

**INVESTMENT APPRAISAL TECHNIQUES AND FINANCIAL  
PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN NAIROBI  
CITY COUNTY, KENYA**

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**DECLARATION**

This research project is my original work and has not been presented for an award of degree or certificate at any University or college.

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**SUPERVISOR**

I confirm that the work reported in this Project was carried out by the candidate under my supervision.

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## **DEDICATION**

This research study is dedicated to my family and friends who encouraged me on throughout the entire Research Project period.

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## **OPERATIONAL DEFINITION OF TERMS**

**Accounting Rate Of Return (ARR):** It is also known as return on capital employed (ROCE). It is a non-discounted cash flow method that considers the total profitability of project over its entire life period. It computes proposal's annual net profit as a percentage of average initial investment.

**Financial performance:** It is the ability of the firm (SMEs) to provide financial reward sufficient to attract and retain financing (profitability), meet short term obligation (liquidity), meet long term obligations and generate future revenues (solvency) and generate positive market expectations (market).

**Internal Rate of Return (IRR):** It is the discounted cash flow method in which the discounted rate that causes the present value of net future cash flows to equal the cost of investments. It makes the NPV equal to zero. The decision rules involving IRR is that if the IRR is greater than cost of capital we should accept the project since it offers a higher return than the cost of financing the project.

**Investment Appraisal Techniques:** They include discounted and non-discounted cash flow methods. These are capital budgeting techniques for project appraisal which includes Accounting Rate of Return, payback period, Internal Rate of Return and Net Present Value

**Net Present Value (NPV):** The net present value method involves estimating a project's future cash flows discounting these cash flows at the firm's required rate of return (or cost of capital) and subtracting the cost of the investment from the present value. The decision rule adopted by the NPV method is therefore that a project is accepted if its NPV is greater than or equal to zero.

**Payback Period:** The payback period refers to the amount of time required for a firm to recover its initial investment in a project as calculated from cash inflows. Specifically it is explored as the number of years required to recover the funds invested in a project from its operating cash flows.

**Small and Medium Enterprises(SMEs):** The definition varies from one country to another depending on the economic structure .Small enterprises in Kenya are those that employ 10 to 50 workers with annual turnover between Kshs 500,000 and Kshs. 5 million. Medium enterprises are those that employ 50 to 100 workers with annual turnover of Kshs .80 million.

## **ABBREVIATIONS AND ACRONYMS**

<b>ARR</b>	Accounting Rate of Return
<b>DCF</b>	Discounted Cash Flow
<b>IFC</b>	International Finance Corporation
<b>IRR</b>	Internal Rate of Return
<b>KES</b>	Kenya Economic survey
<b>KIPPRA</b>	Kenya Institute of Public Policy and Research Analysis
<b>KNBS</b>	Kenya National Bureau of statistics
<b>NPV</b>	Net Present Value
<b>PBP</b>	Payback Period
<b>ROCE</b>	Return on capital employed
<b>SIDO</b>	Small Industrial Development Organization
<b>SME</b>	Small and Medium Enterprises
<b>UNDP</b>	United Nations Development Programme

## ABSTRACT

Small and Medium Enterprises play a major role in the social economic development of any country, however these enterprises face investment decision problems which inhibit their financial performance. Poor investment decisions have been blamed for high rate of failure and closure. Thus, the purpose of the study was to determine the effects of investment appraisal techniques and financial performance among small and medium enterprises in Nairobi County, Kenya. The objectives of the study were to: determine the effect of Accounting Rate of Return, payback period, Net Present Value and Internal Rate of Return on financial performance among small and medium enterprises in Nairobi County, Kenya. The information that provided by this research will benefit policymakers, community members and academicians. The study adopted cash flow theory of investment, Theory of Investment Decisions, Agency Theory and Q Theory of Investment. It adopted a descriptive survey research design with a target population of 71,195 licensed Medium Enterprises with Nairobi County. The sample size was 384 Small and Medium Enterprises. The researcher adopted cluster random sampling technique and collected data using questionnaires. The instruments were validated by the supervisors. Reliability of the instruments was determined through a pilot study where a Cronbach alpha coefficient of 0.7 was considered appropriate. Quantitative data was analyzed using descriptive statistics and inferential statistics and presented in tables. The study revealed that Accounting Rate of Return ( $t = 6.702, P < .05$ ), payback period ( $t = 16.489, P < .05$ ), Net Present Value ( $t = 3.295, P < .05$ ) and Internal Rate of Return ( $t = 2.133, P < .05$ ) significantly affect financial performance among SME's in Nairobi County, Kenya. Besides, these results imply that payback period is most ( $t = 16.489, P < .05$ ) important predictor for financial performance. The study recommends that the government and other service providers such as Small Industries Development Organization to focus more on the issue of investment decisions for small and medium enterprises. In particular, they should train small and medium enterprises on the investment evaluation techniques, their advantages and disadvantages in relation to their financial goals.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

Holmes and Nicholls (2009) in his study on SMEs in the UK summarize that management accounting information is associated with success and failure in SMEs depending upon how they are produced and 19 utilized in their companies. However, Horngren (2005) on his study on SME financial analysis standards in the USA argues that cost accounting or management accounting concepts and techniques are neutral instruments. It is not the cause of poor management but primarily symptoms since it may be used wisely or stupidly by managers of the firms.

Drury and Tayles (2005) on their study on financial reporting and investment analysis for SMEs in Canada, concludes that the same rules and procedures established for external reporting (financial accounting) are likely also to be applied to internal reporting (management accounting). Though external and internal reporting tend to employ the same rules, it does not mean that management accounting is subservient to financial accounting. The reason that most companies adopt the identical practices for both reporting systems is that firms prefer their internal profit to be reported consistently with external financial accounting requirements in order that they will be comparable with outsiders' assessments of overall company performance. In the other words, companies would like to be ensured that internal accounting system do not have any conflicts with external financial accounting requirements.

The other issue in management accounting practices is budgeting. Szychta (2002) in his study of manufacturing and service enterprises in Poland found that these enterprises prepare annual operating financial budgets for the whole enterprises. Also a complete or nearly complete master budget is prepared by a much smaller proportion of enterprises. The rest of them prepare sales, production and cost budgets. Unlike Polish companies, Japanese firms are less extensive in use of financial budgeting (Yoshikawa, et al., 1989). The key issues in internal reporting are addressed in monthly and annual reports. However, the inadequately related budgeting and reporting system indicated that many companies failed to use accounting information systematically for clearly defined and useful purposes (Haldma and Laats, 2002).

For performance measurement and evaluation, most companies based the measurement on different functions and product groups, to somewhat lesser extent on client groups and sales regions (Haldma and Laats, 2002). Net profit, rather than controllable profit, is widely used to evaluate the performance of divisional managers (Drury and Tayles, 1995) since it could be apparently measured in monetary value and, sometimes, it is not possible to allocate and designate which costs are controllable or uncontrollable for a particular manager.

In Small and Medium Enterprises (SME's), for both individual and overall economy, in order to reduce chances of collapse investment decisions becomes a requirement, thus, investment decisions are among the most important decisions to be made by the SME's as they influence the financial performance of the SMEs (Katabi & Dimoso, 2016).

Investment Appraisal Techniques remain sensitive in SME's investment decision as its planning guarantees knowledge on how the business finances look like and what to invest in without causing a strain on itself (Yaqub and Husain, 2010).

The SME sector is highly an essential sector in job creation and production of goods and services in numerous economies in the world and in China the undisputed second largest economy on Earth. Investment Appraisal Techniques used by the SME have been found to have a positive impact on financial performance, hence becomes a requirement in investment decision. Despite, the study, there exist some serious gaps in the previous studies regarding this research area (Chung &Huang, 2010). This is also evident in America, where a study on 88 American firms revealed a statistical significant relationship between the adoption of Investment Appraisal Technique and financial performance, thus a basis for investment decisions (Gill A.*et al*2010).

In Tanzania, decision among SMEs to invest in a given project is of great concern and therefore, calls for SMEs owners' training on advantages and disadvantages of various investment evaluation techniques such as the discounted and non-discounted Cash Flow methods (Isaga, 2012).

Despite their importance in the economy of the country, SMEs in Tanzania face problems such as finance and knowledge on the decision to invest which inhibit their growth and success (Katabi and Dimoso, 2016). Also it might be possible that if owners do not know how to make investment decisions and the link thereof between the financial goals and

investment decisions, even if they are given sufficient capital, businesses may continue having problems (Maziku, 2012).

UNDP (2015) indicates that in Kenya SMEs comprise of both formal and informal business, but a majority of the SMEs operate informally. These are concentrated within the urban centers due to better service and infrastructures as compared to the rural areas majority of the SMEs are traders while it is not uncommon to find business that operate within the same sphere. The high population in the urban center makes a ready market for the SMEs products and services, SMEs have a significant contribution to the national economy. Majority of the SMEs are a mixture of dynamic enterprises involved in an array of activities but largely within the service sector transport and communication, wholesale and retail trade, manufacturing, construction, finance, real estate, community and personal services and insurance (KIPPRA 2013 and KNBS 2014).

### **1.1.1 Investment Appraisal Techniques of SMEs in Kenya**

Investment Appraisal Techniques are tools which can assist owners or decision makers of SME's to evaluate and select investment projects/business (Mwarari and Ngugi, 2013). These techniques are grouped into two; discounted cash flow methods and non-discounted cash flow methods. According to Kilonzo (2011) Investment Appraisal Techniques such as Accounting Rate of Return, payback period, Internal Rate of Return and Net Present Value are important measurements used by businesses in making decisions as they focus on actual operations and eliminates one-time expenses and non-cash charges hence giving a clear picture of what the SMEs are doing. The Investment

Appraisal Techniques used by most SMEs operating in Nairobi includes the non-discounted cash flows such as payback period, Accounting Rate of Return, Discounted Cash flow methods such as Net Present Value and Internal Rate of Return(Guda, 2013).

Several studies have been conducted on investment decision practices, and on the use of investment appraisal techniques in different countries. These studies are: Danielson and Scott, (2006) in USA; Isaga (2012) in Tanzania; Katabi and Dimoso (2016) in Tanzania and Karanja (2012) and Guda (2013) in Kenya. These studies in most cases indicated the most widely used investment technique. However, it was most important to know beyond the reasons given for the use of an investment evaluation technique by understanding the influence on the selection and adoption of a certain investment appraisal technique.

### **1.1.2 Financial performance of SMEs in Kenya**

Financial performance of SMEs can be termed as a subjective measure of how well an SME can use assets from its primary mode of business and generate revenues (Ndambuki, 2010). Most SMEs in Kenya prefer liquidity measures approach as a way of evaluating financial position, the reason behind this was that those firms highly needed short term financial commitments at a higher rate thus need to continuously check liquidity status, sales turnover measures followed liquidity measures at the most preferred measures, long term solvency measures were also utilized by the firm owners to assess their financial position (Karanja, 2012).

Most of the SMEs in Kenya face financial performance challenges, furthermore, liquidity, profitability, and tangibility of assets negatively influenced the capital structure

(Kaijage and Elly, 2014). Central Bureau of Statistics (Republic of Kenya, 2012) indicates that there is high rate of failure and stagnation among many start-up businesses and most of them close in their first three years of operation (Nairobi City County, 2014).

Nyagah (2013) state that SMEs in Nairobi are faced with the threat of failure; three out five fail within the first few months. The causes of failure are suggested to be the choice of the investment appraisal techniques to be adopted when making an investment decision (Girald, 2011). This study therefore, assessed Investment Appraisal Techniques and financial performance among Small and Medium Enterprises in Nairobi County, Kenya to fill in the existing gap in literature.

### **1.1.3 SMEs in Nairobi County, Kenya**

SME in Kenya contribute 80% of employment and contributes about 40% to GDP (Mwarari & Ngugi, 2013 and Kenya Economic Survey, 2011). They are efficient and prolific job creators, the seeds of big businesses, and the fuel of national economic engines (Abor and Quartey, 2010 and IFC, 2010). In regard to the national and small enterprise baseline survey (GoK, 2007), approximately 1.3 million small enterprises were in Kenya and employs about 2.4 million people, SMES survey basic report (KNBS, 2016). In Nairobi County, SMEs employs over 4.6 million people which is over 30% of all employment and accounts for approximately 75% of all businesses (Kiveu, 2013). Nairobi City County Government estimates that there are 101,450 SMEs within the County (Nairobi City County, 2014).

Despite the statistics on the importance of SMEs in Kenya, inappropriate Investment Appraisal Techniques are lamented for their short operation period as 57% of small businesses are in stagnation with only 33% of them showing some level of growth (Kihonge, 2014 and Ahiawodzi & Adade, 2012). Thus, called for a study on Investment Appraisal Techniques and financial performance of SMEs in Nairobi County.

## **1.2 Statement of the Problem**

Small and Medium Enterprises play a major role in the social economic development of any country, however these SMEs face problems which inhibit their growth and success(Isaga, 2012).Poor investment decision has been blamed for high rate of failure and closure. It might be possible that if owners do not know how to make investment decisions and the link thereof between the Investment Appraisal Techniques and investment decisions, even if they are given sufficient capital, businesses may continue having problems (Guda, 2013).

Kenya National Bureau of Statistics (Republic of Kenya, 2015) indicates that there is high rate of failure and stagnation among many SMEs as most of them close in their first three years of operation. Besides, poor investment decisions has been a challenge among SMEs in Nairobi (Keter, 2013) as SMEs are faced with the threat of failure; three out five fail yearly within the first few months of start (Nyagah, 2013). Investment decisions are among the three most fundamental decisions that a SME does take on its usual day to day operations, the other two fundamental decisions are the financing decisions and the operational decisions. According to Girald (2011) and Evans (2012), the adoption of

Investment Appraisal Technique is the initial requirement that should be considered prior to starting an investment exercise.

Studies by Katabi and Dimoso (2016), revealed that most SMEs use investment evaluation techniques such as payback period, accounting rate of return, Internal Rate of Return and Net Present Value or combination of methods when making investment decisions for enhanced financial performance. However, John (2007) and Kipesha (2009), noted that that most SMEs do not use investment evaluation techniques when making investment decisions for enhanced financial performance. This study thus, necessary to further assessed points of non-consensus on the adoption of Investment Appraisal Techniques and financial performance. This inspired the need to design the current research to fill in the existing gap by assessing Investment Appraisal Techniques and financial performance among Small and Medium Enterprises in Nairobi County, Kenya.

### **1.3 General Objectives**

The general objective was to determine the effect of Investment Appraisal Technique and financial performance among Small and Medium Enterprises in Nairobi County, Kenya.

#### **1.3.1 Specific Objectives**

The following were the objectives of the study;

- i. To determine the effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya.

- ii. To establish the effect of payback period on financial performance among SME's in Nairobi County, Kenya.
- iii. To ascertain the effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya.
- iv. To examine the effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya.

#### **1.4 Research Hypotheses**

H0<sub>1</sub>: There is no statistically significant effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya

H0<sub>2</sub>: There is no statistically significant effect of Payback period on financial performance among SME's in Nairobi County, Kenya

H0<sub>3</sub>: There is no statistically significant effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya

H0<sub>4</sub>: There is no statistically significant effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya

#### **1.5 Significance of the Study**

This study is significant in the context of the possible users of the information availed by it. This study will help management of Small and Medium Enterprises in Nairobi County and the economy at large in selecting the Investment Appraisal Technique during investment decision to foresee, plan and protect the SMEs from liquidity challenges and possible insolvency. The study will be significant to the government in policy making as

it will inform the government and policy makers on the investment appraisal techniques' situations in this and other related sectors, thus, will aid in situations where policy decisions like registration, licensing, taxation, merger and acquisitions have to be made. Scholars interested in this line of research will find relevant and useful materials to aid and enhance their research in this and related areas of study through comparison with other research work and as a source of literature.

### **1.6 Scope of the Study**

The study covered the Investment Appraisal Technique adoption and financial performance among SME's in Nairobi County with specific reference to methods of cash flow such as Accounting Rate of Return, payback period, Internal Rate of Return and Net Present Value.

### **1.7 Limitations of the Study**

The study was faced with some limitations; some respondents were not willing to reveal significant information while answering questions on Investment Appraisal Technique and financial performance as this area was sensitive nature. Though, the researcher addressed this by clarifying the confidentiality of the results and the importance of the study. However the delimitation of the study focused on Investment Appraisal Technique and financial performance among SMEs in Nairobi county with specific reference to the Investment Appraisal Technique such as Accounting Rate of Return, Payback period, Rate of Return and Net Present Value.

## **1.8 Study Organization**

The project was organized in five chapters, chapter one ,introduction of the study describes background of the study, statement of the problem, purpose of the study objectives, research hypothesis, significance of the study, limitation of the study, delimitations of the study and the organizations of the study ,chapter two ; Reviewed the literature on related to the study specific objectives,determined the relationship between accounting rate of return and financial performance among SME's established the effect of Payback Period on financial performance among SME's and examined the influence of internal rate of return on financial performance among SME's in Nairobi county ,Kenya, the conceptual frame work, knowledge gaps and summary. Chapter Three Presents Research Methodology used in the study; research design,target population, sampling procedure,sample size, research tools, data collection procedures, data analysis technique, ethical consideration and operational definition of variable. Chapter four presents the study findings and their interpretations.While chapter five has conclusions of the study and the policy implications.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the theoretical review, empirical review as per the specific study objectives, summary of literature review and research gap. Lastly, it presents the conceptual framework.

#### **2.2 Theoretical Review**

The study was anchored on the conventional capital budgeting theory, neo-classical theory and the Tobin's Q theory.

##### **2.2.1 Conventional Capital Budgeting Theory**

Woods & Randall (1989) established that in capital budgeting, the NPV criterion is used to measure shareholder's wealth which is the main objective in financial management. The riskiness of projects cash flows is equal to the firms' riskiness of other assets cash flows and the firms WACC is used to calculate NPV. Some future investment opportunities (FIOs) are acknowledged by the market due to their uncertainty and risk perceptions.

Conventional Capital budgeting approaches are biased towards FIOs in the long term in potential opposition to shareholder's interests. Therefore, discounting ought to be done at the required return on equity ( $K_e$ ) rather than WACC ( $K_a$ ) to determine shareholders'

wealth attributable to FIOs. The ability to borrow on FIOs basis would increase shareholders wealth by quantifiable amount, if the management has a clear incentive to increase its credibility in the financial markets. When management is either unwilling to divulge information or unable to convince markets of future cash flows, a divergence will exist between the market value of shares and true shareholder wealth (Woods & Randall, 1989).

### **2.2.2 Neoclassical Theory of Investment**

The Neoclassical theory of investment could be based on the optimal capital accumulation (Jorgenson, 1963). Neoclassical theory of investment is based on the assumption of profit-maximizing behavior by firms (Samuel, 1996) and the assumption that the management seeks to maximize the present net worth of the firm. Hence, an investment project should be undertaken if and only if it increased the value of the shares (Tobin, 1969 as quoted by Yoshikawa, 1980). Danielson and Scott (2006) put it clear that, the firms will make set of investments decisions that will maximize shareholders wealth. Hence, the rule is invest in all positive net present value projects and reject those with a negative net present value.

The neoclassical model of optimal capital accumulation may be derived by maximizing present value of the firm, by maximizing the integral of discounted profits of the firm, or simply by maximizing profit at each point of time (Jorgenson, 1967; Eklund, 2013). There are two assumptions regarding the theory of investment decisions as highlighted by Danielson and Scott (2006), first, the primary goal of a firm's shareholder is to maximize

firm value; second, a firm has access to perfect financial markets allowing it to finance all value enhancing projects.

A number of investment criteria can be used by businesses when making investment decisions. These criteria may be grouped into two; Discounted cash flow criteria and Non- discounted cash flow criteria (Pandey, 1976). Under the discounted cash flow criteria there are the following methods: Net Present Value (NPV), Internal Rate of Return (IRR), Modified Internal Rate of Return (MIRR), and Profitability Index. While under the non-discounted cash flow methods are as follows; Pay Back (PB) and Accounting Rate of Return (ARR).

### **2.2.3 Tobin's Q Theory of Investment**

This Theory relates to the rate of investment as a function of Q, where Q is the ratio of the market value of new additional investment goods to their replacement cost (Tobin, 1969). If investors value assets at prices which are greater than replacement costs, then there are strong inducements for investment in reproducible real capital (Ciccoloet *al* 1979). This theory was in sharp contrast to the output-oriented models like neoclassical model and acceleration model in that it attempted to explain investment on a financial basis in terms of portfolio balance; this translates to the concept based on the q ratio; that is the ratio of the market value of capital to its replacement cost.

Grunfeld (1960) proposed the use of the firm's market value as proxy for potential investment undertakings and further stated that investment depends on the market value of the firm in a direct correlated way, this approach to investment being influenced by the

market value of the firm can be seen as a relation to Tobin's Q theory. While the accelerator, neoclassical, modified neoclassical, and the cash flow models do not explicitly consider the optimal adjustment path for the firm's capital stock when it is away from that level, the Q theory characterizes the complete evolution of the capital stock from the underlying optimization problem of investments differ from the preceding investment models such as the accelerator models and Jorgenson's model in that it is not output-based. In contrast, investment is thus not viewed as a function of output as in the previous 24 models, but instead assumed to be determined by the firm's market value (Karin *et al.* 2008). The contrast is also elaborated by (Clark, 1979) where he states that the Q models should not be viewed as complements but rather substitutes to the standard neoclassical models.

## **2.3 Empirical Review**

These sections reviewed the literature on the specific objectives that affect the relationship between cash flow methods and financial performance. It further reviewed the literature on the demographic factors that had a moderating effect on financial performance.

### **2.3.1 Accounting Rate of Return and Financial performance**

For most of the small businesses accounting rate of return methods were some of the most used techniques (John, 2007). Kipesha (2009) observed that most of SMEs do not use the DCF methods; rather they select investments basing on their personal perception, market trends and external attractiveness of the investment. According to the study

conducted by Danielson and Scott (2006), it was indicated that ARR was the frequency choice for businesses pursuing growth strategy. The ARR is valuable because it provides information about how a project will affect businesses' financial statements and its ability to meet accounting based loan covenants. There is evidence from the study that business characteristics affect the choice of investment evaluation techniques.

In Nigeria, a study on Econometrical Analysis of Determinants of Cash Flow of Institutional Lenders in Nigerian Agriculture: Macro Economic Variables Perspective adopted multiple linear regression models. The findings revealed that for effective cash flow management in Nigerian agriculture by institutional lenders, there is need for government to adopt proactive interest rate regime that would accord and boost lending in the sector (Abdul & Shaibu, 2013). Despite, the results, the study focused on cash flow management, thus, created a gap. It was in this regard that the current study ascertained the relationship between Accounting Rate of Return and financial performance among SME's in Nairobi County, Kenya.

A research conducted on the effect of Small Business Characteristics on the Choice of Investment Evaluation Techniques for SMEs in Tanzania employed a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions and multinomial logistic regression was used as the most appropriate statistical technique. The findings revealed that Small Business Characteristics significantly influence the choice for Accounting Rate of Return (Katabi& Dimoso, 2016). Despite the findings, the study focused on Small Business Characteristics on the Choice of

Investment Evaluation Techniques, thus, created a knowledge gap. It was in this regard that the current study ascertained the relationship between Accounting Rate of Return and financial performance among SME's in Nairobi County, Kenya.

A study conducted on the relationship between Financial Goals of SMES and Investment Decisions used a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions. The findings revealed that there is significant relationship between financial goals of SMEs and Accounting Rate of Return (Katabi & Dimoso, 2016). In spite of the findings, the study focused on Financial Goals of SMES and Investment Decisions, thus, created a gap. It was in this respect that the current study ascertained the relationship between Accounting Rate of Return and financial performance among SME's in Nairobi County, Kenya.

Kaijage and Elly (2014) did a study on the choice between debt and equity that SMEs face by investigating the influence of various corporate characteristics on the capital structure of deposit taking microfinance institutions (DTMs), as a special group of SMEs, in Kenya. Using secondary data from financial reports of 7 out of 9 licensed DTMs in Kenya for the period 2008 to 2012, the study applied ordinary least squares (OLS) fixed - effect regression models. Capital structure was measured by debt equity ratio while corporate characteristics considered were: size, profitability, liquidity, and growth, tangibility of assets and volatility of earnings. The study revealed that size and growth positively influence, in a significant way, the capital structure. Furthermore, liquidity, profitability, and tangibility of assets negatively influenced the capital structure.

In Kenya, a study on the relationship between cash flow and profitability of small and medium enterprises in Nairobi County adopted descriptive survey design and multiple linear regression models. It was established from the findings that, there was significant Relationship between profitability and cash flow of small and medium enterprises in Nairobi County (Guda, 2013). Despite, the results, the study focused on cash flow and profitability of small and medium enterprises, thus, created a knowledge gap. It was in this line that the current study ascertained the relationship between Accounting Rate of Return and financial performance among SME's in Nairobi County, Kenya.

### **2.3.2 Payback Period and Financial performance**

Payback period is defined as the time required recovering the initial investment in a project from operations. This method is used to evaluate capital projects and to calculate the return per year from the start of the project until the accumulated returns are equal to the cost of the investment at which time the investment is said to have paid back and the time taken to achieve this payback is referred to as the payback period. Payback is said to emphasize the management's concern with liquidity and the need to minimize risk through a rapid recovery of the initial investment (Cooper *et al.* 2001).

The method of the investment's payback period implies the establishment of the time necessary to return the investments. In this method the measure of assessment is the longest acceptable period of payback, that is, the investment's payback period must be shorter than the project's lifetime which is usually defined by the lifetime of equipment built into the project (Sengar and Kothari, 2008). There is an evidence of few studies

conducted on the use of investment evaluation techniques: Daniel and Scott (2006) observed that small firms evaluate projects using payback period or owner's NPV. Vos & Vos (2000) found that NPV and accounting based methods were mostly used. Graham and Harvey (2001) observed that small businesses are significantly less likely to use NPV method but they frequently use the payback period method. Brijlal and Quesada (2009), found that payback period, followed by NPV appeared to be the most used methods across the different sizes of businesses.

Olawale *et al* (2010) observed that small manufacturing firms do not use sophisticated investment appraisal techniques when evaluating their proposed projects, thus always use payback period. Awomewe & Ogundele (2008), in their study observed that there is a trend that payback period method has been prevalent in appraising technique in various organizations (Khakasa, 2009), in his study observed that the usage of simple ratio-based techniques such as cost benefit analysis, payback period and return on investment is very high compared to the use of discounted cash flow techniques. The extensive use of payback period is supported by many studies such as Graham and Harvey (2001), Awomewe and Ogundele (2008), Danielson and Scott (2006), and Brijal & Quesada (2009).

In Tanzania, a research conducted on the relationship between Financial Goals of SMEs and Investment Decisions used a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions. The findings revealed that there is significant relationship between financial goals of SMEs and Payback period (Katabi

&Dimoso, 2016). In spite of the findings, the study focused on Financial Goals of SMEs and Investment Decisions, thus, created a gap. It was in this respect that the current study ascertained the relationship between payback period and financial performance among SME's in Nairobi County, Kenya.

A research conducted on the effect of Small Business Characteristics on the Choice of Investment Evaluation Techniques for SMEs in Tanzania employed a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions and multinomial logistic regression was used as the most appropriate statistical technique. The findings revealed that Small Business Characteristics significantly influence the choice for payback period (Katabi& Dimoso, 2016). Despite the findings, the study focused on Small Business Characteristics on the Choice of Investment Evaluation Techniques, thus, created a knowledge gap. It was in this regard that the current study examined the relationship between payback period and financial performance among SME's in Nairobi County, Kenya.

A study conducted in Kenya on the Effects of Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises in Mombasa adopted multiple linear regression models. It was established that there is a strong positive correlation of 0.823 between growth of micro-finance enterprises (dependent variable) and payback period (independent variable) indicating that payback period has a strong influence on the growth of micro-finance enterprises (Menya & Gichinga, 2013). Despite the findings, the study focused on Capital Budgeting Techniques on The Growth of Micro-Finance

Enterprises, thus, created a knowledge gap. It was in this respect that the current study examined the relationship between payback period and financial performance among SME's in Nairobi County, Kenya.

### **2.3.3 Net Present Value and Financial performance**

Most people recognize that money at hand now is more valuable than money that you gather in future. That's because you can use it to make more money by running a business, or buying something now and selling it later for more, or simply putting it in the bank and earning interest. Future money is also less valuable because inflation erodes its buying power (Gallo, 2014). This is called the time value of money. But how exactly do you compare the value of money now with the value of money in the future? Present value amounts are computed using a firm's assumed cost of capital. The cost of capital is the theoretical cost of capital incurred by a firm. This cost may be determined by reference to interest rates on debt or a blending of debt/equity costs (Larry, 2016).

The following factors may also need to be considered: Throughput on goods sold, Cash from sale of asset, maintenance costs, working capital, tax payments and depreciation effect (Bragg, 2016). Everything points to the net present value decision method being superior to the internal rate of return decision method Brijlal and Quesada (2009), found that payback period, followed by NPV appeared to be the most used methods across the different sizes of businesses. Graham, John, Harvey, & Campbell (2001) observed that small businesses are significantly less likely to use NPV method but they frequently use the payback period method. No relationship existed between the choice of DCF and

business characteristics. This means that businesses do not select DCF methods instead they rely on payback period method to evaluate their investments. Net present value is the current value of a stream of income discounted by a factor over the period of an investment (Geddes, 2006). Kleczyk (2008) states that the level of the projects' internal rates of return for different strategies is one of the most important decision factors when deciding which new products to develop and which new investment program to conduct.

In Tanzania, a study conducted on the effect of Small Business Characteristics on the Choice of Investment Evaluation Techniques for SMEs in Tanzania employed a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions and multinomial logistic regression was used as the most appropriate statistical technique. The findings revealed that Small Business Characteristics significantly influence the choice for Net Present Value (Katabi& Dimoso, 2016). Despite the findings, the study focused on Small Business Characteristics on the Choice of Investment Evaluation Techniques, thus, created a knowledge gap. It was in this regard that the current study examined the relationship between discounted cash flows such like Net Present Value and financial performance among SME's in Nairobi County, Kenya.

A research conducted in Tanzania, on the relationship between Financial Goals of SMES and Investment Decisions adopted a cross-sectional design and the method of the study was the survey. Data to a sample of 301 SMEs drawn from SIDO in Dar-es-Salaam and Dodoma regions was collected using purposive sampling. The findings revealed that

there is significant relationship between financial goals of SMEs and Discounted cash flows such as Net Present Value (Katabi & Dimoso, 2016). In spite of the findings, the study focused on Financial Goals of SMES and Investment Decisions, thus, created a gap. It was in this regard that the current study established the relationship between discounted cash flows such as Net Present Value and financial performance among SME's in Nairobi County, Kenya.

In Kenya, a research conducted on the Effects of Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises in Mombasa adopted multiple linear regression models. The findings revealed that there is a weak positive coefficient of correlation of 0.220 between growth of micro-finance enterprises (dependent variable) and net present value (independent variable) indicating that net present value has minimal effect on the growth of micro-finance enterprises(Menya & Gichinga, 2013). Despite the findings, the study focused on Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises, thus, creates a knowledge gap. It was in this respect that the current study examined the relationship between Net Present Value and financial performance among SME's in Nairobi County, Kenya.

#### **2.3.4 Internal Rate of Return and Financial performance**

The internal rate of return is similar to NPV. But, rather than working with a predetermined cost of capital, this method calculates the actual discount rate that equates the present value of an investments cash inflow with the present value of the cash outflows (Bragg, 2016). Besides, it is the interest rate that would make the net present

value to be equal to zero. For businesses in the service industry, we expected them to use more of internal rate of return discounted cash flow method. This is because the investment of many service businesses might be limited to business & vehicles or office equipment (Danielson & Scott, 2006).

IRR is a ranking tool, calculated for each investment opportunity (Gallo, 2014). The decision rule is that, so long as those rates are at least equal to the firm's cost of capital, projects with the highest internal rates of return will be accepted. This is not in agreement with NPV, which has a general decision rule of accepting projects with a "positive NPV," subject to availability of capital. Essentially, the mathematical basis of IRR is not much dissimilar with NPV. Companies mostly employ both NPV and IRR to appraise investments, and while NPV informs you more about the return you can anticipate, financial analysts "often rely on IRR in presentations to nonfinancial folks." That's because IRR is much more intuitive and easy to understand (Amy, 2016).

Unfortunately, the IRR gives rise to serious conceptual and technical problems: (1) a real-valued IRR may not exist, so that the comparison with the cost of capital is not possible; (2) multiple IRRs may arise, in which case the above mentioned comparison is problematic; (3) compatibility with the net present value (NPV) is not guaranteed, even if the IRR is unique. For example, the cash flow stream has a unique IRR equal to 50% (Magni, 2010). The economic and managerial literature has thoroughly investigated the IRR shortcomings and a huge amount of contributions in the past 75 years have been

devoted to searching for corrective procedures capable of healing its flaws (Simerská, 2008).

A study conducted in Tanzania, on the relationship between Financial Goals of SMES and Investment Decisions employed a cross-sectional design and the method of the study was the survey. Data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions was collected using purposive sampling. The findings established that there is significant relationship between financial goals of SMEs and Discounted cash flows such as Internal Rate of Return (Katabi & Dimoso, 2016). In spite of the findings, the study focused on Financial Goals of SMES and financial performance, thus, created a gap. It was in this regard that the current study examined the relationship between discounted cash flows such as Internal Rate of Return and financial performance among SME's in Nairobi County, Kenya.

In Tanzania, a study conducted on the effect of Small Business Characteristics on the Choice of Investment Evaluation Techniques for SMEs in Tanzania adopted a cross-sectional design and the method of the study was the survey. Purposive sampling was used to collect data to a sample of 301 SMEs drawn from SIDO in Dar es Salaam and Dodoma regions and multinomial logistic regression was used as the most appropriate statistical technique. The findings established that Small Business Characteristics significantly influence the choice for Internal Rate of Return (Katabi & Dimoso, 2016). In spite of the findings, the study focused on Small Business Characteristics on the Choice of Investment Evaluation Techniques, thus, created a knowledge gap. It was in this regard that the current study examined the relationship between discounted cash

flows such as Internal Rate of Return and financial performance among SME's in Nairobi County, Kenya.

A study conducted in Kenya on the Effects of Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises in Mombasa adopted multiple linear regression model. The study revealed that there is a strong positive correlation of 0.823 between growth of micro-finance enterprises (dependent variable) and internal rate of returns(independent variable) indicating that internal rate of returns has a strong influence on the growth of micro-finance enterprises(Menya & Gichinga, 2013). Despite the findings, the study focused on Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises, thus, created a knowledge gap. It was in this respect that the current study examined the relationship between Internal Rate of Return and financial performance among SME's in Nairobi County, Kenya.

In Kenya, a research conducted on the effect of table banking on investment decisions of small and medium enterprises in Nairobi County employed a descriptive survey design and multiple logistic regression was used as the most appropriate statistical technique. The findings revealed that investment returns influences the investment decisions (Asetto, 2014). Despite the findings, the study focused on table banking and investment decisions of small and medium enterprises, thus, created a knowledge gap. It was in this regard that the current study examined the relationship between Internal Rate of Return and financial performance among SME's in Nairobi County, Kenya.

## **2.4 Financial Performance of SMEs in Nairobi City Kenya**

Small and Medium Enterprises (SMEs) contribute greatly to the economies of all countries, regardless of their level of development. About 80% of the labour force in Japan and 50% of workers in Germany are employed in the SME sector. With respect to developing countries and according to the ILO/JASPA (1998), the sector made a significant contribution to the gross domestic product of Uganda (20%), Kenya (19.5%) and Nigeria (24.5%). The term SMEs covers a wide range of perceptions and measures, varying from country to country and between the sources reporting SME statistics. Some of the commonly used criteria are the number of employees, total net assets, sales and investment level. However, the most common definitional basis used is employment, but, there is a variation in defining the upper and lower size limit of an SME (Ayyagari, Beck & Demircuc-Kunt, 2003).

In Kenya, about 70% of the employment is absorbed into the SME sector. It is the main source of employment among Kenyan youths who are deemed otherwise unemployed. The sector has however faced a myriad of challenges ranging from limited funding, exposure, unfavorable regulations and competition from their established counterparts. (MSME, 2015).

An enterprise is considered to be any organized effort intended to return a profit or economic outcome through the provision of services or products to an outside group (Carland, Hoy, Boulton & Carland, 1983). The operation of an enterprise traditionally requires the investment of capital and time in creating, expanding or

improving the operations of a business (Meredith, 2001). Small to medium enterprises are considered those enterprises which have fewer than 250 employees. In distinguishing between small and medium size enterprises, the small enterprise is defined as an enterprise which has fewer than 50 employees. These businesses are often referred to as SMEs and are associated with owner proprietors (Meredith 2001; Schaper&Volery 2004).

Mutula and Brakel (2006) argue that there is no universally accepted definition for small and medium enterprises (SMEs), the description of Small and Medium Enterprises (SMEs) varies from country to country. Most of the time the choice whether or not a company is an SME is based on the number of employees, value of assets or value of sales. In Kenya SMEs are described as any non-farm enterprise, formal or informal, with less than 50 employees, including sole proprietorships, part-time businesses, and home-based businesses (GoK, 2012).

As alluded to earlier in this chapter, In Kenya, SMEs operate in all sectors of the economy, including manufacturing, trade and service subsectors. Almost two-thirds of all SMEs in Kenya are located in the rural areas with only one-third found in the urban areas. The sector is perceived as the engine of growth as it is key in the generation of employment & income, provision of goods & services & as a driver of competition, industrialization and innovation. It comprises of about 75 % of all businesses, employs 4.6 million people (30%) and accounts for 87% of all new jobs and contributes 18.4 % of the GDP (GoK, 2009).

Despite the opportunities presented by globalization, the results have been unsatisfactory for SMEs in terms of their growth. This is evidenced by baseline survey; undertaken by Central Bureau of Statistics (2004) which indicated that there is high rate of failure and stagnation among many SMEs. The survey reveals that only 38% of the SMEs are expanding while 58% have stagnated and that more micro and small enterprises are most likely to close in their first three years of operation. This is confirmed by the study conducted by the Institute of Development Studies University of Nairobi on behalf of Ministry of Planning (2008) which used a sample of businesses operating in Central Kenya. The study revealed that 57% of small businesses are in stagnation with only 33% of them showing some level of growth.

Although management and owners of SMEs develop new ideas and solutions, they rarely utilize a formalized logistical strategy, along with overall business objectives which can contribute to the success and the survival management of the enterprise. They therefore face critical constraints that inhibit their growth, competitiveness and performance (GoK 2008).

## 2.5 Summary of Knowledge Gaps

**Table 2.1: Summary of Knowledge Gaps**

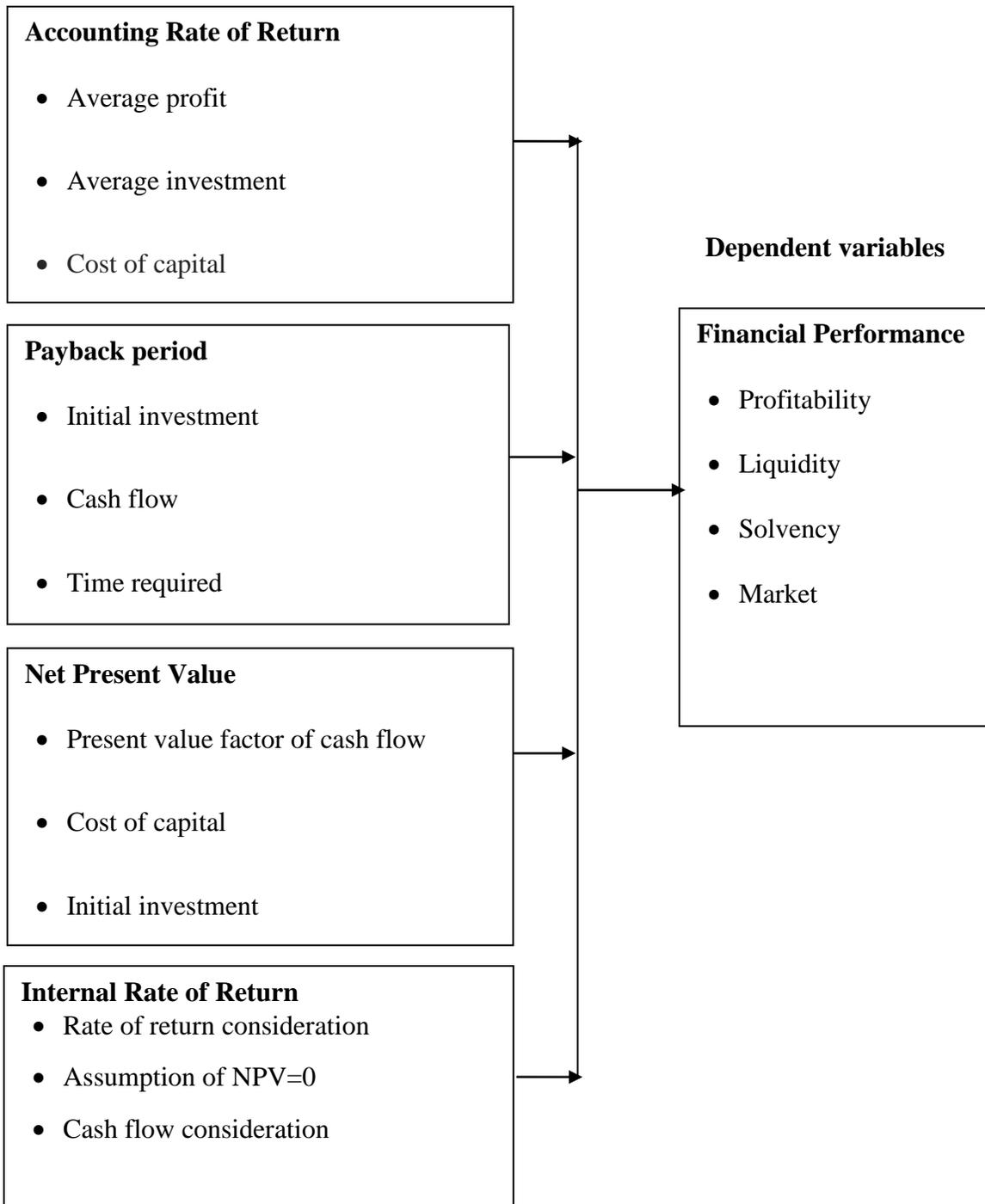
<b>Author</b>	<b>Focus of the study</b>	<b>Findings</b>	<b>Knowledge gaps</b>	<b>Focus of the current study</b>
Abdul and Shaibu (2013)	Econometrical Analysis of Determinants of Cash Flow of Institutional Lenders	Established that deposit liability and interest rate were significant in explaining variability in the level of cash flow of institutional lenders	Focused on determinants of cash flow of institutional lenders but not Investment Appraisal Techniques used by SMEs	The study assessed Investment Appraisal Techniques and financial performance among SMEs
Katabi and Dimoso (2016)	Financial Goals of SMEs and Investment Decisions	Revealed that financial goals of SMEs do influence investment decisions	Focused on financial goals of SMES and Investment Decisions determinants of SMEs	The study assessed Investment Appraisal Techniques and financial performance among SMEs
Katabi and Dimoso (2016)	Small Business Characteristics on the Choice of Investment Evaluation Techniques	Established that Sales growth and industry of business were found to be significant factors to the choice of investment evaluation techniques	Focused on Small Business Characteristics on the Choice of Investment Evaluation Techniques	The study assessed Investment Appraisal Techniques and financial performance among SMEs
Guda (2013)	Cash flow and profitability Of SMEs	Indicated that there was significant relationship between profitability and cash flow of SMEs	Focused on Cash flow and profitability of SMEs	The study assessed Investment Appraisal Techniques and financial performance among SMEs
Karanja (2012)	Investment decisions and	Established that investment decisions	Focused on investment decisions and financial performance in	The study assessed cash flow methods and investment

	financial performance	affected the financial performance in SMEs	SMEs	decision among SMEs
Menya and Gichinga (2013)	Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises	Revealed that the capital budgeting techniques do indeed play an essential role in the growth of micro-finance enterprises	Focused on Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises	The study assessed Investment Appraisal Techniques and financial performance among SMEs
Asseto (2014)	Table banking on investment decisions	Established that table banking improves SMEs investment decisions	Focused on Table banking on investment decisions of SMEs	The study assessed Investment Appraisal Techniques and financial performance among SMEs

## **2.6 Conceptual Framework**

Investment appraisal techniques had been found to be one of the most important capital budgeting techniques that were likely to influence financial performance among SMEs (Olawale *et al.* 2010). Amuzu (2010) adopted Accounting rate of return, Payback period, internal rate of return and Net present value as the investment appraisal technique that influence financial performance. Therefore, in this study, investment appraisal techniques were the independent variable while financial performance was the dependent variable. In the Conceptual Framework below, it was anticipated that the use of the investment appraisal techniques influence the financial performance of the SMEs.

### Independent Variables



**Figure 2.1: Conceptual Framework**

**Source (Researcher, 2017)**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the methods that were used in collecting and analyzing the data. The chapter is outlined into research design, target population, sampling design, data collection instruments, data collection procedure and data analysis and presentation.

#### **3.2 Research Design**

This study used descriptive survey research design. Kothari (2012) states that descriptive research includes surveys and fact finding enquiries of different kinds. This research design was used since it describes the situation as it were, is and how it is likely to be. The findings inform the outcome. Therefore, the approach enabled the study to assess the cash flow methods and investment decision by SMEs.

##### **3.2.1 Empirical Model**

The basic concern of this study was to assess the relationship between Investment Appraisal Techniques and investment decisions of SMEs in Nairobi County, Kenya. According to Amuzu (2010) Investment Appraisal Techniques can be measured in terms of Accounting Rate of Return, payback period, Net Present Value and Internal Rate of Return. On the other hand, the variables used to represent financial performance were; profitability, solvency and liquidity.

The study adopted multiple linear regressions that assisted the researcher reach to conclusions. A discrete choice model was employed in this study to analyze investment decision behavior.

A multiple liner regression is represented as,

$$Y=\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\varepsilon_i$$

Where            Y= Financial performance

$\beta_i$  = Coefficient of independent variable

$X_1$ = Accounting Rate of Return

$X_2$  = Payback period

$X_3$  = Net Present Value

$X_4$  = Internal Rate of Return

$\varepsilon_i$  = Random error

### 3.2.2 Operationalization and Measurement of Variables

The independent and dependent variables were operationalized as discussed below.

**Table 3.1: Operational and measurement of variables**

<b>Variable</b>	<b>Type</b>	<b>Indicators</b>	<b>Statistical measurement scale</b>	<b>Data analysis technique</b>
Accounting Rate of Return	Independent Variable	<ul style="list-style-type: none"> <li>• Cash inflows</li> <li>• Initial cash invested</li> <li>• Residuals</li> <li>• Wear and tear</li> </ul>	Ordinal	Descriptive(Frequency and Percentages) Inferential(linear regression)
Payback period	Independent Variable	<ul style="list-style-type: none"> <li>• Cash generated from sales</li> <li>• Total cost spent on establish the project</li> <li>• Time taken</li> <li>• Capital employed</li> <li>• Wear and tear</li> </ul>	Ordinal	Descriptive(Frequency and Percentages) Inferential(linear regression)
Net present Value	Independent Variable	<ul style="list-style-type: none"> <li>• Cash flows</li> <li>• Discount rate</li> <li>• Time value</li> <li>• Wear and tear</li> </ul>	Ordinal	Descriptive(Frequency and Percentages) Inferential(linear regression)

Internal Rate of Return	Independent Variable	<ul style="list-style-type: none"> <li>• Wear and tear</li> <li>• Record keeping</li> <li>• Rate of return</li> <li>• Cash flows</li> </ul>	Ordinal	Descriptive(Frequency and Percentages) Inferential(linear regression)
Financial performance	Dependent Variable	<ul style="list-style-type: none"> <li>• Profitability</li> <li>• Liquidity</li> <li>• Solvency</li> <li>• Market</li> </ul>	Ordinal	Descriptive(Frequency and Percentages) Inferential(linear regression)

Source (Researcher, 2017)

### **3.3 Target Population**

Population refers to an entire group of individuals events or objects having a common observable characteristic (Mugenda, 2003). The target population is the absolute population. The study population was 71,195 licensed SMEs with Nairobi County. Nairobi County consists of 17 constituencies namely: Langata, Kibra, Roysambu, Kasarani, Ruaraka, Embakasi South, Westlands, Dagoretti South, Embakasi North, Embakasi Central, Embakasi East, Embakasi West, Makadara, Kamukunji, Starehe and Mathare (Nairobi County Council Licensing Department, 2013). The respondents will be the proprietors of the SMEs selected.

### **3.4 Sampling Design**

#### **3.4.1 Sampling Technique**

The study employed cluster sampling technique in selecting a sample from the target population. The sampling technique was considered because of its diversity consideration within a target population and selected those clusters that are representative of the entire populations considering the constraints faced. Cluster sampling technique also had an added advantage over other sampling techniques as it deselected redundant clusters from sample which made it economical (Yates, *et al* 2008). The target population of 17 constituencies was clustered into 4 groups drawn from South, East, North and West regions of the County.

Stratified random sampling technique was adopted within the clusters to ensure that all sectors that SMEs operate in are included in the sample. Stratification was achieved at this by grouping the heterogeneous population into homogenous subsets (per sector) to ensure representativeness. The strata were Micro, Small enterprise and Medium enterprise (SMEs Act, 2012). Random sampling technique was used to

sample individual SMEs within the stratum as it eliminated bias since each member of the target population has an equal chance or probability of being selected. The statistical justification for this was a constraint on time to cover all the possible SMEs. In addition it gave us a wide range of views from a cross section of the SMEs.

### 3.4.2 Sample Size

This research study adopted Fishers Formula, as stated in Kothari R. (2007), to determine the respondents sample size of the population greater than 10000 at 95% confidence level of significance and confidence interval/margin error of 5%.

$$n = \frac{z^2 pq}{d^2}$$

#### Where

n= the desired sample size

Z = the standard normal deviate at the confidence level of 95%=1.96

p= the proportion in the population estimated to have characteristics being measured is 50%

q=1-p

d=Level of precision set at 0.05

$$n = (1.96)^2 \times .5 (.5) / (.05)^2$$

$$= 3.8416 \times .25 / 0.0025$$

$$= .9604 / 0.0025$$

$$= 384.16 \text{ (rounded off to a whole number)}$$

n = 384 SMEs and hence respondents

### **3.5 Data Collection Instruments**

Primary data sources were SME business owners. The study targeted one person per SME. Semi-structured questionnaires were used; that was, with open and close-ended questions for qualitative and quantitative data respectively. Questionnaire as research instrument for data collection were considered as they are less costly, use less time, require less administration effort inherent in instruments like interviews and useful in obtaining objective data (Marshall and Rossman, 2006). In addition, questionnaires had standardized answers that made it simple to compile data. According to the objectives of this study which stated earlier; Section A dealt with the demographic information, Section B tackled objective one, objective two, three and four. The questionnaires were self-administered.

#### **3.5.1 Validity and Reliability Test**

The research instrument was pretested in order to test for validity and reliability. Validity is the degree by which items in the research instrument represents the content the test is designed to measure (Mugenda & Mugenda, 2003). To establish the validity of the research instrument the researcher sought opinions of experts in investment appraisal techniques and financial performance especially the researcher's supervisor and lecturers.

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Eriksson and Kovalainen, 2008). To test for the reliability, the researcher adopted test retest method followed by Cronbach alpha coefficient. After pilot study, reliability was determined using Cronbach Alpha coefficient. The result obtained is as shown in Table 3.1;

**Table 3.2: Reliability Test**

<b>Reliability Statistics</b>		
	Cronbach's Alpha	No. of Items
Accounting Rate of Return	.731	5
Payback period	.821	5
Net present value	.723	5
Internal Rate of Return	.807	5

**Source (Researcher, 2017)**

As shown in Table 3.1, Accounting Rate of Return had five items whose Cronbach alpha coefficient was 0.731, Payback period had five items with the Cronbach alpha coefficient of 0.821, Net present value had five items with the Cronbach alpha coefficient of 0.723 and Internal Rate of Return had seven items whose Cronbach alpha coefficient was 0.807. According to Gliem and Gliem (2003), as a rule of thumb, acceptable alpha should be 0.70 or above. The Since the Cronbach alpha coefficient was higher than the minimum acceptable value (0.7), thus, the items were considered reliable.

**3.6 Data Collection Procedure**

After the proposal had been approved by the Ethic Committee, the researcher obtained an introduction letter from Kenyatta University that enable him get a permit from National Commission for Science, Technology and Innovation (NACOSTI). Upon attainment of the permit, the researcher proceeded to Nairobi County for

permission to collect data in the region. Besides, the researcher engaged four research assistant that helped him in data collection by administered the questionnaires.

### **3.7 Data Analysis and Presentation**

The filled-in questionnaires were edited for consistency and the inadequately fill ones will be expunged from the record. The data generated was quantitative, thus, descriptive and inferential analysis techniques was used; consistent with the research design. Using Package for Social Sciences (SPSS 23.0), the quantitative data was coded to enable the responses to be grouped into categories. Statistical Package for Social Scientists (SPSS), which offered extensive data handling capability and numerous statistical analysis routines that can analyze small to very large data statistics and can generate descriptive statistics (Mujis, 2004). Descriptive statistics such as frequencies and percentages were used mainly to summarize the data. Presentation of data was in form of Tables only where it provided successful interpretation of the findings. Descriptive data was provided in form of explanatory notes. Inferential statistics were also used via a multiple regression model to establish the correlation among the variables.

### **3.8 Ethical Considerations**

Ethics has been defined as the standards of behavior that guide the conduct of the researcher with respect to those either affected by the study or those who become subject to it (Saunders and Lewis, 2012).

Several ethical considerations were noted and implemented. Informed consent was obtained from all respondents and this was ensured by the provision of information about the research in the letter of introduction (appendix I) that the respondents was required to sign. Confidentiality of the respondents was ensured by anonymizing,

coding and de-identifying the questionnaires. The results of this study are only to be used for academic purposes and decision making within the organizations being studied upon request.

## CHAPTER FOUR

### DATA ANALYSIS AND PRESENTATION

#### 4.1 Introduction

This chapter presents the data analysis and discussion of the findings. The study determined the effect of Investment Appraisal Technique on financial performance among Small and Medium Enterprises in Nairobi County, Kenya. The presents the findings from the data analysis using descriptive and inferential statistics.

#### 4.2 Response rate

A total of 384 questionnaires were sent out to the respondents to fill. Of these questionnaires, 356 were returned for analysis. The returned 356 questionnaires accounted for 92.7% response rate. According to Mugenda and Mugenda (1999), a response rate of 70% and above is adequate, thus a response rate of 92.7% was acceptable for data analysis. This is shown on Table 4.1.

**Table 4. 1 : Response rate**

Questionnaire	Frequency	Percentage
Administered	384	100.0
Returned	356	92.7

**Source (Researcher, 2017)**

#### 4.3 Descriptive statistics analysis for Investment Appraisal Techniques and Financial performance

For the analysis of the objective, frequencies and percentages were employed as the preferred descriptive statistical techniques. This is presented as per specific objective.

### 4.3.1 Effect of Accounting Rate of Return and Financial performance

For the analysis of the objective, frequencies and percentages were employed as the preferred descriptive statistical techniques. The helped to determine the effect of Accounting Rate of Return on financial performance among SME's in Nairobi County. The analysis, therefore, opens with the descriptive statistics (frequency and percentage) for the level of agreement on a five point Likert scale of the Accounting Rate of Return (Table 4.6). Where; 1=strongly disagree, 2=Disagree, 3=Undecided, 4= Agree and 5= Strongly Agree.

**Table 4. 2: Accounting Rate of Return and Financial Performance**

<b>Statement on Accounting Rate of Return</b>		<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>Total</b>
The business consider the cash inflows	F	66	24	23	119	124	356
	%	18.5	6.7	6.5	33.4	34.8	100.0
The business consider the initial cash invested	F	12	42	32	86	184	356
	%	3.4	11.8	9.0	24.2	51.7	100.0
The business fail to take into account the time value of money	F	6	5	52	78	215	356
	%	1.7	1.4	14.6	21.9	60.4	100.0
The business consider the residual value	F	48	38	149	73	48	356
	%	13.5	10.7	41.9	20.5	13.5	100.0
The business consider the wear and tear	F	56	41	11	111	137	356
	%	15.7	11.5	3.1	31.2	38.5	100.0

**Source (Researcher, 2017)**

Table 4.5 shows that 124(34.8%) of the respondents strongly agreed with the statement that the business considered the cash inflows, 119(33.4%) agreed, 66(18.5%) strongly disagreed, 24(6.7%) disagreed and 23(6.5%) of the respondents were undecided on the statement. The study findings suggested that most 243(68.2%) of the SMEs considered cash inflows when investing. This implies that for improved business financial performance, SME consider the cash flows of the business when making an investment decision. This supports the finding of Abdul and Shaibu (2013) who revealed that for effective cash flow management in Nigerian agriculture by institutional lenders, there is need for government to adopt proactive interest rate regime that would accord and boost lending in the sector.

Similarly, 184(51.7%) of the respondents strongly agreed with the statement that the business considered the initial cash invested, 86(24.2%) agreed, 42(11.8%) disagreed, 32(9.0%) of the respondents were undecided and 12(3.4%) of the respondents strongly disagreed with the statement. It emerged from the study that most 270(75.9%) of the SMEs considered the initial cash to be invested when investing. This implies for improved business financial performance, SME consider the initial cash they intend to invest in when making an investment decision. This concurs with the findings of Danielson and Scott (2006), it was indicated that ARR was the frequency choice for businesses pursuing growth strategy. The ARR is valuable because it provides information about how a project will affect businesses' financial statements and its ability to meet accounting based loan covenants.

Additionally, 215(60.4%) of the respondents strongly agreed with the statement that the business failed to take into account the time value of money, 78(21.9%) agreed, 52(14.6%) of the respondents were undecided, 6(1.7%) strongly disagreed and

5(1.4%) of the respondents were in a disagreement with the statement. The study findings suggested that majority 293(82.3%) of the SMEs failed to take into account the time value of money when making an investment decision. This implies that for improved business financial performance, SME always fail to take into account the time value of money when making an investment decision. This is in line with the findings of Danielson and Scott (2006), it was indicated that ARR was the frequency choice for businesses pursuing growth strategy. The ARR is valuable because it provides information about how a project will affect businesses' financial statements and its ability to meet accounting based loan covenants.

On whether business considered the residual value, 149(41.9%) of the respondents were undecided on the statement, 73(20.5%) agreed, 48(13.5%) strongly disagreed, a similar 48(13.5%) strongly agreed and 38(10.7%) of the respondents had a disagreement with the statement. The study findings suggested that most 149(41.9%) of the SMEs had a divided opinion on whether business considered the residual value. This implies that SME are not sure whether they consider the residual value when making an investment decision for the improved financial performance of their business. This supports the findings of Katabi and Dimoso (2016) who revealed that there is significant relationship between financial goals of SMEs and Accounting Rate of Return.

Lastly, 137(38.5%) of the respondents strongly agreed with the statement that the business considered the wear and tear, 111(31.2%) agreed, 56(15.7%) strongly disagreed, 41(11.5%) disagreed and 11(3.1%) of the respondents were undecided on the statement. It emerged from the study that most 248(69.7%) of the SMEs considered the wear and tear. This implies that for improved business financial

performance, SME always consider the wear and tear when making an investment decision.

#### 4.3.2 Effect of payback period and financial performance

For the analysis of the objective, frequencies and percentages were employed as the preferred descriptive statistical techniques. The helped to establish the effect of payback period on financial performance among SME's in Nairobi County, Kenya. The analysis, therefore, opens with the descriptive statistics (frequency and percentage) for the level of agreement on a five point Likert scale of the payback period (Table 4.7). Where; 1=strongly disagree, 2=Disagree, 3=Undecided, 4= Agree and 5= Strongly Agree.

**Table 4. 3: Payback period and Financial Performance**

Statement on payback period		SD	D	U	A	SA	Total
The business consider record on the cash generated from sales	F	68	23	19	119	127	356
	%	19.1	6.5	5.3	33.4	35.7	100.0
The business consider the total cost spent in establishing the project	F	12	72	23	144	105	356
	%	3.4	20.2	6.5	40.4	29.5	100.0
The business estimate the time it takes to get back the money invested	F	92	153	90	14	7	356
	%	25.8	43.0	25.3	3.9	2.0	100.0
The business consider the capital employed	F	4	42	13	151	146	356
	%	1.1	11.8	3.7	42.4	41.0	100.0
The business considers wear and tear	F	29	42	9	99	177	356
	%	8.1	11.8	2.5	27.8	49.7	100.0

Source (Researcher, 2017)

Table 4.6 shows that 127(35.7%) of the respondents strongly agreed with the statement that the business considered record on the cash generated from sales, 119(33.4%) agreed, 68(19.1%) strongly disagreed, 23(6.5%) disagreed and 19(5.3%) of the respondents were undecided on the statement. The study findings suggested that most 246(69.1%) of the SMEs considered record on the cash generated from sales. This implies that for improved business financial performance, SMEs consider record on the cash generated from sales when making an investment decision. This supports the finding of Guda (2013) that, there was significant relationship between profitability and cash flow of small and medium enterprises in Nairobi County.

Similarly, 144(40.4%) of the respondents strongly agreed with the statement that the business considered the total cost spent in establishing the project/business, 105(29.5%) agreed, 72(20.2%) disagreed, 23(6.5%) of the respondents were undecided and 12(3.4%) of the respondents strongly disagreed with the statement. It emerged from the study that most 249(69.9%) of the SMEs considered the total cost spent in establishing the project/business when investing. This implies for improved business financial performance, SMEs consider the total cost spent in establishing the project/business when making an investment decision. This concurs with the findings of Cooper *et al.* (2001) that Payback is said to emphasize the management's concern with liquidity and the need to minimize risk through a rapid recovery of the initial investment.

On the other hand, 153(43.0%) of the respondents disagreed with the statement that the business estimated the time it took to get back the money invested, 92(25.8%) strongly agreed, 90(25.3%) of the respondents were undecided, 14(3.9%) strongly disagreed and 7(2.0%) of the respondents were in a strong agreement with the

statement. The study findings suggested that majority 245(68.8%) of the SMEs never considered estimation of the time it took to get back the money invested when making an investment decision. This implies that for improved business financial performance, SMEs fail to estimate the time it took to get back the money invested. This is in line with the findings of Sengar and Kothari (2008) that is, the investment's payback period must be shorter than the project's lifetime which is usually defined by the lifetime of equipment built into the project.

On whether business considered the capital employed, 151(42.4%) of the respondents agreed on the statement, 146(41.0%) strongly agreed, 42(11.8%) strongly disagreed, 13(3.7%) of the respondents were undecided and 4(1.1%) of the respondents had a strong disagreement with the statement. The study findings suggested that most 297(83.4%) of the SMEs considered capital employed when making an investment decision. This implies that for improved business financial performance, SME always consider the capital employed in the business when making an investment decision.

Lastly, 177(49.7%) of the respondents strongly agreed with the statement that the business considered the wear and tear, 99(27.8%) agreed, 42(11.8%) strongly disagreed, 29(8.1%) strongly disagreed and 9(2.5%) of the respondents were undecided on the statement. It emerged from the study that most 276(77.5%) of the SMEs considered wear and tear when making an investment decision. This implies that for improved business financial performance, SME always consider the wear and tear when making an investment decision.

#### **4.3.3 Effect of Net Present Value and financial performance**

For the analysis of the objective, frequencies and percentages were employed as the preferred descriptive statistical techniques. The helped to ascertain the effect of Net

Present Value on financial performance among SME's in Nairobi County, Kenya. The analysis, therefore, opens with the descriptive statistics (frequency and percentage) for the level of agreement on a five point Likert scale of the Net Present Value (Table 4.8). Where; 1=strongly disagree, 2=Disagree, 3=Undecided, 4= Agree and 5= Strongly Agree.

**Table 4. 4: Net Present Value and Financial Performance**

<b>Statement on Net Present Value</b>		<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>Total</b>
The business estimate the cash inflows and outflows	F	60	24	37	121	114	356
	%	16.9	6.7	10.4	34.0	32.0	100.0
The business consider the discount rates	F	31	54	7	132	132	356
	%	8.7	15.2	2.0	37.1	37.1	100.0
The business consider summing up all the present values to get the present value of cash stream	F	173	105	69	7	2	356
	%	48.6	29.5	19.4	2.0	0.6	100.0
The business consider the time value for money	F	168	142	5	4	37	356
	%	47.2	39.9	1.4	1.1	10.4	100.0
The business considers wear and tear	F	38	44	7	96	171	356
	%	10.7	12.4	2.0	27.0	48.0	100.0

**Source (Researcher, 2017)**

Table 4.7 shows that 121(34.0%) of the respondents agreed with the statement that the business estimated the cash inflows and outflows, 114(32.0%) strongly agreed, 60(16.9%) strongly disagreed, 37(10.4%) of the respondents were undecided and 24(6.7%) of the respondents disagreed with the statement. The study findings suggested that most 235(66.0%) of the SMEs estimated the cash inflows and outflows. This implies that for improved business financial performance, SMEs estimates the cash inflows and outflows when making an investment decision. This

supports the finding of Guda (2013) that, there was significant relationship between profitability and cash flow of small and medium enterprises in Nairobi County.

Similarly, 132(37.1%) of the respondents strongly agreed with the statement that the business considered the discount rates, a similar 132(37.1%) agreed, 54(15.2%) disagreed, 31(8.7%) strongly disagreed and 7(2.0%) of the respondents were undecided on the statement. It emerged from the study that most 264(74.2%) of the SMEs considered the discount rates. This implies for improved business financial performance, SMEs consider the discount rates when making an investment decision. This concurs with the findings of Graham and Harvey (2001), Awomewe and Ogundele (2008), Danielson and Scott (2006), and Brijal and Quesada (2009) that there is an extensive used of discount rates.

On the other hand, 173(48.6%) of the respondents strongly disagreed with the statement that the business considered summing up all the present values to get the present value of cash stream, 105(29.5%) disagreed, 69(19.4%) of the respondents were undecided, 7(2.0%) agreed and 2(0.6%) of the respondents were in a strong agreement with the statement. The study findings suggested that majority 278(78.1%) of the SMEs never considered summing up all the present values to get the present value of cash stream when making an investment decision. This implies that for improved business financial performance, SMEs fail to sum up all the present values to get the present value of cash stream. This supports the findings of Graham, John, Harvey, & Campbell (2001) observed that small businesses are significantly less likely to use NPV method but they frequently use the payback period method.

On whether business considered the time value for money, 168(47.2%) of the respondents strongly disagreed on the statement, 142(39.9%) disagreed, 37(10.4%)

strongly agreed, 5(1.4%) of the respondents were undecided and 4(1.1%) of the respondents had an agreement with the statement. The study findings suggested that most 310(87.1%) of the SMEs never considered time value for money when making an investment decision. This implies that for improved business financial performance, SME fails to consider the time value for money in the business when making an investment decision.

Lastly, 171(48.0%) of the respondents strongly agreed with the statement that the business considered the wear and tear, 96(27.0%) agreed, 44(12.4%) disagreed, 38(10.7%) strongly disagreed and 7(2.0%) of the respondents were undecided on the statement. It emerged from the study that most 267(75.0%) of the SMEs considered wear and tear when making an investment decision. This implies that for improved business financial performance, SME always consider the wear and tear when making an investment decision. This concurs with the findings of Katabi & Dimoso (2016) who revealed that there is significant relationship between financial goals of SMEs and Payback period.

#### **4.3.4 Effect of Internal Rate of Return and financial performance**

For the analysis of the objective, frequencies and percentages were employed as the preferred descriptive statistical techniques. The helped to examine the effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya. The analysis, therefore, opens with the descriptive statistics (frequency and percentage) for the level of agreement on a five point Likert scale of the Internal Rate of Return (Table 4.9). Where; 1=strongly disagree, 2=Disagree, 3=Undecided, 4= Agree and 5= Strongly Agree.

**Table 4. 5: Internal Rate of Return and Financial Performance**

<b>Statement on Internal Rate of Return</b>		<b>SD</b>	<b>D</b>	<b>U</b>	<b>A</b>	<b>SA</b>	<b>Total</b>
The business consider keeping records on yearly projected returns	F	60	23	36	124	113	356
	%	16.9	6.5	10.1	34.8	31.7	100.0
The business consider the cash flows	F	32	54	17	129	124	356
	%	9.0	15.2	4.8	36.2	34.9	100.0
The business assume the NPV to be equal to zero	F	149	103	96	7	1	356
	%	41.9	28.9	27.0	2.0	0.3	100.0
The business consider rate of return from the business	F	159	139	14	6	38	356
	%	44.7	39.0	3.9	1.7	10.7	100.0
The business contemplate wear and tear	F	43	42	10	103	158	356
	%	12.1	11.8	2.8	28.9	44.4	100.0

**Source (Researcher, 2017)**

Table 4.8 shows that 124(34.8%) of the respondents agreed with the statement that the business considered keeping records on yearly projected returns, 113(31.7%) strongly agreed, 60(16.9%) strongly disagreed, 36(10.1%) of the respondents were undecided and 23(6.5%) of the respondents disagreed with the statement. The study findings suggested that most 237(66.5%) of the SMEs considered keeping records on yearly projected returns. This implies that for improved business financial performance, SMEs consider keeping records on yearly projected returns when making an investment decision. This supports the finding of Kleczyk (2008) states that the level of the projects' internal rates of return for different strategies is one of the most important decision factors when deciding which new products to develop and which new investment program to conduct.

Similarly, 129(36.2%) of the respondents agreed with the statement that the business considered the cash flows, 124(34.9%) strongly agreed, 54(15.2%) disagreed,

32(9.0%) strongly disagreed and 17(4.8%) of the respondents were undecided on the statement. It emerged from the study that most 253(71.1%) of the SMEs considered the cash flows. This implies for improved business financial performance, SMEs consider the cash flows when making an investment decision. This concurs with the findings of Guda (2013) that, there was significant relationship between profitability and cash flow of small and medium enterprises in Nairobi County.

On the other hand, 149(41.9%) of the respondents strongly disagreed with the statement that the business assumed the NPV to be equal to zero, 103(28.9%) disagreed, 96(27.0%) of the respondents were undecided, 7(2.0%) agreed and 1(0.3%) of the respondents were in a strong agreement with the statement. The study findings suggested that majority 252(70.8%) of the SMEs never assumed the NPV to be equal to zero when making an investment decision. This implies that for improved business financial performance, SMEs fail to assume the NPV to be equal to zero when making an investment decision.

On whether business considered the rate of return from the business, 159(44.7%) of the respondents strongly disagreed on the statement, 139(39.0%) disagreed, 38(10.7%) strongly agreed, 14(3.9%) of the respondents were undecided and 6(1.7%) of the respondents had an agreement with the statement. The study findings suggested that most 298(83.7%) of the SMEs never considered the rate of return from the business when making an investment decision. This implies that for improved business financial performance, SME fails to consider the rate of return from the business when making an investment decision.

Lastly, 158(44.4%) of the respondents strongly agreed with the statement that the business considered the wear and tear, 103(28.9%) agreed, 43(12.1%) strongly

disagreed, 42(11.8%) disagreed and 10(2.8%) of the respondents were undecided on the statement. It emerged from the study that most 261(73.3%) of the SMEs considered wear and tear when making an investment decision. This implies that for improved business financial performance, SME always consider the wear and tear when making an investment decision.

#### **4.4 Inferential statistics analysis for Investment Appraisal Techniques and Financial performance**

To test the hypotheses, the study adopted multiple linear regression as the most appropriate statistical techniques. The study, thus, opens with the test for assumption of the for multiple linear regression analysis.

##### **4.4.1 Assumptions for multiple regression analysis**

The following assumptions for adoption of multiple regression analysis were tested; Normality assumption, linearity assumption and multicollinearity.

###### **4.4.1.1 Assumption of Normality**

Normality of data was assessed using Skewness and Kurtosis statistics (Tabachnick & Fidell, 2007). Hair, Money, Samouel and Page (2007) indicated that data skewness values must fall within +1 and -1 and kurtosis values must be in the range of +3 and -3. If both tests have been fulfilled, then the data can be considered as normally distributed and no any skewed distribution.

**Table 4. 6: Test for Normality**

	Skewness Statistic	Kurtosis Statistic
Accounting Rate of Return	-.598	-.012
Payback period	-.593	-.576

Net present value	-.224	-.020
Internal Rate of Return	-.325	-.023
Financial performance	-.370	-.609

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**Source (Researcher, 2017)**

Results presented in Table 4.9 reveal that normality assumption was supported for the variables Accounting Rate of Return, Payback period, Net present value, Internal Rate of Return and financial performance as the Skewness and Kurtosis values fell within the stated range.

**4.4.1.2 Assumption of linearity**

Pearson's product moment correlation coefficients were used to test linearity assumption. The purpose of using correlation was to identify Investment Appraisal Techniques that provide best predictions for conducting regression analysis. The inter-correlations among the variables are shown in Table 4.11.

**Table 4. 2: Test for Normality**

		<b>Correlations</b>				
		Financial performance	Accounting Rate of Return	Payback Period	Net Present Value	Internal Rate of Return
Financial performance	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	356				
Accounting Rate of Return	Pearson Correlation	.768**	1			
	Sig. (2-tailed)	.000				
	N	356	356			
Payback Period	Pearson Correlation	.864**	.757**	1		
	Sig. (2-tailed)	.000	.000			
	N	356	356	356		
Net Present Value	Pearson Correlation	.684**	.448**	.479**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	356	356	356	356	
Internal Rate of Return	Pearson Correlation	.683**	.424**	.495**	.945**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	356	356	356	356	356

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Source (Researcher, 2017)**

As shown in Table 4.10, there is a correlations between Accounting Rate of Return and financial performance ( $r=.768^{**}$ ), Payback Period and financial performance ( $r=.864^{**}$ ), Net Present Value and financial performance ( $r=.684^{**}$ ) and Internal Rate of Return and financial performance ( $r=.683^{**}$ ). This implies that the linearity assumption was therefore, satisfied. After the assumptions, the study established the effect of Investment Appraisal Techniques and financial performance.

#### 4.4.2 Effects of Investment Appraisal Techniques and financial performance

Multiple linear regression analysis was used to test the formulated hypotheses. First, the model summary was analyzed to establish the strength of the conceptualized Investment Appraisal Techniques in predicting financial performance.

**Table 4. 8: Model Summary**

<b>Model Summary<sup>b</sup></b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.927 <sup>a</sup>	.860	.858	.196	2.006

a. Predictors: (Constant), Internal Rate of Return, Accounting Rate of Return, Payback Period, Net Present Value

b. Dependent Variable: Financial performance

**Source (Researcher, 2017)**

Results presented in Table 4.11 reveal that the four Investment Appraisal Techniques namely Accounting Rate of Return, Payback period, Net Present Value and Internal Rate of Return explains 85.8% of the variation in financial performance (Adjusted R Square = 0.858). Therefore, the remaining 14.2% is explained by other Investment Appraisal Techniques not considered in the study. Second, the ANOVA output was examined to check whether the proposed model was viable.

**Table 4.93: Analysis of Variance (ANOVA)**

ANOVA <sup>a</sup>						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	82.576	4	20.644	538.428	.000 <sup>b</sup>
	Residual	13.458	351	.038		
	Total	96.034	355			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), Internal Rate of Return, Accounting Rate of Return, Payback Period, Net Present Value

**Source (Researcher, 2017)**

Results shown in Table 4.12 reveal that the F-statistic was highly significant (F=538.428 p<0.05), this shows that the model was valid.

**Table 4.40: Regression coefficients**

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.039	.068		.574	.566		
Accounting Rate of Return	.153	.023	.209	6.702	.000	.409	2.447
Payback Period	.435	.026	.542	16.849	.000	.386	2.593
Net Present Value	.194	.059	.204	3.295	.001	.104	9.641
Internal Rate of Return	.122	.057	.133	2.133	.034	.103	9.689

a. Dependent Variable: Financial performance

**Source (Researcher, 2017)**

Results of the regression coefficients presented in Table 4.13 shows that the estimates of  $\beta$  values and give an individual contribution of each predictor to the model. The  $\beta$

value tells us about the relationship between financial performances with each predictor. The  $\beta$  value for Accounting Rate of Return (.209), Payback period (.542), Net Present Value (.204) and Internal Rate of Return (.133) were positive. Therefore, from the results the model was then specified as:-

$$y = \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \varepsilon \dots$$

Financial performance= .209 Accounting Rate of Return +.542 Payback period +.204 Net Present Value+.133 Internal Rate of Return.

The coefficients for each of the variables indicates the amount of change one could expect in financial performance given a one-unit change in the value of that variable, given that all the variables in the model are standardized basing on the standardized coefficients. Results reveal standardized regression coefficient for Accounting Rate of Return ( $\beta_1=0.209$ ), implies that an increase of 1 standard deviation in Accounting Rate of Return is likely to result in a 0.209 standard deviations increase in financial performance.

Moreover, standardized regression coefficient for Payback period ( $\beta_1=0.542$ ), implies that an increase of 1 standard deviation in Payback period is likely to result in a 0.542 standard deviations increase in financial performance. Likewise, standardized regression coefficient for Net Present Value ( $\beta_1=0.204$ ), implies that an increase of 1 standard deviation in Net Present Value is likely to result in a 0.204 standard deviations increase in financial performance. Lastly, standardized regression coefficient for Internal Rate of Return ( $\beta_1=0.133$ ), implies that an increase of 1 standard deviation in Internal Rate of Return is likely to result in a 0.133 standard deviations increase in financial performance.

T-test was used to identify whether the predictors were making a significant contribution to the model. When the t-test associated with  $\beta$  value is significant then the predictor is making a significant contribution to the model. The smaller the value of significance (the larger the value of t) meaning greater is the contributor of that predictor. The results show that Accounting Rate of Return (t =6.702, P<.05), payback period (t =16.489, P<.05), Net Present Value (t =3.295, P<.05) and Internal Rate of Return (t =2.133, P<.05). These findings indicate that Accounting Rate of Return, Payback period, Net Present Value and Internal Rate of return as predictors, which significantly affect financial performance among SME's in Nairobi County, Kenya .

These results imply that payback period is most (t =16.489, P<.05) important predictor for financial performance. This could be due to the simplicity of the payback period method when making an investment decision as opposed to Internal Rate of Return which has a lot of calculations that could not be understood by most of the SMEs. This is line with the findings of Daniel and Scott (2006) who observed that small firms evaluate projects using payback period or owner's NPV. Vos & Vos (2000) found that NPV and accounting based methods were mostly used. Graham and Harvey (2001) observed that small businesses are significantly less likely to use NPV method but they frequently use the payback period method.

Lastly, collinearity, tests were carried out using tolerance and Variance Inflation Factor (VIF) statistics. For this model, VIF values are all below 10 and tolerance statistics are all well above 0.1 and we can conclude that there is no Collinearity within our data.

#### **4.4.3 Hypothesis testing**

**H0<sub>1</sub>:** There is no statistically significant effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya.

Multiple regression analysis showed that a significant ( $p = .000$ ;  $\alpha = 0.05$ ) effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya. Therefore the null hypothesis, "that there is no statistically significant effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya", was rejected ( $p < 0.05$ ). This implies that there is a significant effect of effect of Accounting Rate of Return on financial performance among SME's in Nairobi County, Kenya. This supports the finding of Katabi and Dimoso (2016) that there is significant relationship between financial goals of SMEs and Accounting Rate of Return.

**H0<sub>2</sub>:** There is no statistically significant effect of Payback period on financial performance among SME's in Nairobi County, Kenya.

Multiple regression analysis showed that a significant ( $p = .000$ ;  $\alpha = 0.05$ ) effect of Payback period on financial performance among SME's in Nairobi County, Kenya. Therefore the null hypothesis, "that there is statistically significant effect of Payback period on financial performance among SME's in Nairobi County, Kenya", was rejected ( $p < 0.05$ ). This implies that there is a significant effect of Payback period on financial performance among SME's in Nairobi County, Kenya. This supports the findings of Katabi & Dimoso (2016) who revealed that there is significant relationship between financial goals of SMEs and Payback period.

**H0<sub>3</sub>:** There is no statistically significant effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya.

Multiple regression analysis showed that a significant ( $p = .001$ ;  $\alpha = 0.05$ ) effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya. Therefore the null hypothesis, "that there is no significant effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya", was rejected ( $p < 0.05$ ). This implies that there is a significant effect of effect of Net Present Value on financial performance among SME's in Nairobi County, Kenya. This is in line with the findings of Katabi and Dimoso (2016) that there is significant relationship between financial goals of SMEs and Discounted cash flows such as Net Present Value.

**H04:** There is no statistically significant effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya.

Multiple regression analysis showed that a significant ( $p = .034$ ;  $\alpha = 0.05$ ) effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya. Therefore the null hypothesis, "that there is no significant effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya", was rejected ( $p < 0.05$ ). This implies that there is a significant effect of Internal Rate of Return on financial performance among SME's in Nairobi County, Kenya. This concurs with the findings of Katabi and Dimoso (2016) that there is significant relationship between financial goals of SMEs and Discounted cash flows such as Net Present Value.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary, conclusion and recommendations. The chapter thus, begins with the summary of the findings.

#### **5.2 Summary of the findings**

##### **5.2.1 Effect of Accounting Rate of Return and Financial performance**

On the effect of Accounting Rate of Return on financial performance, the study findings suggested that most 243(68.2%) of the SMEs considered cash inflows when investing. Similarly, it emerged from the study that most 270(75.9%) of the SMEs considered the initial cash to be invested when investing. On the other hand, the study findings suggested that majority 293(82.3%) of the SMEs failed to take into account the time value of money when making an investment decision. Moreover, the study findings suggested that most 149(41.9%) of the SMEs had a divided opinion on whether business considered the residual value. Lastly, it emerged from the study that most 248(69.7%) of the SMEs considered the wear and tear. The inferential statistics results reveal standardized regression coefficient for Accounting Rate of Return ( $\beta_1=0.209$ ), implies that an increase of 1 standard deviation in Accounting Rate of Return is likely to result in a 0.209 standard deviations increase in financial performance.

##### **5.2.2 Effect of payback period and financial performance**

The study findings suggested that most 246(69.1%) of the SMEs considered record on the cash generated from sales. Similarly, it emerged from the study that most

249(69.9%) of the SMEs considered the total cost spent in establishing the project/business when investing. On the other hand, the study findings suggested that majority 245(68.8%) of the SMEs never considered estimation of the time it took to get back the money invested when making an investment decision. The study findings suggested that most 297(83.4%) of the SMEs considered capital employed when making an investment decision. Lastly, it emerged from the study that most 276(77.5%) of the SMEs considered wear and tear when making an investment decision. Inferential statistics results revealed that, standardized regression coefficient for Payback period ( $\beta_1=0.542$ ), implies that an increase of 1 standard deviation in Payback period is likely to result in a 0.542 standard deviations increase in financial performance.

### **5.2.3 Effect of Net Present Value and financial performance**

The study findings suggested that most 235(66.0%) of the SMEs estimated the cash inflows and outflows. Similarly, it emerged from the study that most 264(74.2%) of the SMEs considered the discount rates. On the other hand, the study findings suggested that majority 278(78.1%) of the SMEs never considered summing up all the present values to get the present value of cash stream when making an investment decision. The study findings suggested that most 310(87.1%) of the SMEs never considered time value for money when making an investment decision. Lastly, it emerged from the study that most 267(75.0%) of the SMEs considered wear and tear when making an investment decision. The inferential statistics results revealed that, standardized regression coefficient for Net Present Value ( $\beta_1=0.204$ ), implies that an increase of 1 standard deviation in Net Present Value is likely to result in a 0.204 standard deviations increase in financial performance.

#### **5.2.4 Effect of Internal Rate of Return and financial performance**

The study findings suggested that most 237(66.5%) of the SMEs considered keeping records on yearly projected returns. Similarly, it emerged from the study that most 253(71.1%) of the SMEs considered the cash flows. On the other hand, the study findings suggested that majority 252(70.8%) of the SMEs never assumed the NPV to be equal to zero when making an investment decision. The study findings suggested that most 298(83.7%) of the SMEs never considered the rate of return from the business when making an investment decision. Lastly, it emerged from the study that most 261(73.3%) of the SMEs considered wear and tear when making an investment decision. The findings from the inferential statistics revealed that, standardized regression coefficient for Internal Rate of Return ( $\beta_1=0.133$ ), implies that an increase of 1 standard deviation in Internal Rate of Return is likely to result in a 0.133 standard deviations increase in financial performance.

#### **5.3 Conclusion**

In regard to the literature review, findings and discussions, the study concluded that Investment Appraisal Techniques significantly influence the financial performance of SMEs in Nairobi County, Kenya. Therefore, sensible investment decisions are vital in the improvement of the SMEs solvency, market, liquidity and profitability which results to better financial performance. Moreover, payback period remains the most important predictor of the SMEs financial performance.

On the effect of Accounting Rate of Return on financial performance, the study concluded that, Accounting Rate of Return significantly influence financial performance. SMEs do consider cash inflows, initial cash to be invested and sometimes wear and tear when investing, however, they fail to take into account time

value of money. Therefore, Accounting Rate of Return plays some positive role in improving SMEs financial performance.

On the effect of Payback period on financial performance, the study concluded that, payback period significantly influence financial performance. SMEs do consider cash generated from sales, total cost spent in establishing the project/business, estimation of the time it took to get back the money invested and capital employed when making an investment decisions. Therefore, Payback period plays a great positive role for enhanced financial performance.

Moreover, the study concluded that, Net Present Value significantly influence financial performance. SMEs do consider discount rates, wear and tear when investing; however, they fail to consider summing up all the present values to get the present value of cash stream and time value for money when making an investment decision. Therefore, Net Present Value plays a divided role in improving SMEs financial performance.

Lastly, the study concluded that, Internal Rate of Return significantly influence financial performance. SMEs do consider some components of Internal Rate of Return such records on yearly projected returns and wear and tear, however, they fail to consider rate of return from the business and the NPV to be equal to zero when making an investment decision. Therefore, Internal Rate of Return plays a divided role in enhancing SMEs' financial performance

#### **5.4 Recommendations**

The findings of the study suggested that due to the importance of investment to the economy of the country and SMEs themselves; SMEs operators need to continuously analyze the investment decisions that make them improve their financial performance.

The government and other stakeholder to focus more on the issue of investment decisions for SMEs. In particular, they should train SMEs on the investment evaluation techniques, their advantages and disadvantages in relation to their financial performance. Knowing these factors of influence will enable SMEs to make better investment decisions by selecting the right investment evaluation technique.

More efforts are needed from the regulatory agencies and government in general toward helping SMEs grow and make decisions as their growth will be good for the wider economy.

#### **5.4.1 Suggestion for Further Research**

Studies can be undertaken on the effects of Investment Appraisal Techniques on each indicator of financial performance (Profitability, Market, Liquidity and Solvency).

Further study should be narrowed down to the effect of each Investment Appraisal Techniques (Accounting Rate of Return, Payback period, Internal Rate of Return and Net Present Value) on financial performance.

A pre-test posttest study should be carried on sampled SMEs to determine the effect of SMEs' training on Investment Appraisal Techniques (Accounting Rate of Return, Payback period, Internal Rate of Return and Net Present Value) on financial performance.

Since most SMEs do not have adequate financial documentation and do not employ fully qualified accountants, a study can be conducted to determine the mediating effect of book keeping on the relationship Investment Appraisal Techniques (Accounting Rate of Return, Payback period, Internal Rate of Return and Net Present Value) on financial performance.

Lastly, the mediating effect of the relationship between the Investment Appraisal Techniques (Accounting Rate of Return, Payback period, Internal Rate of Return and Net Present Value) on financial performance.

## REFERENCES

- Abdul, S., & Shaibu, M. (2013). Econometrical Analysis of Determinants of Cash Flow of Institutional Lenders in Nigerian Agriculture: Macro Economic Variables Perspective. *IOSR Journal Of Humanities And Social Science*, 15(2), 20-22.
- Ahiawodzi, A., & Adade, T. (2012). Access to Credit and Growth of Small and Medium Scale Enterprises in the Ho Municipality of Ghana. *British Journal of Economics, Finance and Management Sciences*, 6(2), 34-51.
- Akerloff, G. (1970). The market for "lemons": Quality uncertainty and the market mechanism. *Quarterly Journal of Economics*, 88, 488-500.
- Akintoye, R., & Olowolaju, P. (2008). Optimising Macroeconomic Investment Decisions: A Lesson from Nigeria. *European Journal of scientific Research*, 22(4), 469-479.
- Alleyne, P. (2010). An exploratory study of factors influencing investment decisions of potential investors. Bridget Barbados: Central Bank of Barbados Research Department. *Unpublished thesis*.
- Almeida, H., campello, M., & Weisbach, M. (2004). The cashflow sensitivity of cash. *Journal of Finance*, 4(200).
- Asetto, F. (2014). EFFECT OF TABLE BANKING ON INVESTMENT DECISIONS OF SMALL AND MEDIUM ENTERPRISES IN NAIROBI COUNTY. *Unpublished thesis*.
- Awomewe, A., & Ogundele, O. (2008). The importance of the Payback method in Capital budgeting decision,. (*MBA Thesis*), *Blekinge Institute of Technology*.
- Brijal, P., & Quesada, L. (2009, July/August). The use of capital budgeting techniques in businesses; a perspective from the Western Cape. *he journal of Applied Business Research*, 25(4).
- Ciccolo, J., Fromm, G., & Marshall, A. (1979). "q" and the Theory of Investment. *Journal of Finance*, 34(2), 35-547.
- Clark, J. (1979). Investment in the 1970s: Theory, Performance, and Prediction. *Brookings Papers on Economic Activity*, 1, 73-113.
- Danielson, M., & Scott, j. (2006). The capital budgeting decisions of small business. *Journal of Applied Finance*, 45-56.
- Eklund, J. (2013). *Theories of investment: A theoretical review with empirical applications. Working paper*. Swedish Entrepreneurship Forum.
- Ghayekhloo, S., & Masomi, S. (2011). Consequences of human behaviors' in Economic: the Effects of Behavioral Factors in Investment decision making at Tehran Stock Exchange. *International Conference on Business and Economics Research*. Kuala Lumpur Malaysia: Business and Economics Research.
- Graham, John, Harvey, & Campbell. (2001). How Do CFOs Make Capital Budgeting And Capital Structure Decisions? *J. Journal of applied corporate finance*, 15(1), 8-23.

- Gratton, C., & Jones, I. (2004). *Research methods for sports studies*. London: Routledge.
- Grunfeld, Y. (1960). *The determinants of corporate investment*. In *The Demand for Durable Goods*. Chicago: University of Chicago Press.
- Guda, D. (2013). The relationship between cash flow and profitability of small and medium enterprises in nairobi county. *Unpublished thesis of University of Nairobi*.
- Isaga, N. (2012). Entrepreneurship and Growth of SMEs in the Furniture Industry in Tanzania. *PhD Thesis, VU University Amsterdam*.
- Jensen, M. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), 323-329.
- John, M. (2007). Capital budgeting practices and performance of small firms in Tanzania. *MBA Dissertation, University of Dar es Salaam*.
- Jorgenson, D. (1963). Capital Theory and Investment Behavior. *American Economic Review*, 53, 247-259.
- Kalyebara, B., & Islam, S. (2014). *Corporate Governance, Capital Markets, and Capital Budgeting: An Integrated Approach*. Springer: Berlin.
- Karanja, C. (2012). The relationship between investment decisions and financial performance of small and medium scale enterprises in limuru town, kenya. *Unpublished thesis*.
- Katabi, R., & Dimoso, R. (2016). The Effect of Small Business Characteristics on the Choice of Investment Evaluation Techniques for SMEs in Tanzania. *IOSR Journal of Business and Management*, 18(4), 11-18.
- Katabi, R., & Dimoso, R. (2016). The Relationship Between Financial Goals of SMES and Investment Decisions. *Journal of Business Studies Quarterly*, 7(4).
- Keynes, J. (1936). *The general theory of employment interest and money*. London: Atlantic publishers.
- Khakasa, E. (2009). Capital budgeting for information systems investments-evidence from Kenya. Paper presented at the Business Management Conference. *Business Management Conference*, (pp. 5 -7). Durban, South Africa.
- Kilonzo, S. (2011). *Consultative Forum On The Proposed Market for SMEs*. Nairobi: Capital Markets Authority.
- Kipsha, E. (2009). Assessment of the investment analysis techniques used by SMEs and practices in Tanzania. The case of SMEs in Morogoro Municipality. *MBA thesis, University of Dar es Salaam*.
- Koch, A. (1943). *The financing of large corporations*. New York: NBER.
- Marris, R. (1963). A Model of the "managerial" enterprise. *Quarterly Journal of Economics*, 77(15), 1-33.

- Maziku, M. (2012). *Credit Rationing for Small and Medium Scale Enterprises in the Commercial loan Market*. Dar es Salaam, Tanzania: REPOA's 17th Annual Research Workshop.
- Menya, S., & Gichinga, L. (2013). The Effects of Capital Budgeting Techniques on The Growth of Micro-Finance Enterprises in Mombasa. *International Journal of Science and Research*, 6(14).
- Mong'o, M. (2010). The relationship between cash-flows and profitability of commercial. *Unpublished thesis*.
- Mueller, D. (1972). The corporation and the economist. *International Journal of Industrial Organization*, 10(5), 47-170.
- Mugenda, O., & Mugenda, A. (2003). *Research Methods; Quantitative and Qualitative Approaches*. Nairobi: African Centre for Technology Studies (ACTS) Press.
- Mujis, D. (2004). *Doing Quantitative Research in*. Sage Publications.
- Mwarari, M., & Ngugi, P. (2013). Factors influencing listing of Kenyan SMEs in the securities market for capital raising opportunities. *European Journal of Management Sciences and Economics*, 1(2), 99-115.
- Myers, S., & Majluf, N. (1985). Corporate Financing and Investment Decisions When Firms Have Information that Investor Does not Have. *Journal of Financial Economics*, 13, 187-221.
- Ndambuki, R. (2010). Strategic management practices and challenges among small and medium enterprises in Westlands Division Nairobi. University of Nairobi. *Unpublished thesis*.
- Nyagah, C. (2013). Non-Financial Constraints Hindering Growth Of Sme's In Kenya: The Case Of Plastic Manufacturing Companies In Industrial Area In Nairobi County. *MBA Project, University of Nairobi*.
- Pandey, I. (1976). *Essentials of financial management* (10th ed.). New-Delhi: Vikas Publishing House PVT.
- Republic of Kenya. (2012). *Republic of Kenya*. Retrieved November 24, 2016, from <http://www.guide2kenya.com/information/193/Limuru-Town-in-Kiambu-County>.
- Samoye, R. (2009). A Model for Pricing of Equity in an Enviroment Characterised by Information Assymetry- A case of emerging markets. *European Journal of scientific Research*, 29((1450-216x)), 426-437.
- Samuel, C. (1996). "The Investment Decision: A re-examination of competing theories using panel data". *The World Bank Policy Research Working Paper*, 1656. Washington DC: World Bank.
- Tobin, J. (1969). A General Equilibrium Approach To Monetary Theory. *Journal of Money, Credit and Banking*, 1(1), 15-29.
- Vos, A., & Vos, E. (2000). Investment Decision Criteria In Small New Zealand. *Businesses Small Enterprise Research*, 8(1), 44-55.

- Waweru, M., Uliana, E., & Munoki, E. (2008). the Effects of behavioural factors in investment decision making A survey of institutional investors operating at the Nairobi stock exchange. *Unpublished thesis*.
- Yoshikawa, H. (1980). On the 'q' Theory of Investment. *The American Economic Review*, 70(4), 739-743.

## **APPENDICES**

### **Appendix 1: Letter of Transmittal**

Patrick .M. Wambua

P. O. BOX 9235-00200

Nairobi

Tel: 0722847408

### **REF: REQUEST FOR RESEARCH INFORMATION**

I am a student undertaking a Master degree in Business Administration (Finance option) at Kenyatta University. I am assessing Investment Appraisal Techniques and Financial performance among small and medium Enterprises in Nairobi County, Kenya. I kindly request research information from you and give an assurance that your identity will be treated in confidence and all the information provided will be used for academic purposes only.

Regards

Patrick .M. Wambua

## Appendix II: Research Questionnaire

My name is Patrick Wambua. I am a post graduate student at **Kenyatta University** and carrying out a study on the Investment Appraisal Techniques adoption and financial performance among small and medium enterprises in Nairobi County, Kenya; you have been selected to participate in this study. The information that you will give will be treated with utmost confidentiality and will only be used for academic purposes. Fill in your responses in the spaces provided in each of the questionnaire items.

### SECTION A

#### PART (I) THE SME SPECIFIC INFORMATION

1. Name of the SMES.....

3. What sector is your business involved in? (Tick where appropriate)

Hospitality

Transport sector

Wholesale and retail trade

Information technology services

Financial services

Other sectors (Specify).....

#### PART (II) RESPONDENT INFORMATION

Experience in the type of business .....

What is the highest level of training that you have undergone?

University level

College level

Secondary level

Primary school level

None

**SECTION B**

**Category I: Accounting Rate of Return**

Please circle the number that represents your level of agreements with each of the following statements using the scale provided:

**1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree**

<b>Statements</b>					
The business consider the cash inflows	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider the initial cash invested	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business fail to take into account the time value of money	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider the residual value	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider the wear and tear	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

Do you always consider Accounting Rate of Return when making investment decision?

Please Explain.....

**Category II: Payback period**

Please circle the number that represents your level of agreements with each of the following statements using the scale provided:

**1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree**

<b>Statements</b>					
The business consider record on the cash generated from sales	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider the total cost spent in establishing the project	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business estimate the time it takes to get back the money invested	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider the capital employed	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business considers wear and tear	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

Do you always consider the Payback period when making investment decision?

Please Explain.....

### Category III: Net Present Value

Please circle the number that represents your level of agreements with each of the following statements using the scale provided:

**1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree**

Statements					
The business estimate the cash inflows and outflows	1	2	3	4	5
The business consider the discount rates	1	2	3	4	5
The business consider summing up all the present values to get the present value of cash stream	1	2	3	4	5
The business consider the time value for money	1	2	3	4	5
The business consider the wear and tear	1	2	3	4	5

Do you always consider the Net present value when making investment decision?

Please Explain.....

**Category IV: Internal Rate of Return**

Please circle the number that represents your level of agreements with each of the following statements using the scale provided:

**1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree**

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business consider keeping records on yearly projected returns	1	2	3	4	5
The business consider the rate of return from the business	1	2	3	4	5
The business assume the NPV to be equal to zero	1	2	3	4	5
The business consider cash flows	1	2	3	4	5
The business contemplate wear and tear	1	2	3	4	5

Do you always consider the Internal Rate of Return when making investment decision?

Please Explain.....

**Category V: Financial performance**

Please circle the number that represents your level of agreements with each of the following statements using the scale provided:

**1=Strongly Disagree, 2= Disagree, 3= Undecided, 4=Agree and 5= Strongly Agree**

<b>Statements</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
The business is able to provide financial reward sufficient to attract and retain financing (profitability) because of the Investment Appraisal Techniques' consideration	1	2	3	4	5
The business is able to meet short term obligation (liquidity) because of the Investment Appraisal Techniques' consideration	1	2	3	4	5
The business is able to meet long term obligations and generate future revenues (solvency) because of the Investment Appraisal Techniques' consideration	1	2	3	4	5
The business is able to generate positive market expectations (market) because of the Investment Appraisal Techniques' consideration	1	2	3	4	5

### Appendix III: Approval of Research Proposal

  
KENYATTA UNIVERSITY  
GRADUATE SCHOOL

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke) P.O. Box 43844, 00100  
NAIROBI, KENYA  
Website: [www.ku.ac.ke](http://www.ku.ac.ke) Tel. 810901 Ext. 4150

Internal Memo

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FROM: Dean, Graduate School DATE: 21<sup>st</sup> August, 2017

TO: Patrick M. Wambua REF: D53/CTY/29836/2014  
C/o Accounting & Finance Dept.

**SUBJECT: APPROVAL OF RESEARCH PROPOSAL**

We acknowledge receipt of your revised Research Proposal as per our recommendations raised by the Graduate School Board of 12<sup>th</sup> July, 2017 entitled "Investment appraisal Techniques and Financial Performance among small and medium Enterprises in Nairobi Country, Kenya".

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

Thank you

  
ANNBELL MWANIKI  
FOR, DEAN, GRADUATE SCHOOL

C.c. Chairman, Department of Accounting & Finance

Supervisors:

1. Dr. Jeremiah Koori  
C/o Department of Accounting & Finance  
Kenyatta University

AM/jm

## Appendix IV: Research Authorization



### KENYATTA UNIVERSITY GRADUATE SCHOOL

E-mail: [dean-graduate@ku.ac.ke](mailto:dean-graduate@ku.ac.ke)

Website: [www.ku.ac.ke](http://www.ku.ac.ke)

P.O. Box 43844, 00100  
NAIROBI, KENYA  
Tel. 8710901 Ext. 57530

Our Ref: D53/CTY/29836/2014

DATE: 21<sup>st</sup> August, 2017

Director General,  
National Commission for Science, Technology  
and Innovation  
P.O. Box 30623-00100  
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR PATRICK M. WAMBUA – REG. NO. ;  
D53/CTY/29836/2014

I write to introduce Mr. Patrick M. Wambua who is a Postgraduate Student of this University. He is registered for M.B.A. degree programme in the Department of Accounting & Finance.

Mr. Patrick M. Wambua intends to conduct research for a M.B.A. Project Proposal entitled, "Investment appraisal Techniques and Financial Performance among small and medium Enterprises in Nairobi Country, Kenya".

Any assistance given will be highly appreciated.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Lucy N. MBAABU'.

MRS. LUCY N. MBAABU  
FOR: DEAN, GRADUATE SCHOOL

AM/jm

## Appendix V: Research Permit



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,  
2541340, 2216071, 2219420  
Fax: +254-20-218248, 218249  
Email: [cc@nacosti.go.ke](mailto:cc@nacosti.go.ke)  
Website: [www.nacosti.go.ke](http://www.nacosti.go.ke)  
When replying please quote

9<sup>th</sup> Floor, Union House  
Uhuru Highway  
P.O. Box 30623-00100  
NAIROBI-KENYA

Ref. No: **NACOSTI/P/17/25165/19013**

Date: **19<sup>th</sup> September, 2017**

Patrick Mutiso Wambua  
Kenyatta University  
P.O Box 43844-00100  
**NAIROBI.**

#### **RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *"Investment appraisal techniques and financial performance among small and medium enterprises in Nairobi County, Kenya,"* I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **18<sup>th</sup> September, 2018.**

You are advised to report to **the County Commissioner, the County Director of Education, in Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

A handwritten signature in blue ink that reads 'G. Kalerwa'.

**GODFREY T. KALERWA MSc., MBA, MKIM**  
**FOR: DIRECTOR-GENERAL/CEO**

Copy to;

The County Commissioner  
Nairobi County.

The County Director of Education  
Nairobi County.