Firm size are significant in explaining the non-financial firms' financial performance listed at the Nairobi securities market, Kenya.

4.7.1 Regression results before moderation

4.7.1.1 Investment decisions, firm size and return on assets

It was observed as shown in table 4.17 that Expansion decisions depicted a positive interrelation of coefficient value of 0.0034512 with return on asset ratio of the firms. A Probability Figure of 0.859 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant effect on the ROA ratio of the non-financial firms listed at the Nairobi

securities market, Kenya, since the null hypothesis failed to be rejected. Replacement decisions depicted a positive interrelation of coefficient value of 0.0066465 with return on asset ratio of the firms. A Probability Figure of 0.644 was obtained which is larger than 0.05, an indication that Replacement decisions have a positive non-significant effect on the ROA of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a negative relationship of coefficient value of -0.0122568 with return on asset ratio of the firms. A Probability Figure of 0.020 was obtained which is smaller than 0.05, an indication that Renewal decisions have a negative significant effect on the ROA ratio of the firms, since the null hypothesis was rejected. Firm size depicted a positive interrelation of coefficient value of 0.0117485 with return on asset ratio of the firms. A Probability Figure of 0.267 was obtained which is larger than 0.05, an indication that Firm size has a positive but non-significant effect on the ROA ratio of the firms, since the null hypothesis failed to be rejected.

Table 4.18: Investment decisions, Firm size and Return on assets

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.0034512	0.0194367	0.18	0.859
rd_lag1 |	0.0066465	0.0143959	0.46	0.644
rn_lag1 |	-0.0122568	0.005251	-2.33	0.020
firmsize |	0.0117485	0.0105925	1.11	0.267
_cons |	-0.1286906	0.1752525	-0.73	0.463

Source: Study data (2022)

4.7.1.2 Investment decisions, firm size and market share price to book share price ratio

It was observed as shown in table 4.18 that Expansion decisions depicted a positive interrelation of coefficient value of 0.1211913 with MBR of the firms. A Probability Figure of 0.985 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -5.494996 with MBR of the firms. A Probability Figure of 0.208 was obtained which is larger than 0.05, an indication that Replacement decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a positive interrelation of coefficient value of 0.1716566 with MBR of the firms. A Probability Figure of 0.919 was obtained which is larger than 0.05, an indication that Renewal decisions have a positive non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected. Firm size depicted a positive interrelation of coefficient value of 3.51482 with return on asset ratio of the firms. A Probability Figure of 0.230 was obtained which is larger than 0.05, an indication that Firm size has a positive but non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected.

Table 4.18: Investment decisions, Firm size and MBR ratio

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.1211913	6.255118	0.02	0.985
rd_lag1 |	-5.494996	4.36073	-1.26	0.208
rn_lag1 |	0.1716566	1.684373	0.10	0.919
firmsize |	3.51482	2.930864	1.20	0.230
_cons |	-48.82106	48.83552	-1.00	0.317

Source: Study data (2022)

4.7.1.3 Investment decisions, firm size and fixed to assets turnover ratio

It was observed as shown in table 4.19 that Expansion decisions depicted a positive interrelation of coefficient value of 0.4395178 with fixed to assets turnover ratio of the firms. A Probability Figure of 0.400 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant effect on the ROA ratio of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -0.0442826 with return on asset ratio of the firms. A Probability Figure of 0.914 was obtained which is larger than 0.05, an indication that Replacement decisions have a negative non-significant effect on affect the fixed to assets turnover ratio of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a positive interrelation of coefficient value of 0.0121537 with fixed to assets turnover ratio of the firms. A Probability Figure of 0.932 was obtained which is larger than 0.05, an indication that Renewal decisions have a positive non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected. Firm size depicted a negative relationship of coefficient value of -0.085613 with fixed to assets turnover ratio of the firms. A Probability Figure of 0.806 was obtained which is larger than 0.05, an indication that Firm size has a negative but non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected.

Table 4.19: Investment decisions, Firm size and Fixed asset turnover ratio

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.4395178	0.5219904	0.84	0.400
rd_lag1 |	-0.0442826	0.4123589	-0.11	0.914
rn_lag1 |	0.0121537	0.1414759	0.09	0.932
firmsize |	-0.085613	0.3492687	-0.25	0.806
_cons |	3.567978	5.728353	0.62	0.533

Source: Study data (2022)

4.7.2 Regression results after moderation

4.7.2.1 Firm size as a moderator on the interrelation between Investment decisions and return on assets

It was observed as shown in table 4.20 that Expansion decisions depicted a positive interrelation of coefficient value of 0.2856427 with return on asset ratio of the firms. A Probability Figure of 0.311 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive and non-significant effect on the ROA ratio of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -0.1514021 with return on asset ratio of the firms. A Probability Figure of 0.036 was obtained which is smaller than 0.05, an indication that Replacement decisions have a negative significant effect on the return on asset ratio of the firms, since the null hypothesis was rejected.

Renewal decisions depicted a positive interrelation of coefficient value of 0.0335145 with return on asset ratio of the firms. A Probability Figure of 0.926 was obtained which is larger than 0.05, an indication that Renewal decisions have a positive non-significant effect on the return on asset ratio of the firms, since the null hypothesis failed to be rejected. The statistical interaction of

Expansion decisions and Firm size depicted a negative relationship of coefficient value of -0.0180082 with return on asset ratio of the firms. A Probability Figure of 0.317 was obtained which is larger than 0.05, an indication that the statistical interaction of Expansion decisions and Firm size has a positive but non-significant effect on the return on asset ratio of the firms, since the null hypothesis failed to be rejected.

The statistical interaction of Replacement decisions and Firm size depicted a positive interrelation of coefficient value of 0.010575 with return on asset ratio of the firms. A Probability Figure of 0.037 was obtained which is smaller than 0.05, an indication that the statistical interaction of Replacement decisions and Firm size has a positive and significant effect on the return on asset ratio of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis was rejected. The statistical interaction of Renewal decisions and Firm size depicted a negative relationship of coefficient value of -0.00278 with return on asset ratio of the firms. A Probability Figure of 0.896 was obtained which is larger than 0.05, an indication that the statistical interaction of Renewal decisions and Firm size has a positive but non-significant effect on the return on asset ratio of the firms, since the null hypothesis failed to be rejected.

Table 4.20: Firm size as a moderator on the interrelation between Investment Decisions and Return on assets

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.2856427	0.2821957	1.01	0.311
rd_lag1 |	-0.1514021	0.072311	-2.09	0.036
rn_lag1 |	0.0335145	0.3590146	0.09	0.926
ed_lagsize |	-0.0180082	0.0179941	-1.00	0.317
rd_lagsize |	0.010575	0.0050592	2.09	0.037
rn_lagsize |	-0.00278	0.0213293	-0.13	0.896
_cons |	0.0495334	0.0302007	1.64	0.101

Source: Study data (2022)

4.7.2.2 Firm size as a moderator on the interrelation between Investment decisions and market share price to book share price ratio

It was observed as shown in table 4.21 that Expansion decisions depicted a positive interrelation of coefficient value of 34.57027 with MBR of the firms. A Probability Figure of 0.689 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant effect on the MBR of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -66.72162 with MBR of the firms. A Probability Figure of 0.003 was obtained which is smaller than 0.05, an indication that Replacement decisions have a negative significant effect on the MBR of the firms, since the null hypothesis was rejected.

Renewal decisions depicted a negative relationship of coefficient value of -24.13781 with MBR of the firms. A Probability Figure of 0.826 was obtained which is larger than 0.05, an indication that Renewal decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected. The statistical interaction of Expansion decisions and Firm

size depicted a negative relationship of coefficient value of -2.181725 with MBR of the firms. A Probability Figure of 0.692 was obtained which is larger than 0.05, an indication that the statistical interaction of Expansion decisions and Firm size has a negative but non-significant effect on the MBR, since the null hypothesis failed to be rejected.

The statistical interaction of Replacement decisions and Firm size depicted positive interrelation of coefficient value of 4.261217 with MBR of the firms. A Probability Figure of 0.006 was obtained which is smaller than 0.05, an indication that the statistical interaction of Replacement decisions and Firm size has a positive and significant effect on the MBR, since the null hypothesis was rejected. The statistical interaction of Renewal decisions and Firm size depicted a positive interrelation of coefficient value of 1.43944 with MBR of the firms. A Probability Figure of 0.825 was obtained which is larger than 0.05, an indication that the statistical interaction of Renewal decisions and Firm size has a positive but non-significant effect on the MBR of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis failed to be rejected.

Table 4.21: Firm size as a moderator on the interrelation between Investment decisions and Market share price to book share price ratio

Variable|	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	34.57027	86.2672	0.40	0.689
rd_lag1 |	-66.72162	22.35456	-2.98	0.003
rn_lag1 |	-24.13781	109.7143	-0.22	0.826
ed_lagsize |	-2.181725	5.500689	-0.40	0.692
rd_lagsize |	4.261217	1.563363	2.73	0.006
rn_lagsize |	1.43944	6.518204	0.22	0.825
_cons |	-0.2534548	9.316451	-0.03	0.978

Source: Study data (2022)

4.7.2.3 Firm size as a moderator on the interrelation between Investment decisions and fixed asset turnover ratio

It was observed as shown in table 4.22 that Expansion decisions depicted a positive interrelation of coefficient value of 3.060856 with fixed asset turnover ratio. A Probability Figure of 0.680 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant effect on the fixed asset turnover ratio of the firms, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -0.1110857 with fixed asset turnover ratio. A Probability Figure of 0.965 was obtained which is larger than 0.05, an indication that Replacement decisions have a negative non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a negative relationship of coefficient value of 2.185476 with FATR of the firms. A Probability Figure of 0.816 was obtained which is larger than 0.05, an indication that Renewal decisions have a negative non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected. The statistical interaction of Expansion decisions and Firm size depicted a negative relationship of coefficient value of -0.1673772 with return on asset ratio of the firms. A Probability Figure of 0.980 was obtained which is larger than 0.05, an indication that the statistical interaction of Expansion decisions and Firm size has a negative but non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected.

The statistical interaction of Replacement decisions and Firm size depicted a negative relationship of coefficient value of 0.0043895 with FATR of the firms. A Probability Figure of 0.980 was obtained which is larger than 0.05, an indication that the statistical interaction of Replacement

decisions and Firm size has a negative but non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected. The statistical interaction of Renewal decisions and Firm size depicted a negative relationship of coefficient value of -0.1291522 with FATR of the firms. A Probability Figure of 0.817 was obtained which is larger than 0.05, an indication that the statistical interaction of Renewal decisions and Firm size has a negative but non-significant effect on FATR of the firms, since the null hypothesis failed to be rejected.

Table 4.22: Firm size as a moderator on the interrelation between Investment decisions and fixed asset turnover ratio

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	3.060856	7.420611	0.41	0.680
rd_lag1 |	-0.1110857	2.565693	-0.04	0.965
rn_lag1 |	2.185476	9.372331	0.23	0.816
ed_lagsize |	-0.1673772	0.4729749	-0.35	0.723
rd_lagsize |	0.0043895	0.1774598	0.02	0.980
rn_lagsize |	-0.1291522	0.5568416	-0.23	0.817
_cons |	2.215479	1.037396	2.14	0.033

Source: Study data (2022)

4.7.3 Moderating summary results

Basing on the results obtained in section 4.7.1 and 4.7.2, the coefficient of Expansion decisions was positive and non-significant for all the Financial Performance models before and after moderation. The coefficient of Replacement decisions was positive and non-significant for the ROA model before moderation while it was negative and significant after moderation. The coefficient of Renewal decisions was negative and significant to the ROA models before moderation while it was positive and non-significant to the ROA model after moderation.

The coefficient of Expansion decisions was negative and non-significant to the market share price to book share price model while it was negative and significant after moderation. The coefficient of Replacement decisions was negative and non-significant to the market share price to book share price model while it was negative and significant after moderation. The coefficient of Renewal decisions was positive and non-significant to the market share price to book share price models before moderation while it was negative and non-significant after moderation. The coefficient of Replacement decisions has a negative but non-significant effect on the fixed to assets turnover ratio before and after moderation. The coefficient of Replacement decisions has a positive but non-significant effect on the return on asset ratio before moderation but the coefficient becomes negative and significant after moderation. The coefficient of Renewal decisions was positive and non-significant for the fixed to assets turnover ratio before moderation while it was negative and non-significant after moderation.

The coefficient of firm size was positive and non-significant for the return on asset models before moderation. The coefficient of firm size was positive and non-significant for the market share price to book share price model before moderation. The coefficient of firm size was negative and non-significant for the fixed asset turnover ratio model before moderation. The coefficient of the statistical interaction of Expansion decisions and firm size was negative and non-significant for the return on asset models after moderation. The coefficient of the statistical interaction of Replacement decisions and firm size was positive and significant for the return on asset models after moderation. The coefficient of the statistical interaction of Renewal decisions and firm size was positive and non-significant for the return on asset models after moderation.

The coefficient of the statistical interaction of Expansion decisions and firm size was negative and non-significant for the market share price model after moderation. The coefficient of the statistical interaction of Replacement decisions and firm size was positive and significant for the market share price model after moderation. The coefficient of the statistical interaction of Renewal decisions and firm size was positive and non-significant for the market share price model after moderation. The coefficient of the statistical interaction of Expansion decisions and firm size was negative and non-significant for the FATR model after moderation. The coefficient of the statistical interaction of Replacement decisions and firm size was negative and non-significant for the FATR model after moderation. The coefficient of the statistical interaction of Renewal decisions and firm size was negative and non-significant for the FATR model after moderation.

Basing on MacKinnon, Krull and Lockwood (2002) criteria of choice, if μ_4 to μ_6, in equation 3.8, 3.9, and 3.10 are not significant but μ_4 to μ_6 in equation 3.5, 3.6, and 3.7 are significant, therefore firm size is just independent. However, if μ_4 to μ_6, in equation 3.8, 3.9, and 3.10 are significant, then Firm size are moderators whose effect and direction are given by the μ_{is}. Based on this criteria, Firm size is just an independent variable and explains the interrelation between Investment decisions and the non-financial firms' financial performance listed at the Nairobi securities market, Kenya. Firm size does not moderate the interrelation between Investment decisions and the non-financial firms' financial performance listed at the Nairobi securities market, Kenya. These results concur with results obtained by Ali, Mukuru, Kihoro and Nzulwa (2016) who conducted a research to evaluate the interrelation between Investment decisions and Financial Performance of 176 firms in the manufacturing category in and around Nairobi and obtained the result that firm size did not moderate the interrelation between Investment decisions and Financial Performance.

4.8 Mediating test with Financial Leverage as the mediating variable

This research study used the Baron and Kenny (1986) method to evaluate the mediating effect of financial leverage on the interrelation between Investment decisions and the non-financial firms' financial performance listed at the Nairobi securities market, Kenya. The first procedure according to Baron and Kenny (1986) was to estimate equations 3.2, 3.3 and 3.4 as the base models. This was necessary in so as to determine the effect of Investment decisions on Financial Performance of firms. This was done earlier and the results are shown and explained in section 4.6.1, 4.6.2 and 4.6.3. The coefficient of Expansion decisions was positive and non-significant for all the Financial Performance model. The coefficient of Replacement decisions was positive and non-significant for the ROA model. The coefficient of Renewal decisions was negative and significant for the ROA models.

The coefficient of Expansion decisions was negative and non-significant for the market share price to book share price model. The coefficient of Replacement decisions was negative and non-significant for the market share price to book share price model. The coefficient of Renewal decisions was positive and non-significant for the market share price to book share price model. Expansion decisions have a positive non-significant effect on the fixed to assets turnover ratio. Replacement decisions have a negative non-significant effect on the fixed to assets turnover ratio. Renewal decisions have a positive non-significant effect on the FATR.

Secondly, to evaluate the mediation, the study lead to equation 3.11 which evaluated the effect of Investment decisions on the Financial Leverage of the firm. The results of this research study are shown in Table 4.24. The result obtained is that Expansion decisions depicted a negative

relationship of coefficient value of -0.6760717 with Financial Leverage of the firms. A Probability Figure of 0.290 was obtained which is larger than 0.05, an indication that Expansion decisions have a negative non-significant effect on the Financial Leverage of the firms, since the null hypothesis failed to be rejected.

Replacement decisions depicted a positive interrelation of coefficient value of 0.2797028 with return on asset ratio of the firms. A Probability Figure of 0.178 was obtained which is larger than 0.05, an indication that Replacement decisions have a positive non-significant effect on the Financial Leverage of the firms, since the null hypothesis failed to be rejected. Renewal decisions depicted a negative relationship of coefficient value of -0.0173515 with return on asset ratio of the firms. A Probability Figure of 0.913 was obtained which is larger than 0.05, an indication that Renewal decisions have a negative non-significant effect on the Financial Leverage of the firms, since the null hypothesis failed to be rejected.

Table 4.23: Financial leverage as a dependent variable

Variable |	Coeff.	Std. Err.	t	P>|t|
ed_lag1 |	-0.6760717	0.6369105	-1.06	0.290
rd_lag1 |	0.2797028	0.2068463	1.35	0.178
rn_lag1 |	-0.0173515	0.1583017	-0.11	0.913
_cons |	0.4204524	0.3968686	1.06	0.291

Source: Study data (2022)

The third procedure was to include Financial Leverage as one of the explanatory variables in the research study. The results of this research study are shown in Table 4.24. Expansion decisions depicted a positive interrelation of coefficient value of 0.0003486 with ROA ratio of the firms. A Probability Figure of 0.986 was obtained which is larger than 0.05, an indication that Expansion

decisions have a positive non-significant effect on the ROA of the firms, since the null hypothesis failed to be rejected. Replacement decisions depicted a positive interrelation of coefficient value of 0.002074 with ROA ratio of the firms. A Probability Figure of 0.880 was obtained which is larger than 0.05, an indication that Replacement decisions have a positive non-significant effect on the ROA ratio of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a negative relationship of coefficient value of -0.0160253 with ROA ratio of the firms. A Probability Figure of 0.003 was obtained which is smaller than 0.05, an indication that Renewal decisions have a negative significant effect on the ROA ratio of the firms, since the null hypothesis was rejected. Financial Leverage depicted a negative relationship of coefficient value -0.0082962 with ROA ratio of the firms. A Probability Figure of 0.021 was obtained which is smaller than 0.05, an indication that Financial Leverage has a negative and significant effect on the ROA ratio of the non-financial firms listed at the Nairobi securities market, Kenya, since the null hypothesis was rejected.

Table 4.24: ROA explained by Financial leverage

Variable |	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.0003486	0.0193078	0.02	0.986
rd_lag1 |	0.002074	0.0137157	0.15	0.880
rn_lag1 |	-0.0160253	0.0054377	-2.95	0.003
fl |	-0.0082962	0.0035901	-2.31	0.021
_cons |	0.0715348	0.0304643	2.35	0.019

Source: Study data (2022)

The result obtained in Table 4.26 is that Expansion decisions depicted a negative relationship of coefficient value of -0.7055426 with MBR of the firms. A Probability Figure of 0.912 was obtained

which is larger than 0.05, an indication that Expansion decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -7.207107 with MBR of the firms. A Probability Figure of 0.077 was obtained which is larger than 0.05, an indication that Replacement decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a negative relationship of coefficient value of -0.6263638 with MBR of the firms. A Probability Figure of 0.723 was obtained which is larger than 0.05, an indication that Renewal decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected. Financial Leverage depicted a negative relationship of coefficient value of -1.899148 with MBR of the firms. A Probability Figure of 0.096 was obtained which is larger than 0.05, an indication that Renewal decisions have a negative non-significant effect on the MBR of the firms, since the null hypothesis failed to be rejected.

Table 4.25: MBR explained by Financial leverage

Variable|	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	-0.7055426	6.348594	-0.11	0.912
rd_lag1 |	-7.207107	4.080632	-1.77	0.077
rn_lag1 |	-0.6263638	1.765727	-0.35	0.723
fl |	-1.899148	1.142178	-1.66	0.096
_cons |	11.09492	8.566402	1.30	0.195

Source: Study data (2022)

The result obtained in Table 4.26 is that Expansion decisions depicted a positive interrelation of coefficient value of 0.431583 with FATR of the firms. A Probability Figure of 0.411 was obtained which is larger than 0.05, an indication that Expansion decisions have a positive non-significant

effect on the FATR of the firms, since the null hypothesis failed to be rejected. Replacement decisions depicted a negative relationship of coefficient value of -0.0322861 with FATR of the firms. A Probability Figure of 0.936 was obtained which is larger than 0.05, an indication that Replacement decisions have a negative non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected.

Renewal decisions depicted a positive interrelation of coefficient value of 0.0008358 with FATR of the firms. A Probability Figure of 0.996 was obtained which is larger than 0.05, an indication that Renewal decisions have a positive non-significant effect on the FATR of the firms, since the null hypothesis failed to be rejected. Financial Leverage depicted a negative relationship of coefficient value of -0.0251597 with FATR of the firms. A Probability Figure of 0.801 was obtained which is larger than 0.05, an indication that Financial Leverage has a positive and non-significant effect on the FATR of the firms, since the null hypothesis was rejected.

Table 4.26: FATR explained by Financial Leverage

Variable|	Coeff.	Std. Err.	z	P>|z|
ed_lag1 |	0.431583	0.5250905	0.82	0.411
rd_lag1 |	-0.0322861	0.4020402	-0.08	0.936
rn_lag1 |	0.0008358	0.1491463	0.01	0.996
fl |	-0.0251597	0.0998312	-0.25	0.801
_cons |	2.223906	0.9677982	2.30	0.022

Source: Study data (2022)

The coefficients of Expansion decisions (μ_1), Replacement decisions (μ_2) and Renewal decisions (μ_3) are not significant in equations 3.2, 3.3 and 3.4 except for the coefficient of Renewal decisions (μ_3) which is negatively significant on the ROA model (equation 3.2). The coefficients of Expansion decisions (μ_1), Replacement decisions (μ_2) and Renewal decisions (μ_3) are not

significant in equation 3.11. The coefficients of Expansion decisions (μ1), Replacement decisions (μ2) and Renewal decisions (μ3) are not significant in equation 3.12, equation 3.13 and equation 3.14 with the exception of coefficients of Renewal decisions (μ3) and coefficients of Financial Leverage (μ7) which are negatively significant.

According to mediation interpretation criteria by Baron and Kenny (1986), Financial Leverage therefore does not mediate the interrelation between Investment decisions and ROA, MBR and FATR respectively of the non-financial firms. These results agree with the results obtained by Noghondari and Noghondari (2017) who studied the interrelation between Investment decisions and Financial Performance of sixty non-financial firms listed at the Tehran stock Exchange from the period 2004 to the period 2014 and obtained the result that Financial Leverage does not mediate the interrelation between Investment decisions and Financial Performance.

4.9 Summarized hypothesis test results

This section presents a Summarized hypothesis test results conducted. The results are presented in order of the variable used as the dependent variable.

Table 4.27 Summarized FGLS hypothesis test results

Hypothesis	**Analysis Results (at 5% significance level)**	**Decision**	**Conclusion**
H_{01} on Expansion decisions and ROA	p=0.744, >0.05 (coeff=-0.0100955)	Failed to Reject	Negative non-significant effect on return on assets
H_{02} on replacement decisions and ROA	p=0. 553, >0.05 (coeff=-0.0063515)	Failed to Reject	Negative non-significant effect on return on assets
H_{03} on renewal decisions and ROA	p=0. 001, <0.05 (coeff=-0.0251601)	Rejected	Negative significant effect on return on assets

H_{01} on Expansion decisions and MBR	p=0.980, >0.05 (coeff=-0.2308809)	Failed to Reject	Negative non-significant effect on the market share price to book share price ratio
H_{02} on replacement decisions and MBR	p=0.002, <0.05 (coeff=-9.641889)	Rejected	Negative significant effect on the market share price to book share price ratio
H_{03} on renewal decisions and MBR	p=0.776, >0.05 (coeff=-0.635497)	Failed to Reject	Negative non-significant effect on the market share price to book share price ratio
H_{01} on Expansion decisions and FATR	p=0.890, >0.05 (coeff=-0.1422509)	Failed to Reject	Negative non-significant effect on the Fixed asset turnover ratio
H_{02} on replacement decisions and FATR	p=0.268, >0.05 (coeff=-0.3964654)	Failed to Reject	Negative non-significant effect on the Fixed asset turnover ratio
H_{03} on renewal decisions and FATR	p=0.367, >0.05 (coeff=-0.2311638)	Failed to Reject	Negative non-significant effect on the Fixed asset turnover ratio

Source: Study data (2022)

Table 4.28 Summarized moderating test results

Moderating effect of Firm Size	**Analysis Results**	**Decision**	**Conclusion**
on the relationship between expansion decisions and return on assets , replacement decisions and return on assets and renewal decisions and return on assets	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant moderating effect
on the relationship between expansion decisions and market to book ratio, replacement decisions and market to book ratio and renewal decisions and market to book ratio	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant moderating effect
on the relationship between expansion decisions and fixed asset turnover ratio, replacement decisions and fixed asset turnover ratio and renewal decisions and fixed asset turnover ratio	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant moderating effect

Source: Study data (2022)

Table 4.29 Summarized mediating test results

Mediating effect of Financial Leverage	**Analysis Results**	**Decision**	**Conclusion**
on the relationship between expansion decisions and return on assets; , replacement decisions and return on assets; and renewal decisions and return on assets	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant mediating effect
on the relationship between expansion decisions and market to book ratio, replacement decisions and market to book ratio and renewal decisions and market to book ratio	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant mediating effect
on the relationship between expansion decisions and fixed asset turnover ratio, replacement decisions and fixed asset turnover ratio and renewal decisions and fixed asset turnover ratio	**Step 1**: Insignificant **Step 2**: Insignificant **Step 3**: Insignificant	**Failed to Reject**	No significant mediating effect

Source: Study data (2022)

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary, conclusions arrived at from the findings and recommendations as a result. This chapter finally presents future research suggestions.

5.2 Summary

The expectations of any stakeholder in a firm at the end of a quarter or a financial year is to earn dividends. However, this may not always be the case, since the firm may occasionally post losses. The retardation in the financial performance of non-financial firms is explained by imprudent investment decisions that the management settles upon. Previous researchers have however indicated that prudent investment decisions have led to good financial performance of non-financial firms, therefore creating a knowledge gap.

This study sought to investigate the effect of Investment decisions on the Financial Performance of these firms. The specific objectives of this research study were: to evaluate the effect of Expansion decisions, Replacement decisions and Renewal decisions on Financial Performance of listed non-financial firms at the NSE. This study also sought to establish the effect of firm size and financial leverage as a moderating and a mediating variables respectively on the relationship between Investment decisions and Financial Performance of these firms. The main theory underpinning this research study was the agency theory, supported by the Q theory of investments, accelerator theory of investments, financial constraint theory and the arbitrage pricing theory. This research study involved a census of 30 listed non-financial firms at the NSE as at December, 2018.

This research adapted an explanatory non-experimental research design with the main source of data for the study being secondary panel data. A positivism research philosophy and explanatory research design was used and the data was extracted from the NSE and Capital markets authority annual reports by use of document guide review, covering a 6-year period spanning the years 2013 to 2018. This research study analyzed data using descriptive statistics and regression analysis. Diagnostic tests conducted indicated the absence of multicollinearity. The variables were also found not to have a unit root with a normal distribution. The data indicated presence of homoscedasticity and autocorrelation. Model Specification Test was conducted to determine the suitability of either fixed or random effect model. Random effect model was found to be the suitable model for the study. The presence of autocorrelation necessitated the need to run a Feasible Generalized least square regression.

5.2.1 Expansion decisions and Financial Performance

From the FGLS regression hypothesis test results, it was observed that Expansion decisions have a negative non-significant effect on the Financial Performance (return on assets, market share price to book share price ratio) of the firms.

5.2.2 Replacement decisions and Financial Performance

From the FGLS regression hypothesis test results, it was observed that Replacement decisions have a negative non-significant effect on the return on assets and fixed assets turnover ratio of the firms. However, it was observed that Replacement decisions have a negative significant effect on the market share price to book share price ratio of the firms.

5.2.3 Renewal decisions and Financial Performance

From the FGLS regression hypothesis test results, it was observed that Renewal decisions have a negative significant effect on the return on assets of the non-financial firms listed at the Nairobi

securities market, Kenya. However, Renewal decisions were observed to have a negative non-significant effect on the market share price to book share price ratio and on the fixed asset turnover ratio.

5.2.4 Moderating effect of Firm size on the relationship between Investment decisions and Financial Performance

This research study adopted Baron and Kenny (1986) moderation steps. Basing on MacKinnon, Krull and Lockwood (2002) criteria of choice, Firm size is just an independent variable and explains the relationship between Investment decisions and the non-financial firms' financial performance. Firm size does not moderate the relationship between Investment decisions and the non-financial firms' financial performance.

5.2.5 Mediating effect of Financial Leverage on the relationship between Investment decisions and Financial Performance

According to mediation interpretation criteria by Baron and Kenny (1986), Financial Leverage does not mediate the relationship between Investment decisions and Financial Performance (return on assets, market share price to book share price ratio and fixed assets turnover ratio) respectively of the non-financial firms listed at the Nairobi securities market, Kenya.

5.3 Conclusions

Previous endeavors to boost the Financial Performance of non-financial firms has been retarded by unsound Investment decisions reached upon by their management. However, other previous studies have indicated that prudent investment decisions have led to an increase in the returns of the firm. Therefore, this research study evaluated the effect of Investment decisions on the financial performance of non-financial firms listed at the NSE.

The conclusion of the study is that the general analyzed trend of return on assets is a decline from the period 2013 to the period 2018, an indication that the Financial Performance as indicated by the return on assets of the firms is declining. This implies there is a decrease in profitability of the non-financial firms in the NSE, Kenya in relation to its total assets. The general analyzed trend of market share price to book share price ratio is an improvement from the period 2013 to the period 2018, an indication that the Financial Performance as indicated by the market share price to book share price ratio of the firms is increasing. This therefore implies that the stock of the non-financial firms in the NSE, Kenya is overvalued in relation to its net assets.

The amount of revenue generated from fixed assets invested by the firms is showing a decreasing analyzed trend spanning the years 2013 to 2018, indicating that the non-financial firms in the NSE, Kenya have a lower efficiency in utilizing the non-current assets of the firm to generate revenue. This data needs action from the management of the firms. However, these trends of financial performance are explained by a number of factors. Previous endeavors to boost the Financial Performance of non-financial firms has been retarded by unsound Investment decisions reached upon by their management (World Bank Group report, 2018). This study therefore sought to evaluate the effect of Investment decisions on the financial performance of non-financial firms listed at the NSE.

The first objective was to establish the effect of expansion decisions on the financial performance of non-financial firms listed at the NSE. From the FGLS regression hypothesis test results, it was observed that Expansion decisions have a negative non-significant effect on the Financial Performance (return on assets, market share price to book share price ratio and fixed asset turnover

ratio) of the firms. The negative effect implies that as the non-financial firms invest in more long-term assets, then their productive capacity decreases as a result of new operational costs introduced by the new assets. The management of these firms are not able to utilize these new long-term assets to generate profits to the firm. Instead, the burden of managing these assets to generate returns to the firm overburdens them and hence a negative effect of investment decisions on the financial performance of these firms.

The non-significant effect of expansion decisions on the financial performance of non-financial firms listed at the NSE, Kenya however implies that, although expansion decisions impact negatively on the returns of the non-financial firms, the effect is minimal and not alarming enough to discourage these firms from investing further in acquiring more long-term assets for the firm. These firms are however advised therefore to minimize their operational costs after acquiring more non-current assets. This firms are also advised to embrace economies of scale, implying that with more non-current assets, then the expectation is that the firm should have more returns at the end of a quarter or a financial year.

The second objective was to establish the effect of replacement decisions on the financial performance of non-financial firms listed at the NSE. From the FGLS regression hypothesis test results, it was observed that Replacement decisions have a negative non-significant effect on the return on assets and fixed assets turnover ratio of the firms. This result suggests that when new non-current assets are brought in to replace the existing unproductive assets, the firm experiences a decline the returns from the assets as a result of the phobia of change. The employees are still new to the technology that arrives with the new equipment. Some may even tend to resist change.

However, the management should invest in seminars and upgrading courses that can help the staff to embrace the new technology that comes with the new assets. Employees should be sensitized about the positive contribution that utilization of new equipment can bring. They should also be taught on how to utilize new technology to maximize returns. It was noted that the effect was non-significant implying that if the management can invest in upgrading courses and seminars before replacing long-term assets, then employees can embrace replacement decisions positively and the firm can as a result post good financial performance.

However, it was observed that Replacement decisions have a negative significant effect on the market share price to book share price ratio of the firms, an indication that the stock of the non-financial firms in the NSE, Kenya is undervalued in relation to its net assets. This therefore implies that when new assets replace the existing assets, their contribution to the share price is negative as a result of new operational costs that the business experiences. The market share price might be lower after making a replacement decision given the fact that investors are still cautious about change. It also implies that the market value of the firm is lesser compared to its book value due to loss of trust in the firm by the firm. This signifies that the non-financial firms listed at the NSE, Kenya are experiencing a decline in their financial performance as a result. Therefore, the management is advised to sensitize all stakeholders of the firm on the importance of replacing a given asset of the firm before making replacement decision.

The third objective was to establish the effect of renewal decisions on the financial performance of non-financial firms listed at the NSE. From the FGLS regression hypothesis test results, it was observed that Renewal decisions have a negative significant effect on the return on assets of the

non-financial firms listed at the Nairobi securities market, Kenya. This therefore, implies that the efforts by the management to maintain the assets of the firm creates more operational costs to the firm therefore having a negative significant effect on the returns of the firm. The management should therefore sensitize its stakeholders and employees before incurring maintenance costs on its non-current assets. The benefits of doing this will be to inform the stakeholders and employees how maintaining a given asset can contribute to an increase in the financial performance of the firm. Therefore, this given asset that has been renewed can be used especially by the employees as forecasted to maximize the returns of the firm.

However, Renewal decisions were observed to have a negative non-significant effect on the market share price to book share price ratio and on the fixed asset turnover ratio. The implication of this result is that maintenance costs incurred on the non-current assets of the firm in efforts to boost financial performance of the firm positively produce a contrary result. Renewal decisions impacted negatively on the market share price to book share price ratio and on the fixed asset turnover ratio. This result means that efforts by the management to improve on the productive capacity of the non-current assets of the firm results into undervaluation by the market. This result also means that the efficiency of the firm in utilizing non-current assets that have been maintained is low. However, this result was non-significant implying that the management should not be discouraged to improve on the productive capacity of the non-current assets. However, to avoid the negative impact of renewal decisions on the financial performance of the firms, they should sensitize stakeholders and employees of the firm on how to utilize the maintained assets to maximize returns of the firm.

The fourth objective was to establish the moderating effect of firm size on the relationship between investment decisions and the financial performance of non-financial firms listed at the NSE. From the FGLS regression hypothesis test results, it was observed that Firm size is just an independent variable and does not explain the relationship between Investment decisions and the non-financial firms' financial performance. The size of the firm does not affect nor influence the relationship between investment decisions and the financial performance of firms listed at the NSE, Kenya. The size of the firm was operationalized using the logarithm of total assets. This therefore implies that the returns of the firm are not solely influenced by the amount of total assets a firm has. Small firms which make good investment decisions can also end up posting good financial performance.

However, according to Mohamud, Elegwa and Nzulwa (2016), firm size moderated the relationship between management decisions and financial performance of manufacturing firms listed at the NSE, Kenya. This therefore implies that management can consider e increasing the total assets of the firm after they have started posting good financial performance so as to boost their economies of scale. However, the employees of the firm need to be educated on how to manage the assets to boost productivity. A sudden increase in the total assets of the firm can turn out to wastages in the firm and as a result low financial performance. Management needs to set up systems that can monitor and demand accountability of the total assets of the firm so as to ensure each and every asset contributes to the returns of the firm. But most importantly, managers should focus on making wise investment decisions before focusing on increasing the total assets of the firm. If prudent investment decisions are made, then managers of non-financial firms listed at the NSE, Kenya should consider the moderating effect of firm size on the relationship between investment decisions and the financial performance of the firms.

The fifth objective was to establish the mediating effect of financial leverage on the relationship between investment decisions and the financial performance of non-financial firms listed at the NSE. From the FGLS regression hypothesis test results, it was observed that Financial Leverage does not mediate the relationship between Investment decisions and the non-financial firms' financial performance. Investment decisions made by a firm. Firms need funs that can enable them to invest. The investment decisions that a manager makes are basically as a result of the funds available for investment. The sources of funds for investment can be the capital provided by the shareholders, retained earnings, capital from angel investors or from borrowings made by the firm from lenders. Firms prefer to result to borrowings as the last option as it is attached to repayment with interest.

However, if management can result to management of borrowings prudently by investing in projects that are viable and can generate positive returns for the firm, then the firm is encouraged to include them as one of their sources of capital. The hypothesis of this study is that financial leverage mediated the relationship between investment decisions and financial performance of non-financial firms listed at the NSE, Kenya. However, it was noted that financial leverage does not explain the relationship between investment decisions and the financial performance of the firms. There already existed a relationship between investment decisions and the financial performance of the firms. Financial leverage does not govern investment decisions. Firms can decide to invest in projects without using financial leverage. The investment decisions that a firm makes influence the financial performance of firms and does not need to depend therefore on the financial leverage in order to influence the financial performance of firms.

5.4 Recommendations of the Research study

5.4.1 Practice recommendations of the Research study

Managers stand to benefit a lot from this research study in regards to the running of the businesses. One of the findings of this research study is that Expansion decisions have a negative non-significant effect on the non-financial firms' financial performance. Therefore, this research study proposes that Managers should be keen on the Expansion Decision ratio of the firm at a given time as it negatively affects the Financial Performance of firms. However, since the effect is insignificant, management should monitor the ratio since previous authors have obtained a positive significant relationship between expansion decisions and financial performance (Ali & Altinkaya, 2018; Taipi & Ballcocki, 2017).

The non-significant effect of expansion decisions on the financial performance of non-financial firms listed at the NSE, Kenya however implies that, although expansion decisions impact negatively on the returns of the non-financial firms, the effect is minimal and not alarming enough to discourage these firms from investing further in acquiring more long-term assets for the firm. These firms are however advised therefore to minimize their operational costs after acquiring more non-current assets. This firms are also advised to embrace economies of scale, implying that with more non-current assets, then the expectation is that the firm should have more returns at the end of a quarter or a financial year.

The shareholders can also evaluate Replacement and Renewal decisions to determine if the management maintains the existing assets or replaces them before the end of their economic lifespan and the impact of this decision on the financial performance of the firm. The management

is advised to sensitize all stakeholders of the firm on the importance of replacing a given asset of the firm before making replacement decision. They should also sensitize stakeholders and employees of the firm on how to utilize the maintained assets to maximize returns of the firm. Shareholders should be among the first stakeholders to receive information from the management about the replacement decision and renewal decisions ratios respectively so as to enable them make them key decisions on the long-term assets of the firm. With updated information about these ratios, therefore, the long-term assets of the firm can be utilized maximally within their economic lifespan and as a result more positive returns for the firm.

5.4.2 Policy recommendations of the Research study

This research study also concluded that Replacement decisions and Renewal decisions have a negative non-significant effect on the non-financial firms' financial performance. Investors will also be in a good position to evaluate the investment patterns of the firms they to choose to invest in. By assessing the behavior of Replacement and Renewal decisions of firms, investors are able to know when the firm is misusing its resources by not repairing them in time or when new assets are being bought to replace existing assets that are still productive for the firm, hence choosing wisely where to invest.

This therefore implies that when new assets replace the existing assets, their contribution to the share price is negative as a result of new operational costs that the business experiences. It also implies that the market value of the firm is lesser compared to its book value due to loss of trust in the firm by the firm. This signifies that the non-financial firms listed at the NSE, Kenya are experiencing a decline in their financial performance as a result. Therefore, the management is

advised to sensitize all stakeholders of the firm on the importance of replacing a given asset of the firm before making replacement decision.

This research study will be of importance to various financiers of the firm. Before lenders give their money to the firm, they can evaluate the Expansion decisions. This research study observed that Expansion decisions have a negative non-significant effect on the non-financial firms' financial performance. By evaluating the Expansion Decision of firms, the lenders will have carried out a precautionary move against the possibilities of lending to firms whose return on new fixed assets forecast is not promising. Financiers will prefer to lend to firms that have the ability to repay the borrowings. The ability to repay depends on the ability of the firm to generate positive returns from the firm. Therefore, the firm must be able to clearly explain how it plans to utilize the funds borrowed, and which investment decisions they are planning to engage in and clearly convince the lenders that the firms will be prudently utilized to generate returns for the firm. Lenders also have a way of making a decision before lending. The financiers will also send representatives to the firm to perform a feasibility study on the viability of the expansion plans the firm is engaging in, and if they can bring in positive returns.

5.5 Suggestions for Future Research

From the results and recommendations obtained from this research study, various researchers are called upon to research on Investment decisions and Financial Performance of non-listed firms, small and medium firms and financial firms. The findings of the study if conducted will be beneficial to policy makers by enabling them to make investment policies that will improve the economy of the country.

These findings expanded the knowledge frontier on dimensions of context, methodology and conceptualization. The study provides evidence on the significant effect of replacement decisions and renewal decisions on financial performance. The study demonstrates the importance of Arbitrage pricing theory, Agency theory, and financial constraint theory in explaining the effect of Investment decisions on financial performance in the context of non-financial firms listed at the NSE.

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APPENDICES

APPENDIX I: NSE NON-FINANCIAL FIRMS

AGRICULTURE

Eaagads

Kapchorua Tea Co.

Kakuzi

Limuru Tea Co.

Rea Vipingo Plantations

Sasini

Williamson Tea Kenya

AUTOMOBILES AND ACCESSORIES

Car and General (K)

COMMERCIAL AND SERVICES

Express

Sameer Africa

Kenya Airways

Nation Media Group

Standard Group

TPS Eastern Africa (Serena)

Scangroup

Uchumi Supermarket

LongHorn Kenya Ltd

Atlas Development and Support Services

CONSTRUCTION AND ALLIED

Athi River Mining

Bamburi Cement

Crown Paints Kenya

E.A.Cables

E.A.Portland Cement

MANUFACTURING AND ALLIED

B.O.C Kenya

British American Tobacco Kenya

Carbacid Investments

East African Breweries

Mumias Sugar Co.

Unga Group

Eveready East Africa

Kenya Orchards

Flame Tree Group Holdings

ENERGY AND PETROLEUM

Kengen

Kenol kobil

Kenya power

Total

Umeme

Source: NSE reports (2019)

APPENDIX II: NACOSTI RESEARCH LICENSE

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APPENDIX III: TABLE A1: LIST OF FIRMS SELECTED FOR THE RESEARCH STUDY

SECTOR	FIRM
AGRICULTURE	1. KAKUZI 2. KAPCHORUA 3. LIMURU 4. REA VIPINGO 5. SASINI 6. WILLIAMSON TEA
COMMERCIAL AND SERVICES	7. EXPRESS 8. KENYA AIRWAYS 9. LONGHORN PUBLISHERS 10. WPP SCANGROUP 11. STANDARD GROUP 12. TPS EASTERN AFRICA 13. SAMEER AFRICA
MOBILE	14. CAR AND GENERAL
CONSTRUCTION AND ALLIED	15. ATHIRIVER MINING 16. BAMBURI CEMENT 17. CROWN BERGER 18. EAST AFRICAN CABLES 19. EAST AFRICAN PORTLAND CEMENT
ENERGY AND PETROLEUM	20. KENGEN 21. KENOL KOBIL 22. KENYA POWER 23. TOTAL 24. UMEME
MANUFACTURING AND ALLIED	25. BAT 26. BOC 27. CARBACID 28. EABL 29. MUMIAS SUGAR 30. UNGA GROUP

Source: NSE reports (2019)

APPENDIX IV: TABLE A2: DATA COLLECTION GUIDE (DOCUMENT REVIEW GUIDE)

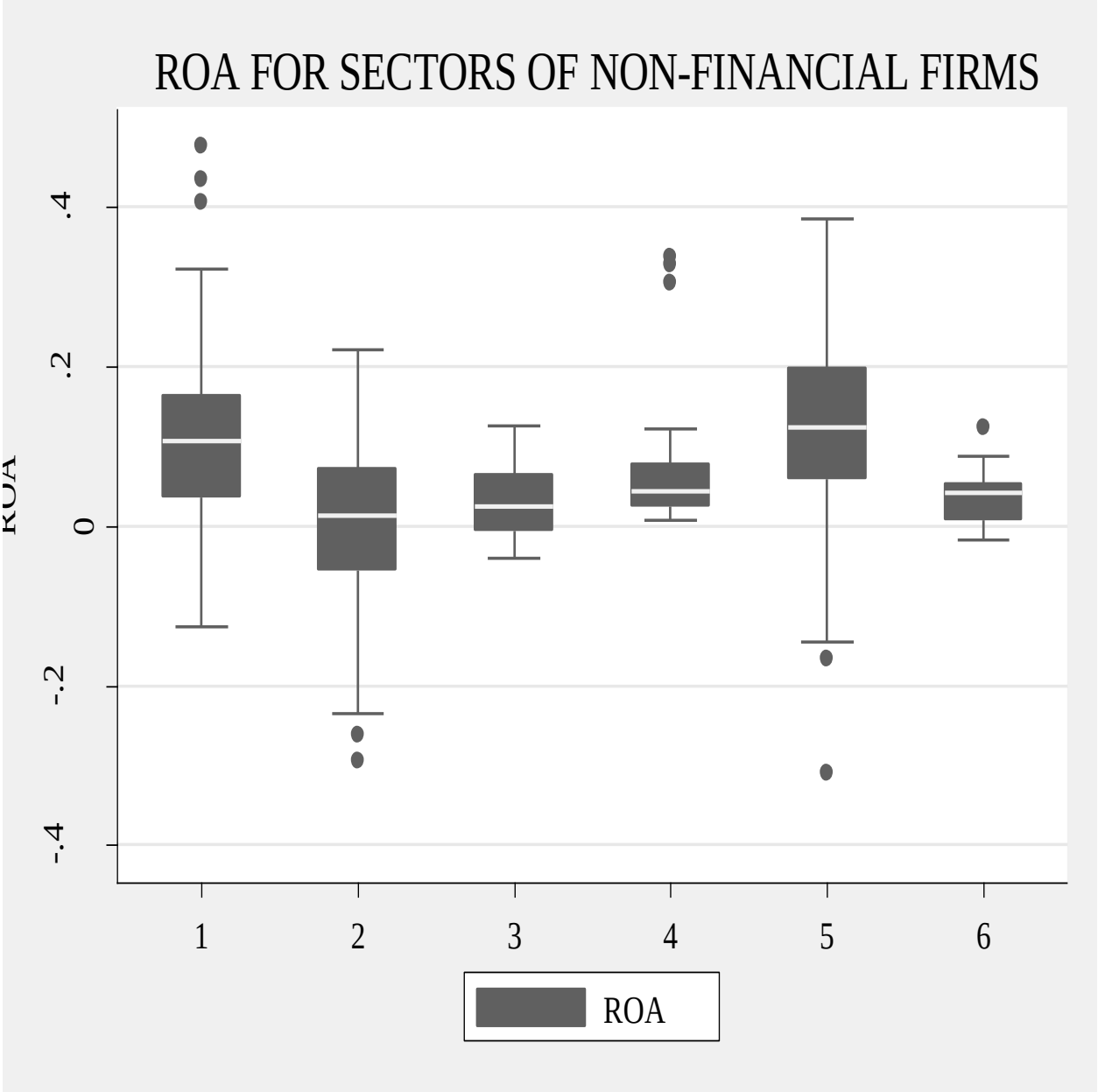
NAME OF FIRM_____ SECTOR_____

	2013	**2014**	**2015**	**2016**	**2017**	**2018**
EBIT						
Total assets						
Depreciated Fixed assets						
Total liabilities						
Market share price						
Net revenues						
Net Book value of PPE						
Market value of PPE						
Replacement value of PPE						
Maintenance costs of PPE						
Long-term Borrowings						
Equity						
Shares outstanding						

Source: Researcher (2022)

APPENDIX V: MEDIAN RESULTS OF ROA ACROSS SECTORS

FIGURE A1: BOX PLOTS OF ROA ACROSS SECTORS OF NON-FINANCIAL FIRMS

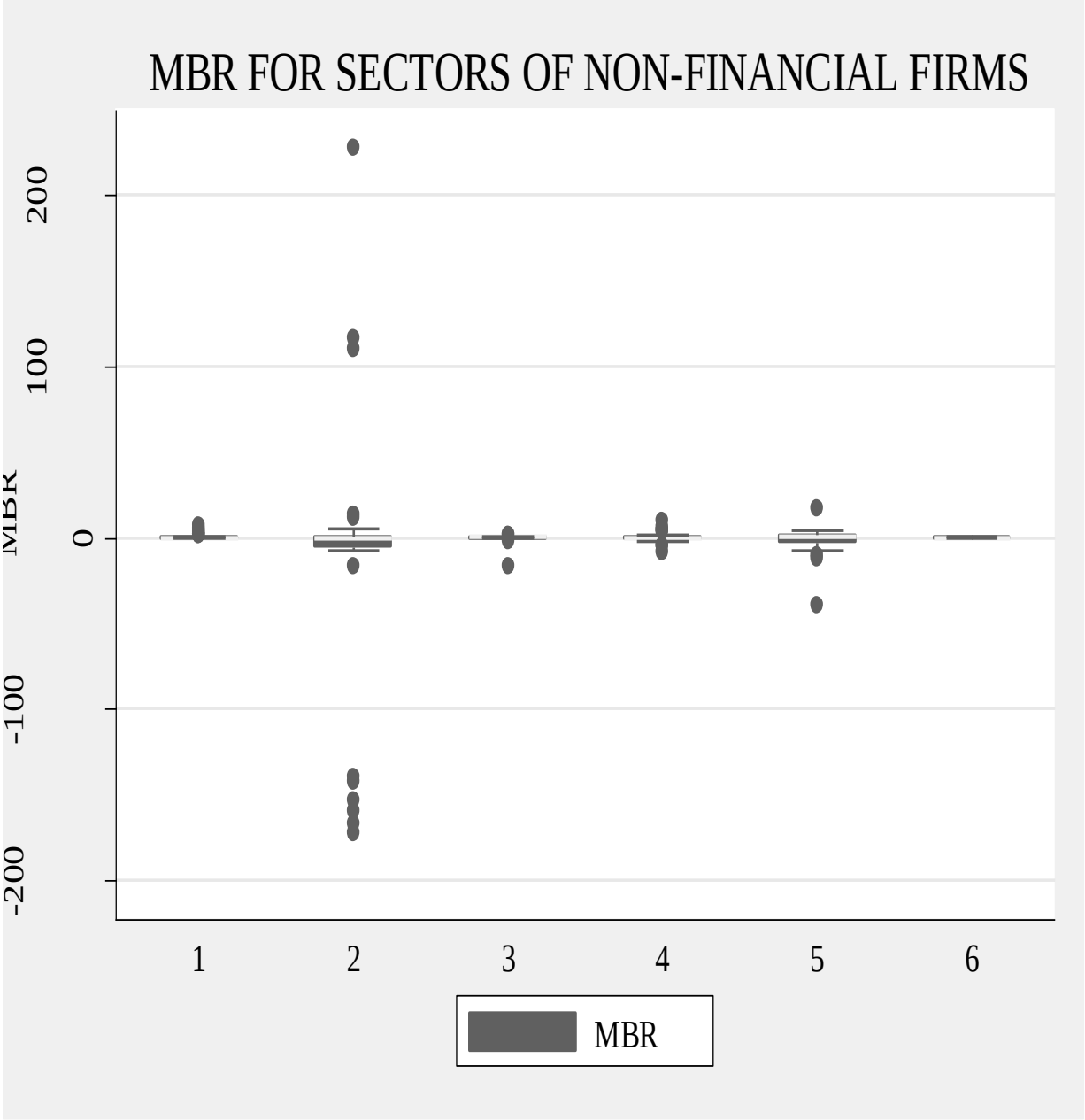


Source: Study data (2022)

Where:

1-Agriculture, 2-Commercial and Services, 3-Construction and Allied, 4-Energy and Petroleum, 5- Manufacturing and Allied, 6- Mobile and Accessories

FIGURE A2: BOX PLOTS OF MBR ACROSS SECTORS OF NON-FINANCIAL FIRMS



Source: Study data (2022)

Where:

1-Agriculture, 2-Commercial and Services, 3-Construction and Allied, 4-Energy and Petroleum, 5- Manufacturing and Allied, 6- Mobile and Accessories

FIGURE A3: BOX PLOTS OF FATR ACROSS SECTORS OF NON-FINANCIAL FIRMS

Source: Study data (2022)

Where:

1-Agriculture, 2-Commercial and Services, 3-Construction and Allied, 4-Energy and Petroleum, 5- Manufacturing and Allied, 6- Mobile and Accessories