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CAPITAL INVESTMENT DECISION MAKING PROCESSES OF SME CLUSTERS IN NIGERIA: A case of four major SME clusters in Lagos, Nigeria.

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DECLARATION

I strongly affirm that the entire contents of this research is original and without any previous submission or recognised in material for no certification and is not currently being concomitantly acquiesced for some new form of gradation.

I additionally state that this study is the product of my personal effort and research, apart from expressly stated sessions where a bibliography or reference is affixed accordingly.

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ABSTRACT

The empirical evidence relating to the process of making investment decisions of small and medium sized enterprises (SMEs) clusters submits that most SMEs usually fail within the first 5 years of its establishment. This is majorly due to maladministration of finances which in most cases is ordinarily as a result of unprofitable investments. Inefficient capital investment decision making techniques, poor evaluation of capital investments and the failure to incorporate risks before making decisions on capital investments will surge the likelihood of scarce resources being distributed within projects that are not likely to yield optimum earnings over the actual cost of capital. This will in turn affect the profitability and the organization's value as a whole adversely; thereby rendering the whole investment process inefficient.

A cross-sectional study was adopted for the purpose of this research and this comprises a final sample of 252 SMEs from four major SME clusters in Lagos, Nigeria. These SME clusters are Otigba Information and Communication Technology cluster Ikeja, International Music and Video Production cluster Alaba, Auto Parts and Mechanical cluster Ladipo, Agribusiness Cluster, Lagos. The study adopted the Taro Yamane's technique used in determining relevant sizes of various samples. This study used a well-thought-out questionnaire which was created by the researcher based on the objectives of the research for data collection. This well-thought-out questionnaire was alienated into six sections: The dependability of this research instrument was verified making use of two different procedures - the Cronbach's alpha and Split Half Techniques. These were adopted to measure the inner stability of the research apparatus, by analysing the scale reliability of the questionnaire. Descriptive statistics involving percentage scores, bar charts, frequency counts and pie charts were used. Also, inferential statistics such as chi-square and

Independent Samples T-test was adopted in testing statistical connotation of the association between the variables.

The findings of this research established that ranking of projects based on values to be generated on each unit of venture (profitability index) was mostly used as a financial factor in when deciding on capital investment propositions. This should not be surprising since profit making is the major goal of every business and to remain operational, costs must stay well below inflows. Capital investment appraisal was discovered as being significantly linked to greater financial enactment of SMEs. This study concluded however that there existed a substantial variance in the average financial performance scores amongst the SME clusters who regularly used and those who did not use capital investment appraisal techniques.

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Finally, I appreciate my colleagues (all PhD students), particularly my cohort colleagues, for their substantial contributions during all my respective presentations throughout the program.

DEDICATION

The entirety of this work is dedicated to the glory of Almighty God, my wife Oluwaremilekun Subuola Sokan, my lovely mother Victoria Adedoyin Titilayo Sokan and my boys Diekoloreoluwasimi and Oluwadamiloju Sokan.

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GLOSSARY OF ACRONYMS

ABBREVIATIONS	MEANING
AMT	ADVANCED MANUFACTURING TECHNIQUE
APV	ADJUSTED PRESENT VALUE
ARR	ACCOUNTING RATE OF RETURN
BEA	BREAK EVEN ANALYSIS
BET	BETA ANALYSIS
CEO	CHIEF EXECUTIVE OFFICER
CFO	CHIEF FINANCIAL OFFICER
COC	COST OF CAPITAL
DCF	DISCOUNTED CASH FLOW
DTA	DECISION TREE ANALYSIS
EVA	ECONOMIC VALUE ADDED
FF	FINANCIAL FIRMS
IPO	INITIAL PUBLIC OFFER
IR	INTEREST RATE
IRR	INTERNAL RATE OF RETURN
IT	INFORMATION TECHNOLOGY
MENA	MIDDLE EAST AND NON-AFRICAN
MIRR	MODIFIED INTERNAL RATE OF RETURN
NC	NOMINAL CAPITAL
NPV	NET PRESENT VALUE
NSE	NIGERIAN STOCK EXCHANGE

NV	NOMINAL VALUE
PB	PAY BACK
PBP	PAY BACK PERIOD
PI	PROFITABILITY INDEX
PVP	PRESENT VALUE PAYBACK
RD	RESEARCH AND DEVELOPMENT
ROCE	RETURNS ON CAPITAL EMPLOYED
ROI	RETURNS ON INVESTMENT
SCE	SCENERIO ANALYSIS
SEN	SENSITIVITY ANALYSIS
SME	SMALL AND MEDIUM SIZED ENTERPRISES
SVA	SHAREHOLDERS' VALUE ANALYSIS
SWOT	STRENGHT WEAKNESS OPPORTUNITY THREAT
WACC	WEIGHTED AVERAGE COST OF CAPITAL
YTD	YEAR TO DATE

CHAPTER ONE

INTRODUCTION

1.1 Background Context

In developing, underdeveloped as well as advanced countries, the rise of small businesses (SMEs) and clustering remains a major facilitator in the consistent progression of the economy and developing the nation (Chan, 2010; Frankly, 2009). Every enterprise carry out its operations towards achieving success; and as a result of this, businesses must tactically position themselves in order to make the most of the continuous market changing prospects. Hence, substantial tactical choices and resolutions must be made concerning the achievement of success. One of these significant strategic decisions that a business should make is the efficient allocation of scarce resources i.e. funds and labor among investments, processes and ventures. This process of scarce resource allocation is termed "*the process of making decisions on investments of capital nature*". Contextually, this process of deciding on investments of capital nature can be said to be a practice of investigating, appraising and determining if particular funds should be allotted to a venture (Farragher et.al; 2011).

Almost all businesses needs a continuous capital investment to aid its survival in the ever competitive and briskly changing universal business environment (Eljelly and Abuidris, 2001). In view of this, Toit and Pienaar (2005) explains in their study that spendings of capital nature is a major issue to the management of any enterprise. This is because of all the decisions that has to be taken by the management, those relating to capital investmentranks as the most important which serves as a precondition for the corporation's success in the long run.The importance of capital investment decisions cannot be over emphasized as there exist numerous reasons for this. For instance, the

cash flow accruing from capital investments over a certain period forms a significant portion of the future returns of an investment; this cashflow serves as abasis for the present valuation of the business.

Also, the returns accruing from capital investments in most cases forms a huge portion of the funds used by businesses for growth and expansion (Holmes, 2008). However, where such capital investments becomes unsuccessful, the business may liquidate untimely as a result of financial difficulty (Imegi, John, C., Nwokoye, G. A. 2015). In some cases, the funds committed to investments of capital nature are usually intended for a long duration and if that fund is not managed properly, it may pose a major threat to the firm's liquidity ultimately (Adeniji, 2003). Generally, there is a common notion that capital investment affects the profitability of businesses directly in the long run (Chan 2010; Frankly 2009).

In general, financial theory suggest that when making capital investment decisions, only projects with positive present or net present values should be undertaken by businesses as these are anticipated to enhance the worth of the business. It should however be noted that old (1970s) financial theories of capital budgeting always viewed the individual interest of owner managers on investments as bias which ought to be totally eradicated as the case maybe. Hence, they did not include the standpoint of the agency in the analysis (Jensen and Meckling, 1976). Also, the likely issues owner managers face when making capital investment decisions was not considered; thereby failing to recognize probable undiversified risks. Additionally, Mintzberg et al (1979) explained that the outmoded views of making decisions around investments of capital nature did not also consider unavailability of a perfect knowledge of the processes involved in

making decisions around investments of capital nature processes with all of its uncertainties by decision makers.

Over the years, the use and application of various capital investment appraisal methods has become a major issue in literatures and some empirical studies have adopted the issue as a major area of research. The focus has been on the failure of owner managers adopting the recommendations suggested by academics on the various methods open to businesses when capital investments are appraised. Mostly, the approval of capital investment methods in use amongst businesses indifferent nations (Remer and Neito, 1995; Akalu, 2001) then discussions on the way this recognition continually transformed over the years is well documented (Pike, 1988; Pike, 1996; Pike and Neale, 2006).Various theories around making decisions on investments of capital nature advocates that when making capital investment decisions, the value to be created by the new project should be estimated. This can be achieved by making use of the reduced cash flow techniques (DCFs) involving the calculation of net present value (NPVs) of projects (Gilbert, 2005).

This theory also puts forward that since NPVs converts directly into variance in the value of equity; hence, shareholders wealth is exploited when investments with a favorable net present value are undertaken (Pike and Neale, 2006). Farragher et al (2011) states that wrong decision making techniques and inadequate evaluation of investments will upsurge the likelihood of rare resources being apportioned to parts that does not generate optimum earnings beyond the cost of capital which hereby has an adverse effect on profitability and company's value. An assessment scheme which does not apportion limited funds to lucrative ventures may yield a probable forfeiture of

viable place Seitz (2001; 2009). The conventional concept of Modigliani and Miller (1958; 1963) recognizes refined capital investment appraisal procedures as an instrument for make the most of company's lucrativeness.

Furthermore, some researchers have opined that the traditional techniques of investment appraisal as well as the NPV do not have the capability to handle the distinct reality involved with the ever-changing business scenery; especially where the major aim of investors is to capitalize on the affluence of shareholders' (Woods and Randall, 1989; Pike, 1996). Some other studies have also listed other important limitations of the traditional methods of appraising investments in practice (Laitinen, 1997; Lefley, 1997, 2000; Akalu, 2001; Graham and Harvey, 2001). However, various methods were recommended by researchers to combat the restrictions posed by these outmoded investment appraisal methods (Imegi, John, C., Nwokoye, G. A. 2015). Perhaps, numerous researches have revealed that the real option model can be used to sculpt expansion and abandonment options which are evident all through the useful life of an investment (Lefley, 1997, 2000; Akalu, 2001; Imegi, John, C., Nwokoye, G. A. 2015).

Current finance literature advocates that as effective as the commonly used financial appraisal methods are in evaluating capital investments, they remain inappropriate when analyzing some particular project types; for example, some expenditures of capital nature which are often related to research and development (R&D) and acquiring advanced manufacturing technology (AMT) (Finnie, 1988; Yeo and Qiu, 2003). In view of this, some researchers have opined that personal experience, rule of thumb and intuition should also form the basis of project selection (Eppli, 1993; Benson, 1999; Akalu, 2003; Mamo, A. 2014; Tesfaye Jifar 2020).

Most literature focuses on the capital investment appraisal techniques especially the DCF techniques and ignores discussions on other crucial parts of the process which includes project implementation and environmental uncertainties. Hence, the process of choosing the right investment appraisal technique often overlooks some major relative factors of the investment such as the nature of the investment under consideration and the particular industry in which the business operates (Fernandez, 2013).

The overall success of any business largely hinges on the funds' investments arrangement value with the effectiveness of constant monitoring of the entire course of wealth venture. The whole wealth investment process in itself is openly affected by the level with which the appraisal techniques employed make use of relevant concepts and are irrationally applied. However, for a capital investment decision making process to be successful, an ample range of factors needs to be considered. Making use of investment appraisal methods during capital investment decision making processes is faced with practical complexities in line with creating a lucid strategy for the business, identifying a range of investment opportunities open to the business, estimating the relevant future cash flows relating to the strategies, envisaging future environmental changes and ultimately implanting, coordinating and controlling and investment plan thereby making sure proposed outcomes are duly achieved (Pike and Neale, 2006).

Nigeria is a developing country with a broad economy positioned as a major link between Africa and Europe. The country's economy has been fashioned in the past four to five decades by numerous events ranging from economic to political changes. Some major economic changes that affected businesses include public private partnerships and small businesses schemes. As a result of this, several businesses have been established

especially small and medium sized businesses which have helped develop the economy in recent years. Adeniji (2003) and Arnold (2008) pointed out that SMEs in Nigeria where the private sector is not developed if compared with other developed Countries, constantly makes a considerable and upsurging offerings to pecuniary activities and diminishing unemployment. The Nigerian Government in 2012 approved the creation of SME individual clusters across all political wards in the country to enhance economic growth. In recent times, the capital investment decision process of SME clusters as a mechanism of growth and enlargement towards the economy has been under scrutiny (Adeniji 2003;Arnold 2008; Adaramola 2012; Mamo, A. 2014; Tesfaye Jifar 2020).

Hence with these developments, Nigeria has become an attractive setting housing the right data capacity and quality to carryout a research on capital investment decision making processes of SME clusters. in view of this, the researcher has been motivated to explore the CIDs making processes of SMEs in Nigeria. This research will utilize together the subjective and objective approaches in its methodology and the intepretive paradigm will be used to get understanding of existing practice from diverse participants or groups who participate constantly when making decisions around investments of capital nature. All respondents were chosen from a range of SME clusters in three major regions of Nigeria specifically Lagos State.

1.2 Problem Statement

Previous finance researches have exposed the fact that there are various issues relating to process of making decisions around investments of capital nature for both public and private enterprise especially small and medium sized enterprise (SMEs) (Spence and Rutherfoord, 2001; Adeniji 2003; Arnold 2008; Adaramola 2012; Mamo 2014; Imegi, John and Nwokoye, 2015; Tesfaye 2020).

Most of these literatures as mentioned above concentrated further on the appraisal techniques of investments of capital nature making particular reference to the DCF techniques and ignores discussions on other crucial parts of the process especially the non-financial factors which includes project implementation and environmental uncertainties. It is worthy to note that scholars like Arnold (2008), Pike & Neale (2006) made an attempt at exploring the capital investment decision making process but failed to capture specific non- financial factors especially as it relates to SME clusters.

For instance, the Modigliani and Miller (1963) theory postulates that the market value of a corporation is calculated rightly as the current value of its imminent earnings and its underlying assets, which is independent of its capital structure. Similarly, numerous studies have been carried out to examine how capital budgeting techniques are applied as a tool to the assess potential projects and risk of a project in the corporate world (Abdullah & Nordin 2005;Brounen 2004; Ryan & Ryan 2002;Graham & Harvey 2002;Arnold & Hatzopoulos 2000; Mamo 2014; Imegi, John and Nwokoye, 2015; Tesfaye 2020).

It is noticeable that most finance literatures on investment appraisal draws their premise

on this theorem and focuses more on the capital budgeting principles recommended by the theory. They unconsciously disregard the other factors that affects capital investment decision making (Spence and Rutherfoord, 2001; Arnold 2008; Adaramola 2012; Mamo 2014; Imegi, and Nwokoye, 2015; Tesfaye 2020). Therefore, it is clear that the process of choosing the right investment appraisal technique often overlooks some major relative factors of the investment such as the nature of the investment under consideration and the particular industry in which the business operates (Lee, 1988; Cheung, 1993; Abdel-Kader and Dugdale, 1998; Fernandez, 2013; Mamo 2014; Imegi, John and Nwokoye, 2015; Tesfaye 2020).

The whole capital investment process especially that of small and medium sized firms in itself is openly affected by the level with which the appraisal techniques employed make use of relevant concepts and are irrationally applied. Furthermore, SME clustering is gradually gaining full acceptance and is exploited as a means of achieving competitive strength and benefitting fully from the globalization of businesses in Nigeria. Nevertheless, there is the need to understand properly the techniques, methods and processes, which are employed by Nigerian SME clusters to make capital investment decisions in order to make sure that an efficient process of making decisions around investments of capital nature is proposed and adopted in general.

1.3 Research Aims and Objectives

This research focuses on investigating the Capital Investment Decision making processes of SMEs giving particular reference to SME clusters in Nigeria with special focus on 4 major SME clusters in Lagos State with the aim of proposing an efficient model that can be adopted by SMEs when making capital investment decisions

irrespective of the industry. In view of this aim, the following objectives will serve as a guide for this study:

i. To carry out a detailed critical review of relevant literature relating to capital investment decisions, SMEs and clustering in general.
ii. To determine the current state of the process of making decisions around investments of capital nature of SME clusters in Nigeria.
iii. To acsertain if there are any required changes to the existing state of the processes of making decisions around investments of capital nature of SMEs in Nigeria and if a model can be emperically validated.

1.4 Research Questions

This study is focused on providing ripostes to the outlined broad questions which is based on the research objectives mentioned above in 1.3

i. What is the current state of the processes involved when SME clusters in Nigeria are making decisions around investments of capital nature of in terms of financial and non-financial factors?
ii. What changes are required if any and can a model be emperically validated?

1.5 Scope of the Research

This research is quantitative and qualitative as these two approaches are to be adopted to accomplish all the aforementioned objectives of this research. It should also be noted that this study is probing in nature because it aims to determine the best capital investment decision-making process that could be adopted by SMEs or SME clusters as the case maybe. However, the research is not aimed at establishing any specific premise

for express investigation because the shortage of prior study on this area intended the inappropriateness of a functionalist research approach. This research further aims to convey an expressly descriptive clarification of the capital investment decision making process amongst SME clusters via groping and understanding the acuity of the various decision makers on the existing routines around making investment decisions in a constantly mutable and emerging society like Nigeria.

Most of those consulted for the purpose of this research included owner managers and accountants or financial controllers of SMEs or SME cluster as the case maybe. The adopted methods of research used to retort the research questions stated above are outlined below:

(i) review of relevant literature/conceptual framework which reassess the conceptual models and theoretical framework that relates to investment appraisals, SME clusters and capital investment decisions

(ii) questionnaires which helps to determine the state of capital investment decision making processes of SME clusters in Nigeria (iii) questionnaires which explores the commonly used capital investment appraisal methods employed by SMEs (iv) questionnaire to assess the process of funding and capital rationing of SMEs when making capital investment decisions. In all these instances, the study brings to light any conceived influence that owner managers or any other relevant group such as investors might have on the capital investment decision-making process alongside the various investment appraisal process adopted by different sectors, ownership structure and SME size.

The discoveries of this research will assist in reducing the fissure in the finance literature as it pertains to capital investment decision-making processes of small businesses in emerging republics like Nigeria. The research evidence will add to existing knowledge via blending the various perceptions of the different decision makers as regards capital investment decision-making processes. It will also identify the different important factors that affect the practices and processes of capital investment decisions, showing the differences between practice and theory. Additionally, this research will further emphasize the importance of the sophisticated techniques of appraising capital investments and ways of infusing them into the decision-making processes of SMEs.

1.7 Rationale of Research

This research focuses on the capital investment decision making process of SMEs, with particular reference to SME clusters in Nigeria. The research will examine the current state of capital investment decision making processes of SME clusters. This will expose whether capital investment decisions are founded on preceding learning experience of owner-managers and whether these owner managers or SMEs in general as the case maybe adopt urbane capital investment evaluation methods as part of the process of making capital investment decisions. Various scholars in past researches for instance, North et al, (1997) accentuated how SME clusters possess diverse expenditure levels and technology bases. These diverse expenditure levels and technology bases has possible inference on the capital investment decisions faced by owner managers as it relates to the magnitude of investment and degree of proposed uncertainty

The justification of this study can be seen in different ways. To start with, Spence and Rutherfoord, (2001) postulated that most studies as it relates to decision making tries to

explain management attitude towards capital investment; making use of assumptions and techniques that does not consider the genuine intention of the main actors i.e. managers or owner managers themselves. Most importantly, Deakins et al (2000) pointed out the fact that in spite of the improved audience given to owner managers of SMEs, not much attention is paid to the venture decision making and financial management process of SMEs in general. Hence, this research will endeavour to investigate the funding and fund management as part of the entire process of making decisions around investments of capital nature of SME clusters in relation to the suggestions of theories and literatures on capital investment decision making process.

Secondly, the issue of 'competition' to a large extent has an intense effect on the process of deciding on capital investments of SMEs as well as the responsiveness of SMEs to the demand of customers is a key element which influences the competitiveness of these small businesses. There is this arguement by Tariku et. al. (2017) that " competition in its real sense has displaced large companies and weakened strong firms to the shadow of their former selves and the consistently increased economic recessions all over the world have created a certain level of difficulty for SMEs in the planning stage of an investment to embark on huge capital investments".

Nevertheless, only quite a number of SMEs can continue to exist without undertaking capital investments yearly (Tariku et.al. 2017). Because of this, the SME sector becomes unstable and as such the management or owner managers of these SMEs have no choice than to consistently redevelop the business periodically to enable it fit into these changes. Therefore, Capital Investments can be said to be amongst the remedial options open to most SMEswhich can be a technique to the periodicbusiness

redevelopment. However, the importance of capital investment decision making processescannot be over emphasized and must be clearly understood before SME owner mangers or management ply that route.

Thirdly, it is very vital to match capital investment decisions and the required technology directly with the requirements of the market so as to have a cost effective capital investment (CEEDR, 2001). In encouraging SME clusters when deciding on capital investment choices, it is imperative to be aware of the difficulties these SMEs face and what motivates the so called owner managers or management as the case may be. These said difficulties are intrinsic in the SME sector and they include scarce resources, diverse objectives and majorly concentrating the decision making role to owner managers on a daily basis in running the business. It is likewise imperative to be aware of the risks and uncertainties associated with the environs where these SME clusters carry out their business operations (Tariku 2017).

The issue of capital investment decisions ought not to be isolated but rather consider the immediate environment i.e. clusters in which SMEs operate and the possible difficulties inherent to these firms in that environment. It should be however be noted that concentration should not only be restricted to sophisticated techniques of investment appraisal but also paying adequate attention and effectively examining the whole process of investment must also be considered to ensure success (Pike and Neale,2003; Mamo 2014;Tesfaye 2020).

Fourtly, it is worthy to note that the capital investment decision making process of SME clusters has not been adequately researched. For instance in Nigeria, some few issues relating to SMEs has been researched and they include; constraints and policy options

for SMEs in Nigeria, Roles of SMEs in economy development, Financing options for SMEs, Issues, challenges and prospects of SMEs. Most research carried on Nigerian SMEs dwell on Financing, constraints, challenges and prospects issues as the case maybe, as such, there has been no particular reference to Capital investment decision making processes of SMEs or SME clusters. This study will focus more on investigating the current state or situation of the practice around investment decision making in SMEs and the role owner managers, accountants and the management of these SMEs in general play in this process.

Finally, the fundamental ideology of this research is that in acquiring knowledge about the capital investment decision making process of SME clusters, there is the need to first clearly understand the current state of the capital investment decision making processes of SME clusters in Nigeria in order to highlight the risks, assumptions, impedements and dependencies within the whole process. Hence, there is the necessity intended for a broader assessment of the existing capital investment decision making practice from a functional perspective.

1.8 Contribution of Research To Knowledge

This study was motivated by the need to fill the identified gap in literatures relating to capital investment decisions making processes, SMEs and Clustering as the case may be. This will be viewed and explained in the following areas:

Firstly, the wide-ranging works on Investment appraisal and capital budgeting (Modigilani and Miller, 1957,1963; Hastie, 1998; Alder 2006; Mamo, 2014, Imegi et. al 2017 & Tesfaye 2020) focused more on the use of erudite capital investment assessment methods in making capital investment decisons without considering the genuine intentions of the main actors of the business or owner managers themselves in the case of SMEsduring capital budgeting processes for capital investments.The gap of not considering the genuine intentions of the major actors of the business i.e. management and or owner managers of SMEs when making capital investment decisions alongside making use of these sophisticated capital investment appraisal techniques will be addressed in this study.

Secondly, the issue of matching capital investment decisions and required technology especially in this period of technology boom directly with the requirements of the market so as to have a cost effective capital investment (CEEDR, 2001) is an area that will be reassessed by examining how this is to be achieved. This area has not been critically researched in the finance works. A detailed scrutiny of the significance of matching capital investment decisions and required technology with the requirements of the market so as to have a cost effective capital investment will make a considerable input to the standing body of information.

Thirdly, the discoveries of this study should be able to make some input to the existing knowledge database by combining the views of various decision making groups both internal and external on capital investment decisions of small businesses during a period of change; it will also assist in identifying the dynamic factors that play important roles in making capital investment decisions in Nigeria SME clusters as well as providing a

detailed clarification on the difference between theory recommendations, practice and the literature documentations about SMEs in developed countries.

Conclusively, the research will develop, propose and recommend an effective capital investment decision making process model that will enhance the operational, financial and overall performance of SMEs in general which can be adopted by SMEs in various clusters in Nigeria and diaspora.

1.9 Structure of Research

This work is separated into 5 major subdivisions which embodies all the chapters of the thesis. The first section of the research work is the introductory section, which includes contextual background of the research, aims and objectives, rationale for the research, research problem statement, research questions, input to body of knowledge and the structure of the whole thesis.

The second section contains two chapters that will on a broad view look at the review of relevant literatures. The second chapter under this section will scrutinize the concepts of capital investment decisions, SMEs, and clusters. This chapter will also look at theories and frameworks relating to appraising investments and making capital investment decisions. The third chapter will then house the conceptual framework.

The third section of this research work will look at the research design and methodology and this will be seen in chapter four of the research work.

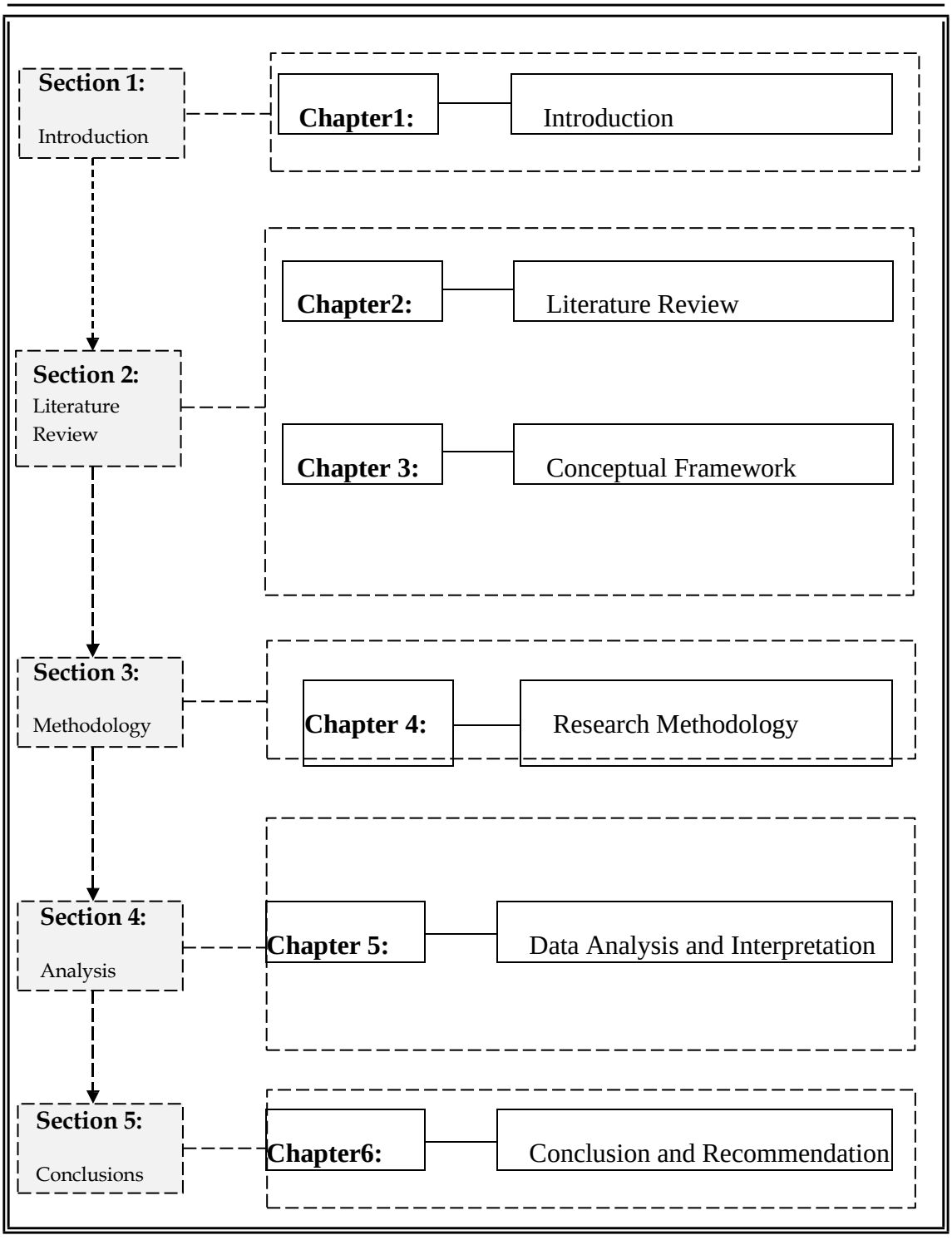
The fourth section is the analysis section, which will take care of the data collection and analysis. This section will look at the actual intention of owner managers of SMEs when making capital investment decisions and consider the importance of putting in place an

effective capital investment decision-making process incorporating risk, and choice of investment appraisal methods as postulated by Modigliani and Miller, (1958). All the data gathered to this effect will be contemptuously viewed, evaluated using a logistic regression analysis. This will lead to the development of an effective capital investment decision-making process that will be proposed and recommended to SME clusters.

The fifth section, which is the last section, will be a summary section, which narrates and summarizes the whole findings of the research work and it will include recommendations and areas for future research as the case may be.

Figure 2.1 Structure of Thesis

A diagrammatic representation of the research structure explained above can be seen below:



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Capital investment decision making and capital investment appraisal techniques particularly have become major issues in financial academic research for over four decades. Majority of these researches was done in developed countries like the United States of America and Great Britain. These have drawn in a series of longitudinal studies that determines if the substantiation concerning capital investment appraisal has change over the years. On the contrary, only a small number of published works has housed the process involved in making decisions around investment of capital nature and techniques of capital investment appraisal in developing countries like Nigeria and the whole of Africa in general.

This chapter of the research will present a thorough analysis of relevant literatures as it relates to capital investment decisions and other related areas including previous related studies. For the success and completeness of this research work there is need to review relevant literature relating to the areas of study. Hence, the researcher will scrutinize theories, concepts, opinions and researches of other scholars so as to get a broad picture of the study. Understanding the components of the area under investigation in this study is very vital and this will be look at in this subdivision of the thesis.

This section is sub-divided into six major segments; *definition, capital investment appraisal techniques, risks, SME funding and overview of SMEs and clustering.* The first section discusses in detail the meaning of capital investment decisions and its

unique characteristics. The second section focuses on capital investment appraisal techniques, uses of these appraisal techniques, capital rationing as it relates to making investment decisions, advanced manufacturing techniques (AMT) and real options in capital investment decision making processes, risk and capital making investment decisions. The third section gives an overview of SMEs, characteristics, functions and challenges of SMEs, then ultimately the emergence of clustering. Finally, the last part of the chapter summarizes and concludes the review.

2.2 Capital Investment Decision

Decision around capital investment is very important in strategic change management and helping to sustain business performance in the end (Arnold, 2008). The success of the capital investment process is based on the subsistence of good, achievable and efficient strategic plans. Capital investment decisions which involve developing new products, new facilities investment, acquiring new assets, technological advancement, adopting relatively new business lines or combining any of the aforementioned have been seen to have either a favourable or adverse effect on the firm and its accomplishment in future(Arnold, 2008; McIntyre and Coulthurst, 1985). It should however be noted that, there are two major situations, which engineer the need to decide on capital investment; they are the objectives of a business entity and a list of investment alternatives that are capable of contributing to the actualization of these set objectives (Lumby and Jones, 1999).

Every capital investment decision signifies a prospective challenge in risk management. The rate of risk in innovative projects is much more likely to be higher, as previous decisions made on likely projects might bring insufficient predictions for these innovative projects (Pike and Neale,2003). Once decisions are made with respect to

capital investments, there will be difficulty in reversing such decisions and it is worthy to note that large funds committed to these investments are at risk. Most capital investment decisions have an obscuring trait that can be irreversible largely (Brealey and Myers, 2003). This obscuring trait is the complexity and difficulty of predicting potential actions that could influence the returns accruing from these investments.

In the past, best practices in making capital investment decisions has always been using a discount rate which is risk adjusted in obtaining the present value of payoffs and predicting expected returns on investment (Pike and Neale, 2006; Arnold,2008). This best practice as the case may be; make possible the comparison of two separate investments making use of the current risk adjusted discount rate. However, consistently increasing level of risk and uncertainties concerning future incidences logically complicates the process. Furthermore, the more the payoff is extended into the future, the greater the risk the payoff will likely to face (Pinches, 1982). This school of thought, mutually with collaborating strategy with investment decisions, gave rise to developing the real option model that well thought out investments as being a compilation of options to be implemented.

Pike and Neale (2006) in their work highlighted some assumptions of various texts in relation to capital investment appraisal processes. These assumptions include: that capital investment ideas are only conceived by managers or owner managers as the case maybe, that investment alternatives are totally independent, that risk is totally incorporated into the net present value, that cash flow estimation is free from any form of biasness and that intangibles are immaterial. Whereas theoretically, capital investment processes pervade the whole enterprise. However, in practice capital

investment processes is typically a descending process; on the contrary, a company's tactical action strategy functions on an ascending base (Brealey and Myers, 2003). A conflict might arise between the two in some cases because of this difference.

The processes involved in capital investment are extensively recognized to be much wider in training than as mentioned in various texts. For instance, there are so many employees operating at various management levels that are involved in the process of capital investment decision which usually consist of numerous task and duties (Pike and Neale, 2006). Often times, the phases and task run concurrently, however, this might not usually be the case as some capital investments is fairly exclusive and some phases might not be relevant (Tesfaye, 2020).

The Capital Investment Decision Making Process

The process around capital investment decision involves various stages that varies in relation to different studies. King (1975) explains that the process of making capital investment decisions is always triggered by an incident or event that identifies a need; this stage according to Pinches (1982) is called the identification stage. Hence, as soon as an opportunity is discovered, King (1975) recommended that there should be a screening in order to ascertain the need for investigation. If this stage is completed, King (1975) further suggested that an in-depth analysis should be carried out while evaluating other alternatives. The various phases in the decision making process of capital investment as suggested by various scholars such as King, Pinches and McIntyre and Coulthurst all in the 19th century are highlighted in Table 2.1 below:

Table 2.1 Capital Investment Decision-Making Process stages

	King (1975)	Pinches (1982)	McIntyre and Coulthurst (1985)
1	**Trigger:** recognizing the opportunity.	**Identification:** organizational needs in line with opportunities and/or problems.	**Creation**: separated into :(a) idea generation, (b) Identifying idea sources and(c) Idea screening.
2	**Screening:** Rationale for investigation.	**Development:** different types of projects based on first stage.	**Decision:** separated into: (a) Proposal classification (b) feasibility authorization of proposal and (c) evaluation of Proposal.
3	**Definition:** analyzing and generating practicable alternatives.	**Selection:** one or more projects amongst alternatives.	**Implementation:** separated as: (i) operating structure (ii) financial plan regulator (iii) Post-audit.
4	**Evaluation:** Examination of alternatives.	**Control, or post completion assessment.**	
5	**Transmission:** through the organization.		
6	**Decision**		

Source: Mohammed (2013)

From table 2.1 above, it should however be noted that Pinches (1982) called the second stage of the process the development and selection stage while McIntyre and Coulthurst (1985) merged both stages and called it the decision stage. After the decision stage, McIntyre and Coulthurst (1985) opined that the next stage of the process should be the implementation stage where the organization transmits information regarding the decision taken. Pinches (1982) further argued that there is need for control over the

investment as well as the necessity of a post audit assessment to make that the investment was carried in line with the proceedings of the capital investment process. Despite the difference in the amount of investment decision making stages as shown in the table 2.1 above and as suggested by various literatures, there will always be the presence of similar tasks in some stages.

Therefore, the three schools of thought shown on the table above vary concerning the echelon of disaggregation presented in addition to the scale of importance assumed to particular fragments of the procedure. It should be noted that regardless of the various, diverse number of phases listed in all models, and processes, the proposed content will always be unchanged. McIntyre and Coulthurst (1985) explains that making use of capital investment appraisal procedures in choosing or project option of the process is just an individual mission among the whole decision making procedure; though, most textbooks concentrates so much on this area. However, some more current texts have endeavoured to accept the whole process supporting the capital investment appraisal and decision-making processes of an enterprise. For instance, Arnold 2008, Pike and Neale (2009) in their text illustrates a multi- stage capital investment appraisal and decision making process.

A simple conventional model of capital investment decision making starts with budget determination. In bigger firms, the upper level management always carries out budget determination and approval but in small and medium sized firms the motives, gearing attitude, values, willingness to spend and financial and economic environment dictate the budget tune of capital investments. Next, the model suggests that adequate research be carried out on the investment idea and the costs and benefits the ideas will generate putting into consideration the source of funding for these ideas. Thirdly, the model's

third stage is the evaluation stage that entails appraising the projects and making a decision regardless of accepting or rejecting after considerably expending the capital investment appraisal procedures. The fourth stage of the model ensures that the capital investment is been monitored and controlled to ensure its performance in line with the budget (McIntyre and Coulthurst, 1985).

Pike (2003) explains that process of making capital investment decision can be simply said to be the resolution making of investing in a multiple stage linking process. This multiple stage linking process may include instigating a proposal of investment, appraising the proposal, approval seeking, managing the implementation and predicting the future of the investment making use of deficient information (Pike and Neale, 2006). Ducai (2009) highlights in his work that the capital investment appraisal process can be done in five interlinking stages, which are investigating and selecting the projects to invest in, preparing the proposal for the capital investment, approving and authorizing the capital investment, reviewing and inspecting how the investment is to be executed and ultimately exercising control when the project starts. On the contrary, Burns and Walker (2009), portrays the capital investment decision-making process to be having four stages and these stages are identifying the project, developing the project, selecting the project and exercising control over the project.

They further went on to explain the stages explaining that the project identification stage consists of the whole process of generating the idea of the project to include source, procedures of submission and the reward and incentive system (Pike and Neale, 2006; Arnold, 2008). The project development stage is the preliminary process of screening which is based on projects cash flow and some pre-screening criterion.

Arnold (2008) explains that the project selection stage involves analysing the project critically and in detail, which helps in deciding maybe to accept or reject funding the project. Conclusively, the project control stage entails assessing the performance of the project to gain control in addition to giving room for improvement continuously and to aid decisions in future. All the aforementioned four stages have areas of common interest and these include work force, method, modus operandi and the underlying principle for each of the stages (Pike and Neale, 2006).

It can be seen from the scholars mentioned (Pike and Neale, 2006; Arnold 2008; Burns and Walker, 2009; Ducai, 2009: Mohammed, 2013; Mamo 2014) above that a variety of researchers have highlighted diverse phases of the decision making process in capital investment. Nevertheless, the major scheme of the process progression is more or less similar and the capital investment decision process stages in essence are initiating the proposal, emerging the proposal, managing the proposal, and approving the proposal. Initiating an investment proposal can be said to be done in response to identifying an arisen need or quandary. Developing the proposal consist of estimating benefits and costs and evaluating prospective alternatives. Managing the proposal involves ensuring the investment proposal is been guarded by the firm, making sure the proposal is approved (Pike and Neale, 2006; Arnold 2008; Burns and Walker, 2009; Ducai, 2009; Mohammed 2013; Mamo 2014).

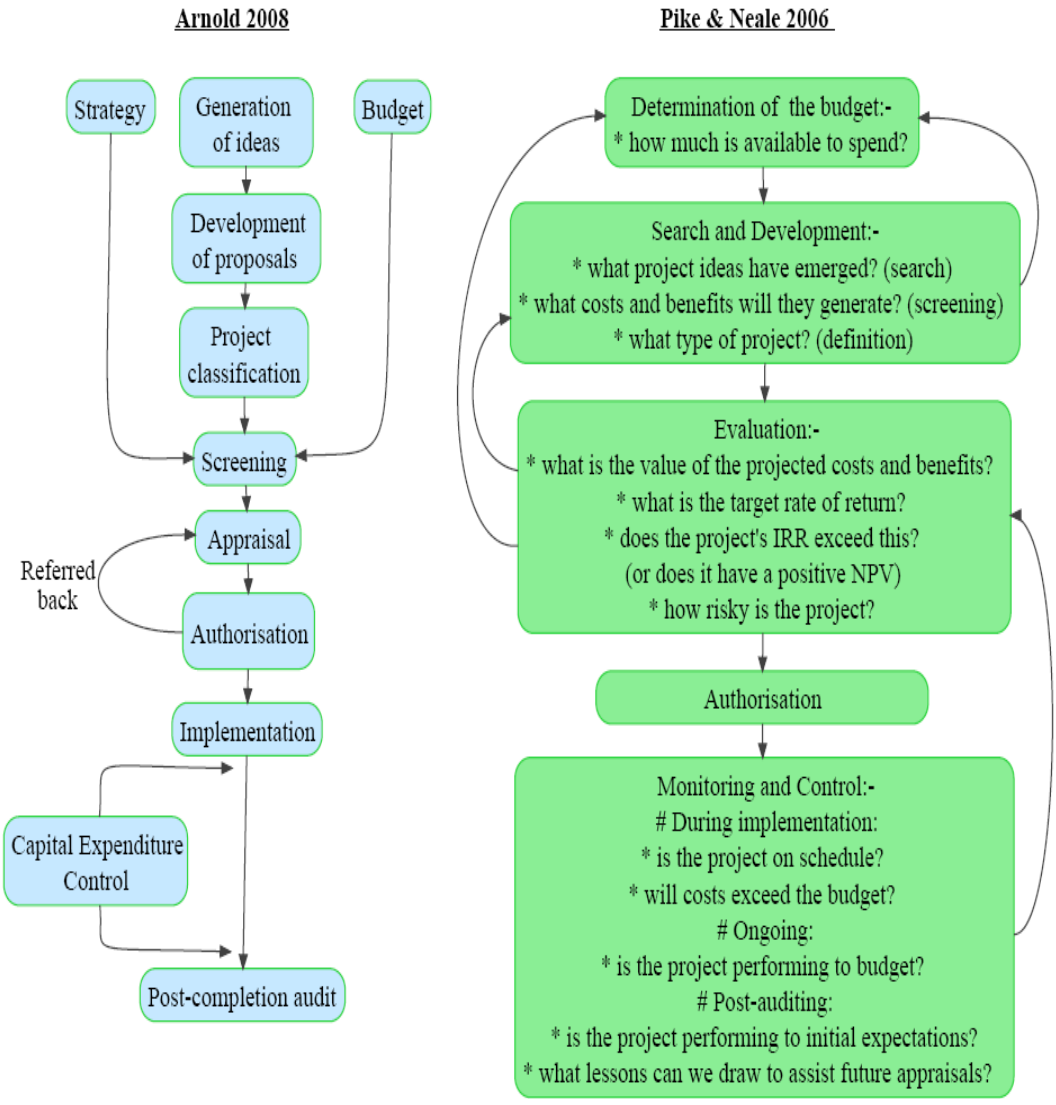


Figure 2.1: Capital Investment decision making process

The figure 2.1 above demonstrates the relationship that exist in all the processes of making capital investment decisions described in various literatures; the identified tasks and the diverse stages are not too divergent. This shows a continuous evolution of the theories that underpins the capital investment decision-making process, which evolved in the 19th century as explained in table 2.1. Pike and Neale (2006) further groups the task involved in the decision-making process into 5 major stages and summarize a detailed model of the entire process. This model shows in detail the possible steps to be

taken by an enterprise when making capital investment decisions. Pike and Neale further explain that every enterprise must at first determine the amount of funds accessible for financing projects. Theoretically, it is expected that a company's investment can be financed through funds from the capital market but in practice, there is a limit to this option because of the following: pre-set internal limits of the company, external constraints from outside forces (Zhang, 1997).

As soon as the company sets a budget for the capital investment, Pike and Neale (2006) posit that the research and development stage follow in the process. At this stage, there exist four major tasks. The first task is the search for an investment idea of which comes from the investment and finance opportunities available. On the other hand, the search for profitable investment ideas requires a lot of effort, skills, time, techniques and risks. The second task is to make sure that the ideas generated passes through an initial screening phase, where checks and balances in relation to the costs and benefits of the investments are assessed to separate these investment ideas for a further evaluation. The third task involves describing in full the investment's technical and economic features; additionally, other alternative investments and purported consequences must be examined. The last task of the process involves investment classification based on categories; for instance, strategic investments, replacement products and or new product investments.

Pike and Neale (2006) further argued that after the development of ideas, there is the need for proper evaluation. Proper evaluation entails a detailed comparison of project costs with benefits alongside formal risk analysis; for example, the identification and comparison of the investment's level of return with the internal level of return of the

firm. As soon as this is done, authorization is inevitable. During authorization, the investment proposal goes through every organizational level within the company before it is rejected or finally approved. Generally, after the approval of a project, there must be proper monitoring and control constantly. This control process is often referred to as pre-decision and post- decision control. The pre- decision control process is relevant to all phases in the decision making process of capital investment especially when determining the budget for the capital investment, setting out strategic plans and the investment's amount of return. The post-decision control process entails adequate monitoring and post audit, which according to Pike and Neale (2006) is very critical to the success of any capital investment decision.

This process as described above is the final phase of the capital investment decision-making process and it is expected to ensure the religious use of practical and dependable methods to appraise proposed investments and to place checks and balances on the inflow and outflow of funds for current investments (Pike and Neale, 2009).

Arnold (2008) in his research explains this phase thus:

> *"Post-completion control can be described as the constant observation and appraisal of the whole evolvement of an investment via a detailed contrast of the definite inflow of cash with added outlays and profits including the ones projected during the period of authorization. Firms should have a continuation system that will examine the enactment of investments over an extended period, extending above numerous years. The importance of isolating and explaining unconventionalities from projected tenets cannot be over underscored."* (p.143).

The above description shows the major difference between the concept of a post-completion control and a customary or usual follow-up; the former involves an official

comparison of the investment's performance observed and the performance expected. This will create a learning atmosphere for the company as a whole serving as a precedent for future capital investment decisions. It was however noted by Brealey and Myers (2003) that this is a precise significant phase in the capital investment decision-making process. The general norm as accepted by various authors (Pike and Neale, 2006; Arnold 2008; Burns and Walker, 2009; Ducai, 2009) is that the process involved when making decisions around capital investments has several important stages. Nevertheless, there still exist some contrary opinions as to the amount of phases a capital investment decision-making procedure should have; but this disagreement holds no ground, as the identified stages are all of similar functions.

Conversely, the substantive literatures tend to concentrate more on the investment assessment phase and the use of evaluation methods of capital investments. Other authors have discredited this; stating that there exist other vital stages, which deserve special attention. Such stages include idea conception stage, funding availability for the investment, monitoring and control of the investment overheads from implementation to completion and the post audit of the venture. Pike and Neale (2009) demonstrated in their research that over half of small businesses (SMEs) do not usually carry out any post audit monitoring of their capital investments.

According to Maritan and Coen (2004), the Bower-Burgelman model postulates that the initiation and development of capital investment proposals are said to be carried out by distribution experts considered the closest to the appropriate merchandise market with adequate knowledge and information of the opportunities and needs of that market. The proposal management stage is been handled by distribution experts. The participation of owner mangers and senior management of medium sized firms can be termed as indirect

but it consists of principally providing structural and tactical contexts to the firm in making the capital investment decision. This model of generalization, unfolding an intricate multiple phase investment procedure, is viewed as the customary practice model of capital investment decision or also known as the "*Bower-Burgelman model"* (Maritan and Coen, 2004).

Conversely, the capital investment decision-making procedures of tactical projects that produces novel potentials is significantly diverse. Executive owners are said to be involved directly in the designation and momentum phases of the investment project and involved indirectly in setting the tactical and structural contexts. It is worthy to note that the capital investment decision-making stages cannot be separated, as they are interconnected. An unyielding bureaucratic capital investment decision-making process has been seen to be a likely hindrance to a successful capital investment appraisal and a profitable capital investment performance. However, there is little evidence justifying this.

The viable concerns contained in this research shows little or no association between the level of performance and procedure; rather, procedures has more to do with magnitude and the importance of establishing principles and courses of action throughout big businesses that makes possible comparing and predicting choices of investments. However, there are essential points to consider in designing a capital investment decision-making process. SMEs that are insistently seeking development and profit increase do not always limit their capital investments to ventures that produce quantifiable anticipated outcomes but also rely on ventures based on qualitative evaluation.

Most businesses in the SME sector prevail over difficulties with prejudiced judgements regarding the outcome of capital investments by actually making themselves crisis managers and acknowledging the confines to predictability. They also understand unavoidability of digression from expectations and as such, they ardently monitor the progress of projects to immediately rectify problems as soon as they arise. Hence, conducting post audit checks and reviews is very important as a vital step in discovering shortcomings and learning from blunders that can be avoided via designing a better process. The conceptual Model discussed in chapter 3 is a reflection of the theories highlighted in table 2.1 and figure 2.1 accordingly.

2.3 Theories on Capital Investment

2.3.1 Modigliani and Miller's theory on investment (1958)

Modigliani and Miller (1958) are of the opinion that decisions relating to returns and funding should generally be considered as not relevant by managers, management or decision makers but rather the major concentration should be on the availability of an array of favourable net present value (NPV) venture prospects capable of up surging the worth of the business as a whole. Consequently, the systematic context used for the determination of the NPV of a project that is gotten from the analysis of discounting cash flows (DCF) over a period serves as a lucid base for making mutual decisions. For that reason, the conventional model of Modigliani and Miller (1958) recognizes erudite investment valuation procedures as a major instrument needed by enterprises to maximize productivity. Hastie (2009) quite the reverse stared the fiscal philosophy that endorses the application of erudite methods of appraising capital investments; for instance net present value to progress making investment decisions and maximizing the worth corporations as gratuitous. Hastie categorically demurred these conventions (a

proclamation that is presumed to be accurate and on whose premise a decision can be reached) since there exist numerous “seemingly satisfactory” ventures that a business is capable of approving as a result of either lack of adequate funding or accessibility of resources or due to imperfect administration or shortage of professional talents which is usually common to businesses. Hastie also observed that making use of indecorous expectations constantly stood as a substantial basis of making unprofitable investment choices than making use of guileless measurement procedures. Making decisions relating to investments may perhaps be expressively enhanced if the prominence remained on enquiring with the applicable tactical queries while making provision for superior expectations instead of growing the complexity of the various methods and systems of measurement.

Furthermore, Adler (2006; 2010) debated the removal of discounted cash flow (DCF) techniques from existing financial philosophies due to its increasing irrelevance to present-day commercial practice, which is likely to be precarious in the evaluation of projected investments. He additionally clarified that the discounted cash flow (DCF) technique is capable of being used correctly from a point of retrospection; nonetheless, it does little or nothing in the prediction of the future progression of the business. Alder further claimed that an “intuition” should be used in a more beneficial way than austere scientific simulations of probable revenues when determining whether to chase a new business undertaking. In conclusion, he stated that discounted cash flow (DCF) is pointless and because of this, it ought not to be employed in the evaluation of decisions relating to capital ventures but instead it should be interchanged with a reduced amount of cramping and more sanguine techniques.

It is worthy to note that the internal rate of return (IRR) technique of appraising capital investments undertakes reinvesting the capital at the internal rate return (IRR). Lastly, the net present value (NPV) technique makes use of a suitable rate of discount in order to assess the anticipated cash flows. The net present value (NPV) technique in some cases may misjudge the potential worth of specific investments or ventures as the case maybe, which may result in the forfeiture of promising and profitable investment prospects. Generally, for this reason, owners or managers of businesses or corporations are not provided with the actual elasticity needed when tactical investment decisions are made.

2.4 Capital Investment Appraisal Methods

It is evident that there is insufficient investigation around making decisions on the processes of capital investments of SMEs and SME clusters. The literature available in conventional financial management promotes making use of both the old-style and classy capital investment assessment methods in an uncomplicated capital investment decision making process. These techniques include the net present value (NPV), payback period (PBP), internal rate of return (IRR), accounting rate of return (ARR), and profitability index (PI). Detailed discussions on these techniques are in the successive sections of this research.

Capital investment decisions largely dictate the future of a business entity and its competence of handling future activities. In most cases, capital investment decisions when made are always expensive and difficult to reverse so it is very necessary to get it right the very first time. When capital investment decisions are made, owner managers try to maximize wealth by recognizing liquidity and risk to increase returns in the end. In doing this, there are two methods of appraising capital investments and they are:

- Non-Discounted cash flow Appraisal techniques
- Discounted cash flow (DCF) Appraisal methods

2.4.1 Non- discounted appraisal techniques

This consists of the old-style methods of investment assessment and they include the accounting rate of return (ARR) and the payback period (PBP).

Accounting rate of return (ARR)

This is among the so-called traditional techniques used in appraising investments of capital nature by expressing the profits accruing from such investments as a proportion of the total value of the investment. Pike and Neale, (2003) states in their research that the average amount of yield is a technique that compare the book value of the acquired asset with the average profit of the capital investment. In most cases, the recognized is always the accounting profit (Net Profit) in the final account or the profit before tax in the income statement. The investment cost includes the working capital cost and the fixed assets associated to the project.

The average percentage of return (ARR) can also be identified as 'Returns on investment' (ROI) or 'Returns on capital employed' (ROCE) (Watson, 1985).There are various criticisms to ARR as a method of appraising investments from different scholars. For instance, Pike and Neale, (2006) says that the accounting rate of return makes use of accounting profit instead of cash flows. Also, Drury, (1993) states that the technique does not reflect the time value of money. Notwithstanding of the inadequacies of this technique theoretically, there is a major support in different literatures for it and business entities understands and embraces it as well using it as a performance measure (Wooton, 1985).

A major striking feature of the accounting rate of return (ARR) technique of appraising investments is that it is based on accounting profits which makes it tranquil to comprehend and understand by non-finance professionals (Pike and Neale, 2009). Furthermore, accounting rate of return (ARR) gives a direct link between financial data and accounting. It can also be used as a complement to other techniques of appraising capital investments just like the internal rate of return (IRR). Additionally, most management make use of the accounting rate of return (ARR) techniques as a secondary decisive factor to highlight the possible impact of a capital investment on the viability of the firm; most managers base their judgement on the figures of the accounting rate of return (ARR) (Pike and Neale, 2006). However, the major problems associated with accounting rate of return (ARR) are: often times it fails to recognize the time value of money, it categorically ignores the useful life of an investment, it has numerous ways of calculation and it recognizes only accounting profits and ignores investment cash flows (Pike and Neale, 2006; Arnold, 2008; Mamo 2014; Imegi et. al 2015).

Payback period (PBP)

The payback period method is the second of the traditional means of investment appraisal and it's simply the period with which cash inflows produced by a project recoups the initial cost of the project. Wootton, (1985) simply stated that the payback period is a method that measures the period it takes to recoup the original cost of the investment. Due to the theoretical weaknesses of the PBP technique, most theories and academic literatures have condemned using the technique in appraising investments, stating that it is misleading and ignores all the cash inflows after the payback period not considering the time value of money (Imegi et. al, 2015).

Even though the PBP method of investment appraisal does not make provision for a basic gauge of the profitability of investments, it is capable of acting as a screening tool used for complementing other methods of capital investment appraisal. Additionally, the PBP technique is often useful especially when a business has fluidity problems and rapid cash flow is needed. It should however be noted that the payback period (PBP) technique of investment appraisal has two major theoretical problems which are: it disregards the time value of money and likewise overlooks the inflow of cash accruing subsequently to the repayment period which becomes problematic where the deadline is randomly selected.

Drury et al (1993) and Imegi et. al, (2015)advocates that in overcoming majority of the constraints posed by the payback period, each and every bit of the cash inflows be amended to current values and the reduced payback period should be calculated using the reduced values. Pike (2003), highlights some advantages of the payback period method, stating that first, it creates a yardstick for measuring the profitability of capital investment. Secondly, it is very useful for firms facing liquidity crisis and with the issue of repaying investments quickly. Lastly, it helps during relatively high uncertainty periods because the payback period method believes that uncertainty and time are two sides to a coin.

2.4.2 Discounted cash flow (DCF) appraisal techniques

The discounted cash flow appraisal technique is an investment evaluation method, which is employed when evaluating schemes of capital nature by recognizing the investment projects' future cash flows and determining their respective present values so as to give room for comparison. The summation of all these present values relating to the project is termed as the 'Net present value' (NPV) of that venture. The DCF

appraisal techniques takes into consideration all the entire cash outflows and inflows relating to the investment scheme in relation to the useful life of the project and also reflecting the time value of money. Hence, a clearer picture of a projects' profitability is given unlike other capital investment appraisal methods.

However, the rate of discount or capital cost used to evaluate the venture is in general the mandatory return rate required by the investors, this is termed as the firm's weighted average cost of capital (WACC). The discounted cash flow technique is mainly of two types, which are the net present value (NPV) and the internal rate of return (IRR).

Net present value (NPV)

The net current value of an investment is the addition of all the current values of all the inflows of cash related to an investment of capital nature over the projects' life (Brealey and Myers, 2003). The NPV concept is very important in appraising investment. To compute the (NPV) net present value of an investment, a list of virtually all the investment's cash flow is made and then discounted using a discounting factor or annuity formulae as the case may be. The decision rule to be followed when making use of the NPV method is appraising investments and this rule is to admit the venture when it yields a positive NPV and cast-off the venture when it yields a negative NPV. This decision tenet is backed up with the fact that a positive NPV depicts that the returns on the venture is more than the projects' capital cost. Therefore, accepting such venture will enhance the company's wealth.

Contrarily, an investment with an adverse NPV shows that the investment returns will not cover the cost of the project capital. Hence, accepting such project will drastically minimize the firm's value. If the WACC of a company is stable, a project NPV will

increase the company's value. The value increase will reflect in the share price of the firm due to the efficient market hypothesis (EMH).Simply put, a project's NPV symbolizes the unconditional and total upsurge in the capital of the shareholders created by the project. It is assumed by the NPV technique that the entire cash inflows created by a project will be plough back at the cost of capital of the enterprise.

A major advantage of the net present value (NPV) technique of appraising ventures is that similar to every other discount factor technique, the NPV also takes into cognisance the time value of money. Nevertheless, the NPV technique in theory is generally superior to every other discount factor technique (Rose et al., 2005). This is because NPV believes that a venture's cash flow can be ploughed during the valuable life of the investment at the original opportunity cost of capital. Additionally, the NPV is said to be related directly to shareholders' wealth; under the (admittedly rather restricted) assumptions that shareholders' fund is maximized where all investments with positive net present value (NPV) is putative (Arnold, 2008). It should be noted that this rule provides that the management can accept to undertake investments that has its returns equal to the discount rate. This shows that makes provision for optimal solutions theoretically for mutually exclusive investments, unconventional cash flows and discount rates (Arnold, 2008).

Lumby and Jones (1999) states that the major disadvantage of the NPV method of investment appraisal is in relation to its impracticable assumptions; the precise measurement of risks, the subsistence of just one interest rate in the market and the competence of capital markets. Additionally, there has been an argument of the difficulty in understanding and communicating the rate to non- finance specialist as the rate of return is chosen to a complete amount (Brealey and Myers, 2003; Arnold, 2008).

Internal rate of return (IRR)

Internal rate of return (IRR) is another technique used when appraising capital investments and it is widely due to the fact that it makes use of a proportion of the rate of return as a variable for the decision (Steiner, 1996). The internal rate of return is ascertained by estimating the discount rate where the net present value equal zero. The criteria for determining to either receive or discard a potential investment venture is to compare the opportunity cost of capital with the internal rate of return (IRR). Hence, only the capital investment project whose internal rate of return (IRR) is bigger than the opportunity cost of capital should be accepted. Akalu (2001), in his study states that one of the merits of the internal rate of return as a tool for venture valuation is that its interpretation is easy because it shows the degree of benefit accruing from a particular capital investment.

He also goes further to explain that the IRR application is easy when compared with other discounted cash flow methods in as much as there is no need to compute the discount rate in the application. It should also be noted that the limitations of the NPV methods of appraising investments is a major advantage of IRR as it is a fraction of the investment returns that most management find stress-free to grasp. Additionally, it is also based on the discounted cash flows and it takes into consideration time value of money (Pike and Neale, 2009). Contrastingly, Brealey and Myers (2003) brings to light some problems associated with the internal rate of return (IRR) method of capital investment appraisal and such problems include: the mix of positive and negative cash flows (i.e. non-conventional cash flows), which brings about the difficulty of a multiple internal rate of return (IRR).

Similarly, they specified that the internal rate of return technique could result in diverse conclusion on the type of project to be accepted especially with jointly exclusive capital projects, which is also the same case with the Net present value (NPV) technique. The major demerit of the internal rate of return (IRR) method of appraising investments is its assumptions the possibility of reinvesting cash flows accrued all through the useful length of the venture especially wherever the cost of capital is not more than the internal rate of return (IRR); this assumption often leads to an hyperbole of the return on investments (Lumby and Jones, 1999; Arnold, 2008; Mamo 2014).

The IRR has another limitation of ignoring the scale of investments, as it does not consider consistent project rankings with NPV in relation to mutually exclusive projects, which affects the maximization of shareholders' wealth. It is note-worthy that the internal rate of return of different investments cannot be added together as it will be difficult to apply where there is a variable cost of capital and eccentric cash flows results in numerous solutions (Arnold, 2008; Pike and Neale, 2009; Mamo 2014; Imegi et. al, 2015). Conclusively, they claimed that the fundamental assumption of reinvesting at the IRR cash flows that a project generates during its useful life is purely unrealistic especially when the values obtained for the Internal rate of return (IRR) is relatively high.

Profitability Index (P.I)

This discounted technique method of capital investment appraisal acknowledges the point that it is very necessary to scrutinize the effectiveness and competence of every unit of liquid capital put in to commence a project. Profitability index can be said to be the ratio of an investment's initial outlay to that of the project's inflows current value (Pike and Neale, 2006). The decision rule in this instance is to accept the project if has a

profitability index (P.I) that is higher than 1. Nevertheless, the foremost benefit of this DCF method is that it provides a basis for ranking projects that will maximize the returns on each capital unit.

2.5 Uses of Capital Investment Appraisal Methods

It is evident from numerous literatures that there exist different alternative capital investment appraisal techniques; this discussion focuses on the major trends, discrepancies and fundamental conclusions that can be deduced from the review of all these related literatures. As evident in different researches that there exist a theory-practice gap, the use of capital investment appraisal methods cannot be overemphasized and has become a force to reckon with when appraising capital investments in current years (Pike and Neale, 2006;Arnold, 2008;Mamo 2014;Imegi et. al, 2015). In relation to this, considering the span of relevant literature over the years, only recently has issues relating to cash flows, taxation, inflation as it relates to capital investment has been given importance (Arnold, 2008).

In addition, many studies in the last two decades explains that the embrace of capital investment appraisal methods specifically the discounted flow techniques (DCFs) has significantly increased from 12% to about 80% among companies. Undeniably, most firms now make use of discounted cash flow techniques to appraise capital investments although frequently besides other less hypothetically thorough techniques e.g. payback period (PBP) (Klammer and Walker, 2004).There have been constant uses of these capital investment appraisal methods amongst various enterprises be it small, medium or large. Sangster (2003) scrutinized the uses of capital investment appraisal techniques amongst 500 Scottish companies, overtly comparing his study outcomes with that of prior studies in the United Kingdom. Sangster (2003) and likewise Mamo (2014)

discovered that there was increase in the usage of capital investment appraisal methods especially the sophisticated techniques when compared with other simple approaches. This outcome is evident in various other researches in this area.

Critically analysing Sangster's study, it was deduced that comparing his findings with that of other researches in this area affirms the notion of some recent researches in this area. For instance, there has been a reduction in the use of the accounting rate of return (ARR) technique by firms. The discounted factor methods of appraising capital investments are also fast becoming more popular. The net present value (NPV) method is generally becoming often acceptable when compared to the internal rate of return (IRR). The payback period (PBP) method of appraising investments still stands as the most adopted and used method of appraising capital investments when compared with other four methods, small businesses (SMEs) have embraced and adopted the discounted factor techniques when appraising capital investments.

Pike (1996) established in his study that there was a moderately vivid change in the use of risk analysis methods and that there was also an upsurge in the embrace of the net present value (NPV) and post completion audits. Pike further went ahead to suggest that post completion audits shows that the firms are aware of the need to evaluate the significance of officially examining the efficacy and efficiency of the entire process of making decisions on capital investments and the possibility of the venture failing in future.

Further to Pike's study in 1996, Pike and Neale (2006) also concluded that there has been increased usage of the discounted factor (DCF) techniques of appraising capital investments and individual investments were appraised using net present value (NPV)

and internal rate of return (IRR) with a percentage increase of 97% to 84% respectively. It was however noted that there has been a drastic decline in the use of payback period from a whopping 94% to 66% within 5 years. During the same period, the usage of accounting rate of return (ARR) correspondingly dropped to 55% during the same period (Pike and Neale, 2006). Graham and Harvey (2002) in their investigation discovered that majority of their respondent firms about 56% used net present value (NPV) and internal rate of return (IRR) in assessing capital investments.

Klammer and Walker (2004) explains that the upsurge in usage of the sophisticated methods of appraising capital investments could be an outcome of augmented knowledge of the use and application of these techniques among firms and the consciousness of various companies on the risky and uncertain business environment. On the contrary, Pike (2006) opined that the reason behind the increased usage of sophisticated capital investment appraisal approaches is the upsurge in the usage of information technology, management training and customized financial application packages or software. Pike (2006) making use of a regression analysis, demonstrated the usage of these refined capital investment assessment methods, which includes the post completion audits and DCF techniques, were linked with a high degree of capital investment effectiveness. Furthermore, the effective utilization of these sophisticated techniques was often linked with the selection and control of capital investments. Nevertheless, it is evident that over the years, an increase occurred in the usage of progressive capital investment appraisal approaches when examining proposed capital investments by firms (Pike and Neale, 2008)

2.6 Practice and Theory Gap

Over the years, there have been controversial arguments between practice and theory as it relates capital investment decisions just like many other controversial areas in finance. Some researches argue that any existing gap between theory and practice may be trivial and fundamental which validates the expositions of some textbooks about the decision making process of capital investment especially the appraisal of capital investments (Mamo 2014; Imegi, John and Nwokoye, 2015; Tesfaye 2020). Jones and Dugdale (1994) in their research showed the outcome of interviews with 5 different accountants which included practice and academia of which were believed to have contrasting opinions on issues relating to capital investment appraisal methods; it was discovered by the researchers from this interview that there exists a considerable gap between daily practice and theory.

Wola ´nski, 2013 and Gwizdała, 2017 also discovered in line with some evidence in the research that academics often put the blame on professionals or practitioners as the case maybe for not putting into use the recommended capital investment appraisal methods by some texts. Nevertheless, the research points up that both practitioners and academics have different views and opinions when issues relating to decision making on capital investments are being discussed. Most researchers focussed on the neutral rationality in identifying their overall best practice claiming to discourage the payback period technique. Practitioners put emphasis on the complex nature of human beliefs, categorising social, personal, political and technical issues all being pertinent also stressing the bogus correctness of the NPV method (Arnold, 2008; Pike and Neale, 2009; Mamo 2014; Imegi et. al, 2015). Jones and Dugdale (1994) further explained in their study that there exist two major problems that confronts academics; the challenges

of incorporating theories into practical workable solutions, the excessive influence by other academic colleagues and departmental stand within the university. In view of this, it was suggested by the authors that practitioners and academics lacked adequate engagement in this area of finance.

On the contrary, some other researchers have disputed the notion that the existing gap concerning practice and theory has reduced to a trivial stage. For instance, Pike (1996) discovered a general rise in the fame and recognition of sophisticated capital investment appraisal methods with SMEs particularly adopting theory recommended procedures such as the net present value (NPV) and internal rate of return (IRR). In general, pike (1996) in his work explained and pointed out three main factors that needed to be considered in order to fully comprehend this theory – practice gap. Foremost of the factors was technology; the usage of financial software programs has a considerable impact on capital investment appraisals and sensitivity analysis which made the process easy. The second factor Pike mentioned was education; the adoption of technology by practitioners engineered the usage of performance indicators. However, pike argued that there is need for users to fully understand its usage and application, which gives rise to whether business education is improved. Additionally, Pike also proposed that every firm should pay more attention to the issue of capital investment decision-making process as part of the strategic context of the organization. Thirdly, the economy was another factor mentioned by Pike; issues of inflation, economic uncertainty and capital rationing all affect capital investment decision-making process.

Arnold and Hatzopoulos (2000) explained in their research that about 70% of their respondents made use of the sophisticated techniques of appraising capital investments and also incorporating inflation into the process. Hence, developments of this nature

have significantly reduced the gap between practice and theory over the last two decades. More importantly, Arnold and Hatzopoulos stated that companies in the United Kingdom are gradually using the financial methods recommended by academics in reaching capital investment decisions; for instance, majority of the firms interviewed adopted the discounted factor techniques, made inflation adjustments and carried out post audits when appraising capital investments. However, other firms continued to make use of other simple capital investment assessment methods during investment decisions.

Arnold and Hatzopoulos (2000) also explained that circumstances where managers or organization do not use of these capital investment assessment methods is because companies are not ready to make specific approximations of proposed results so as to evade wrong speculations and estimations especially where firms are not used to sophisticated appraisal techniques in making estimations. In this perspective, Harris (2000) on the contrary argued that most managers are not always comfortable with adopting the sophisticated methods of appraising capital investments because of the belief that these techniques are too academic in nature and as such they do not replicate the managers' spotlight on risk.

Recently, there has been a move in focus from the adoption of sophisticated techniques of appraising capital investments to how these techniques should be used rather than the easy way with which they are adopted by firms (Arnold, 2008; Pike and Neale, 2009; Mohammed, 2013; Mamo, 2014; Imegi, et. al, 2015; Tesfaye 2020). Harris study in 1999 displayed a technology company with two groups of independent divisional managerial team. These managerial teams were studied and the outcome showed that capital investment decision making is greatly influenced by considerations that are non-

financial. These non-financial considerations mirrored the investment strategy and competitive attitude of the company. Summarily, Harris (2000) argued that numerous studies of behavioural sciences are mostly expressive of modern practices, which demonstrate; that managers or management as the case maybe makes use of analytical techniques when appraising investments or when making capital investment decisions and this can be easily comprehended.

2.7 Bootstrapping

Fundamentally, 'bootstrapping' can be said to be a notion that is based on experiential learning. Hence, 'Bootstrapping' is a kind of decision making centred on the experience of major industry actors who have one way or the other made critical decisions and their respective organizations' informal routines has developed from their decisions. These decision-making techniques consist of permutation of experience, gut feeling and judgement, prognostications, budgets and the procedure of tendering. However, one can conclude that the whole 'bootstrapping' process can be likened to a trial and error process, which might result in acquisition of skills, knowledge, values and methods providing owner –managers the chance to measure outcomes of investment decisions with experience.

Recently, some small and medium sized firms have started to offer different types of fixed assets in what is known as the 'CAPITAL ASSETS UNCERTAINTY MARKET' (CAUM). As a result of this, different sizes of firms including SMEs can easily get most of the fixed assets they need with the condition of terminating the hire or rental contract based on certain provisions or clauses as the case may be. This system of using ' Capital asset uncertainty market' CAUM to acquire fixed assets will definitely preserve funds and enable the widespread of flexibility but it is specifically limited in most cases by the

level of the specialization of asset. Numerous SME clusters in the service division to a major extent can avoid some capital investment decision problems by relying on the capital asset uncertainty market (CAUM) where they can get to rent, hire and lease any type of fixed assets instead of having to spend huge capital in purchasing them out rightly.

The table below shows a framework of some capital investment decisions.

Table2.2: Firm's Capital Investment Decision

FIRM SECTOR	LARGE FIRMS	SMEs
Manufacturing	Mostly, necessary to purchase specialize assets, and often confident about purchase	Necessary to purchase specialize assets but if not make use of CAUM
Services	Confidence in business enables purchase, but specialized assets can also be important	Make use of CAUM, except if the assets are specialized

From the above table, one can deduce that firms that are not too successful may find solace in CAUM due to lack of sufficient funds and yet successful smaller firms have a propensity to assume that it is important to preserve their liquid reserves. Bigger firms most times do not face the difficulty of insufficient funds or funding as the case may be, but they also look for flexibility by using CAUM. The choice described above is summarized in the table below:

Table2.3: Functions of CAUM

FIRM PERFORMANCE	LARGE FIRMS	SMEs
Successful	Significant for flexibility increase	Used for conserving funds and enhancing flexibility.
Less Successful	A few make use of it to for increasing flexibility	Used for providing access to indispensable resources

The accessibility of the capital assets uncertainty market (CAUM) solutions to capital investment problems by providing fixed assets to firms on rent, hire and lease to a large extent depend on how specialized the assets are. On the other hand, a number of firms decrease their base of fixed assets by outsourcing specific mechanized processes.

Capital Rationing

Zhang (1997) defines capital rationing as the limitation in the availability of funds to execute all the intended capital investments with a positive NPV at the present cost of capital. Consequently, Pike and Neale (2006) in their study further explained capital rationing within the same context as:

> *"The procedure of apportioning investment funds to investment ventures in a situation where the investment funds are in short supply to cover all profitable proposals"* (p.134)

The major kinds of capital rationing are: hard capital rationing and soft capital rationing. The later form of capital rationing i.e. soft capital rationing often relates to the financial constraints forced internally while hard capital rationing relates to the funding constraints determined by external factors. Hard capital rationing usually arises because of the company being unable to raise funds from the capital market at a specified cost of capital (Chen 2011; Mukherje et al., 2017).

Effects and bases of hard capital rationing have recently become a major topic for numerous educational literature and researches. For instance, Catt (1965) in his study recommended a modified version of the Keynesian model, stating that lender's fund will increase when there is an upturn in the value of the money. In order to achieve this, the lenders must first accept to fund unappealing investments with high risk and lower returns than would in most cases be required by them. However, in the real version of the Keynesian model, a fall in the interest rate will give birth to a high level of investment (Firlej, Krzysztof Adam. 2018).

Hard capital rationing originated as a result of the connection that exist between lenders and borrowers; this association reveals the attempt made by lenders to format the conditions of loan in line with two major objectives; to attract low risk borrowers and to persuade borrowers to take action in the interest of the lenders. As a result of this, financial theory makes provision for the foundation for the first explanation of hard capital rationing. Imegi, et. al, (2015) states that snowballing the interest rate to articulate the souk may have realistic restrictions; certainly, the probable returns of the lenders might rise by a decrease in the increase of the interest rate due to the adverse selection.

Low risk borrowers may leave the market when interest rates are very high leaving only the high-risk borrowers to demand funding. When the rate of interest is increased, the expected returns to lenders will also increase and then begin to slowly rise as it reaches a specific interest rate. After this phase, the returns will drop resulting in the decline of lenders' profit as default risk rises especially when the rate of interest is hoisted above the higher level. On the contrary, soft capital rationing is often related

with inner confines on investment funding which in most cases companies (Mohammed, 2013; Mamo, 2014; Tesfaye, 2020) smear.

In most cases, it is based on the state and plan of a company as it relates to the growth targets of the future, even though it can possibly represent a technique of combating externally posed funding issues. Mohammed (2013) bickered that the major role of the soft capital rationing is to promote the control of the management, particularly in situations where data irregularity is prominent; for instance, big firms where the head office lacks the luxury of time to supervise and control capital investments efficiently due to the several business lines of the firm. On the other hand, the company may have put in place debt limits because of previous experiences, and set up investment limits for various divisions to pick the greatest investments available from the list of investments. Generally, small and medium sized firms, high-risk firms and low profitability firms are most likely to encounter capital rationing in most cases (Pike, 2006; Mohammed, 2013, Gwizdała, 2017, Firlej, 2018).

Imegi et. al, (2015) in relation to the empirical evidence of capital rationing made a comparison of three rules of capital budgeting (capital rationing, NPV and High hurdle rates) came to a conclusion that the adoption of any of these rules of capital budgeting by the management of any firm will unswervingly affect the operations and activities of the firm. Imegi et. al, (2015) further concluded that whenever these techniques were applied more restrictively, the outcome was less shirking by the management with an additional optimal policy from the shareholders view. Therefore, the intention of the management to undertake new capital investments was constrained by the cost of obtaining additional funding which furthered the goal of the management rather than the shareholders' aim.

Ross (1986) conducted a research examining 400 capital investments undertaken by 12 large firms in the United States. Ross discovered that capital investment decision is greatly determined by the size of the capital investment. The table below shows that management can make decisions whether to continue with small projects; however, for bigger projects (investments of over $10m) upper level management approval was needed.

Figure 2.2 Investment Size and Authority Making the Decision

Project Size	Typical Boundaries	Primary Site for Investment Decision
Very small	Up to $100,000	Plant
Small	$100,000 to $1 million	Division
Medium	$1 million to $10 million	Corporate investment committee
Large	Over $10 million	CEO & board

Source (Ross1986)

Ross similarly discovered that in relation to the allocation of investment capital, there exist two major types of firms. The initial type of firm's budgeting system is very flexible and it is centred on genuineness and requires a degree of return while the other type of firm has two different types of percentage of returns; a low percentage of return for huge funds investment and a high rate of return for small or medium sized capital investments. However, on the contrary, the second type of firm puts into practice capital rationing at the lower phase of making capital investment decisions with investments competing effectively for a fixed tarn of funds. Additionally, the limitations on capital investment funding, most especially small investments, was because of a sleuth capital cost which was greater when compared to the typical cost of capital (Ross, 1986).

Trivoli and McDaniel (2007) in their study explained that what seems to be capital rationing to most firms and professionals actually mirrored the logical decision-making process under uncertainty. More particularly, small and medium sized enterprises (SMEs) experience tough capital rationing due to the limits put in place by lenders. However, during credit crunch periods even the big firms had trouble because of hard limits on capital investments. Trivoli and McDaniel (2007) stated that during credit crunch situations capital spending of most numerous big companies had to be reduced. This reduction is based on some cogent reasons; constant increase in the cost of all forms of capital, unvarying uncertainty about the future, shortage of suitable capital investments during credit crunch periods.

It is worthy to note that two major researches on capital rationing that has been constantly referenced are the studies of Mukherjee and Hingorani (1999) and Pike (1983). These researches were in support of the notion that the management imposes capital rationing generally, internally. Both researches individually linked capital rationing with insufficient attractive capital investment opportunities, a shortage in the demand for funds and the availability of constraints on the accessibility of coffers. Pike's study of 1983 concentrated on the opinions of the controllers and financial executives of the 208 biggest industrial companies in the United Kingdom. He recognized that an opposite relationship exists between borrowing limits and the size of the firm in line with profitability. Additionally, there exist an unfavourable relationship between the external capital rationing level imposed and the exposure risk of the company.

Mukherjee and Hingorani (1999) carried out a survey, which focused on the fortune 500 firms' directors. These fortune 500 firms' directors received questionnaires from the

authors but of their returned questionnaires, only one hundred and two were useful. The research exhibited some critical reasons for the existence of capital rationing. Particularly, rationing of capital was seen as a process that helps to avoid embarking on risky investments and or better still to thwart the tendency for the middle management to over optimize resources. Generally, it was deduced from the survey that most respondents were of the opinion that there should not be the existence of capital rationing in an efficient market. In fact, above 80% of companies experiencing or had experienced investment funding limits did not agree with the notion that rationing of capital conflicted with the company's objective of maximizing the wealth of shareholders. Most respondent viewed capital rationing as an avenue of guaranteeing that the best lucrative investments were accepted.

In the year 2000, Mukherjee et al. Developed the results of the previous research of Mukherjee and Hingorani (1999) focusing on two major developments which materialized from these initial research. Exclusively, there was a cross examination of the two major reasons given for capital rationing i.e. the high cost of obtaining external funding and the biased investment conjecture of the management. The research was summarily concluded that the major reason behind capital rationing was basically the reluctance of the management or the company to raise funds externally to finance capital investments. Even though, most companies tried to work against any form of biasness in the conjecture of the management by increasing the rate of hurdle mandatory from a capital investment (Mukherjee et. al. 2000).

2.8 Advanced Manufacturing Technology (AMT)

The advanced manufacturing technology (AMT) simply connotes computer-abetted expertise used in the manufacturing, design, and testing and carriage stage of manufacture. In general, advanced manufacturing technology (AMT) is group into two: (i) the classical band of basic manufacturing procedures that outspreads from create to demand production and then to uninterrupted production

(ii) The integration phase of the whole production structure (Hill, 2009). Over two decades, there has been an increasing criticism on the use of traditional financial assessment methods especially when the considered capital investment relates to advance manufacturing techniques (AMT).

Particularly, Lee (1987) and Samuels et al. (1990) argued that the traditional capital investment appraisal methods weakened the continued competitiveness of the manufacturing industries in the Great Britain and United States of America because these appraisal methods inhibited the adoption of essential advanced manufacturing technologies (AMT). Predominantly, there was the fear of the problem hiding in the nature of this form of capital investment decision is mainly calculated and not really financial in the conservative or traditional sense as the case maybe (Samuel et al., 1990).

It is noteworthy, that several research papers have concentrated on capital investments in advanced manufacturing technology (AMT) but refused to deal with different aspects of the area rather, they all focused on the same area. As a result of this, broad reviews of some literatures will be examined and abridged in line with current views of some empirical studies on capital investments in advanced manufacturing technologies (AMT).

Finnie and Swann's review were the first two reviews to be published. These reviews supported the capital investment assessment methods, which were the payback period (PBP) and the discounted cash flow techniques (DCF). These reviews were carried out from the perspective of a wider economic approach. The writers stressed that the adoption of an efficient and effective capital investment appraisal process, in addition to some other tools of analysis (i.e. non-quantitative analysis and value analysis) and strategic inputs was very necessary.

2.9 Real Option Model and the Capital investment decision making process

Quite a number of current literatures in relation to capital investment decision making concentrated more on the possible usage of opportunity valuing in the capital investment decision making process. Hence, there have been some suggestions on integrating the real options model into the capital investment decision-making framework. This will serve as a supplementary strategic facet to the decision-making process in the modern-day dynamic world of business. Furthermore, the incorporation of the strategic facets of a capital investment into the decision-making process analysis will afford the real option model the opportunity to help coalesce the qualitative assessments and quantitative analysis of a capital investment (Trigeorgis, 1996; 2001; 2012).

According to Pike and Neale (2006), real option is defined as *"an investment alternative in actual chattels which include capital ventures"*. Arnold (2009) further expatiated on this view defining the dissimilarity between the traditional capital investment appraisal methods and the real options model method as:

> "*The perception of the real option model considers future managerial elasticity but the traditional capital investment appraisal method framework tends not to consider such plasticity. Real option gives the permission, nevertheless not the responsibility to further act in the foreseeable future."*(p.219).

There exist numerous actual possibilities, which can be adopted when an investment involving finances is to be undertaken. However, most literatures often discuss two make real options. These are the option to totally avoid a particular investment: here the management is vested with the right to discontinue a capital investment or dispose an asset of capital nature where the market worth is larger than the current worth of the profit of its continued existence. On the other hand, the management can decide to defer the commencement of the capital investment over a particular time which could be months or years whichever the case is (Copeland et.al., 2005; Pike and Neale, 2009; Mohammed, 2013; Mamo, 2014; Tesfaye 2020).

The usage of the real options model incorporating managerial flexibility in the capital investment decision-making processes has undergone investigation by an ample of current literature. For instance, Yeo and Qui (2003) in their research made available some case study evidences highlighting the need to incorporate some flexibility or elasticity when making use of the DCF techniques in appraising capital investments in the automobile sector. In this research, Yeo and Qui explained the dissimilarities and similarities between real options and financial option as:

> *"In option thinking, the real options are grounded on a single philosophy just like monetary options. When a real option is visible, it means to be presented with the chance for a definite time to select whether to go for or*

> *against a particular thing devoid of having to bind yourself ahead. Real options are treasured due to their potentials of being able to incorporate litheness and possibilities. Nevertheless, the datum showing real options as similar to monetary options does not connote that they are one. The key dissimilarity concerning monetary options (e.g. stocks) and real options is the relationship of real options to real assets where real assets is typically viewed as a tangible thing, i.e. plant, equipment, etc. Whereas a monetary asset usually comprises of shares, bonds, stocks, money, etc.* (p.246).

A previous research by Busby and Pitts (1997) recognized and highlighted 5 common real option types as an alternative to abandon, decision to postpone, choice to grow (the possibility of developing or expanding a capital investment in the nearest future after the investment must have started, the option to change technically and the option to rescale. Busby and Pitts suggested that the options of growing and postponing re-occurs frequently in practice, nevertheless all the other options are equally important. It should be noted that majority of the firms fathomed has no formal procedure of assessing the value of growing, abandoning and postponing options, but quite a number of the companies made use of an informal procedure to evaluate the value of these option types.

Some other factors, which include the options availability and length, uncertainty and interest rate level, were all categorized as the variable factors affecting the options' worth. However, as at the time of this research, real option analysis did not incorporate behavioral and organizational factors. Ideally, the rule of thumb was always adopted when evaluating the real options instead of any complicated mathematical model. Importantly is that Busby and Pitts (1997) established a major variance among those making decisions and real options sentience. While some decision makers were accustomed completely to the gains of the springiness of the real options model, others

were engulfed believing the real option model was capable of reducing the commitment of an organization to an investment.

Furthermore, Miller and Waller (2003) enumerated the weaknesses and strengths of the real options model. The weaknesses outlined in this study include: there were no straight proxies outside a financial framework in the numerous inputs of option valuations. Hence, models modification to fit a specific circumstance may be expensive or out rightly impossible. Additionally, they also stated that firms lacked the systems needed to support real options while the managers lacked the needed experience. The strengths outlined in the research include: real options stresses the flexibility contributions and a vibrant management in value creation. It reduces the imminent risks by sunk investments.

Additionally, Miller and Waller noted that option pricing stresses the prospective value and not only the present value which helps managers in making decisions as to when to enter and exit a capital investment as the case may be. More precisely, Miller and Waller (2003) noted that the real options model was more suitable when capital investments were to be evaluated but less suitable when these capital investments are to be designed thereby neglecting portfolio implications. Conclusively, it was depicted that despite the recognition of uncertainty by the real options model, there is no actual revelation of the environmental factors affecting the resource value fluctuations in the real option analysis.

Miller and Waller (2003) in this same study put forward a structure or model that combined planning scenario and real option analysis with the aim of providing managers the capability to assess the influences of the management and environmental

effects on the proposed worth of long-term capital investments. This slant stressed that managers ought to reflect embarking on real option investment opportunities concurrently and not successively in an expansive procedure of joined risk management. Although, real option analysis is intrinsically of a measureable nature, Miller and Waller claimed that the proposed cohesive method advantaged statistical features due to it been able to accommodate scenario planning. Thus, the method provided a gismo for managers, which could be used on a broader view when making capital investment decisions considering a larger environment unlike a situation where just the traditional DCF methods were used when trying to make decisions on investments of capital nature.

Various aspects of capital investment decision-making difficulties in most cases look like real options. Small and medium sized businesses frequently have an option to make a capital investment but are not really compelled to do so. These businesses can actually abandon, expand, postpone, put on hold or even reduce a project. There is the possibility of them investing in added litheness in order to minimize the difficulty of irreversibility, which is often connected to investing in numerous asset types. The behaviour of owner managers or management of SMEs is often dependant on real option models particularly in a vibrant emergent business. There is the awareness of the impact which irreversibility of capital investments have on the capital investment decision-making process.

Consequently, owner managers and managements of SMEs often look for means of mitigating the adverse effects of irreversibility and such means include prolonging the decision-making process to give room for better prospects, acquiring assets that are

flexible if available, and making use of operational lease with options that give room for upgrades technologically and allow agreement termination when possible. Generally, firms with high performance attach extra importance to coming in areas of new opportunities thereby reflecting their belligerent position on capital investments. They are also said to hold flexibility is high esteem much more than firms that perform averagely.

Instinctively, this is said to be in accordance with the advantages of the first mover and making use of flexibility to minimize the relatively high uncertainty that a primary investment might face. Most businesses small, medium or large tend to varieties of capital investment projects of different features, and most of surveyed businesses reports that there is frequent delay in investment projects. For this reason, the existence of a real option is comprehensible for strategic consideration in capital investment projects. Even though the real options model as evident in academic literatures and in extremely concentrated practical applications might not be adopted widely, the fundamental thinking could be extremely useful when unambiguously applied to capital investment evaluation.

2.10 Risk and Capital Investment Decision making Process

Lumby and Jones, (1999) categorically stated that the contemporary world of business is opened to an alarming rate of uncertainty and complexity which make predictions about almost all future capital project returns liable to risk. In the perspective of all capital investment decision making channelled at increasing shareholders value, SMEs should consider the relevant number of broad categories of risk (Pike, Neale& Lindsey, 2015). The primary risk a typical firm will face is the business risk. The business risk is

a type of risk that is manipulated by the volatility of the firm's structure of operating cost as well as the entire business setting of the firm. Another kind of risk a firm will face is the financial risk: the financial risk is a product of financial gearing, through larger debts giving rise to higher variability in the returns of shareholders. Another type of risk a firm must not overlook is the market or portfolio risk. The market or portfolio risk shows the returns variability on the portfolios of shareholders, which might be minimized through diversifying appropriately (Markowitz, 1952).

2.11 Ways of minimizing risks in capital investment

There is now in existence a wide range of techniques that can be used to curtail capital investment risk by capital investment decision makers. Some of these capital investment risk management techniques include:

Sensitivity analysis: this concentrates more on the essentials of a capital investment. This technique assesses the probable effects on a project's value if the assessment of a single parameter is wrong. This in essence provides a series of ripostes to a group of "what if" queries regarding a prospective project to the decision maker (Arnold, 2008).

Scenario analysis: This risk aversion technique concentrates more on impact of the disparity of significant variables by putting into consideration the level of change among the major variables relating to capital investment (Arnold, 2008). Consequently, there is the argument that this approach is more realistic when compared to the sensitivity approach since it gives room for more variables to change.

Simulation analysis: is also called as the "Monte Carlo analysis" and the operation research literature has proposed it to be an expansion of the scenario analysis. Using a

precise probability distribution, the Monte Carlo simulation technique computes the results expected of the probable outcomes of all the projects (Arnold, 2008).

Break-even analysis: this method of risk analysis discovers and makes out the point where a capital project starts to make losses. It is usually based on accounting figures and it is deficient of contemporary scenario analysis. Most recent textbooks on expositions of risk acknowledge this technique for instance, (Brealey and Myers, 2003).

Decision tree analysis: This technique of risk analysis incorporates the options needed at different phases of a novel capital project and the outcomes of these options as various branches of the decision tree. In other words, decision tree analysis is employed to integrate real options entrenched in investments of capital nature mostly in conservative structure (Brealey and Myers, 2003).

In line with the aforementioned, there exist other simple non-technical methods of dealing with probable risks of future projects. Most of these simpler methods adopts the rule of thumb, which in most cases reflects the individual experiences and some form of biasness of the decision maker; which could be because of wanting to reduce the payback period (PBP) or increase the necessary internal rate of return (IRR), but in a non- systematic way.

Practically, most firms in Great Britain (GB) and United States of America (USA) have adopted sensitivity analysis as the major method of assessing the purported effect of risk (Pike and Neale, 2009) while supplementary methods which includes increasing the required internal rate of return (IRR) and reducing the payback period (PBP) are not often used as the case maybe. Subsequently, most American, India and Argentina firms

make use of the capital asset pricing model (CAPM) in determining the cost of capital (Larla, 2006; Pereiro, 2006).

On the contrary, most firms in Netherlands and China adopt the weighted average cost of capital (WACC) to ascertain the cost of capital (Hermes et. al., 2007) while firms in Cyprus make use of the cost of liability to determine the capital cost and making use of arithmetical, sensitivity and scenario analysis to assess risk (Lazaridis, 2004). Kesteretal (1999) in his study of some 6 pacific countries (Honk Kong, Malaysia, Australia, Singapore, Philippines) re-counted that the capital asset pricing model (CAPM) is generally adopted to fix the cost of capital in Hong Kong and Australia while Indonesia and Philippines make use of the cost of debt. However, for evaluating risk, scenario analysis was the generally adopted method by entirely all other nations present in the study apart from Australia (Kester et. al., 1999).

It should however be noted that some other researchers have focused more on the practices in Nigeria and some African countries. Particularly, Elumilade (2006) discovered that firms in Nigeria makes use of the cost of debt to determine the cost of capital while the GCC countries, Kuwait and Bahrain make use of the capital asset pricing model (CAPM) to determine their cost of capital (Chazietal,2010; Mutairietal,2009; Al-Ajmietal, 2011; Mohammed, 2013). Subsequently, most Nigerian firms do not seem to evaluate risk (Elumilade, 2006; Imegi et. al, 2015) but on the contrary firms in the GCC countries, Kuwait and Bahrain makes use of sensitivity analysis to evaluate risk (Mutairietal,2009; Chazietal,2010; Khamees, 2010; Mohammed, 2013).

2.12 Capital Investment Decision making in Nigeria and other African Countries

Unlike the United States and United Kingdom with vast studies on capital investment decision-making, just few researches have been published in this same area in developing countries like Nigeria most especially where this research draws it case study from. In view of this, some researchers have been conducted on capital investments in Africa and this include: Toit and Pienaar (2005), Elumilade et al. (2006) and Correia and Cramer (2008), Mohammed (2013), Imegi et. al, (2015).

Additionally, a statistical examination making use of an investigative model was carried out by El-Shazly in 2004 likewise, a case study was also in print by Gilbert in 2005 respectively. Table 2.4 highlights a precipitate of the various features of these aforementioned studies. This analysis highlighted in this table exposes the fact that even though comparatively few researches has been embarked upon in the area of capital investment decisions in Africa, some countries have been considered and numerous research techniques adopted.

Astonishingly, a good number of researches relating to South Africa in this area claim that the country possesses the most developed commercial or business sector when compared to other African countries in the continent (Corriea and Cramer, 2008). Nevertheless, managers, administrators and directors in Nigeria and other African countries like Egypt have been approached, but it has been discovered that a large number of countries in Africa do not have any documented evidence relating to research findings on capital investment decision making processes in substantive literatures. Majority of the researches make use of questionnaires which were sent to the prospective respondents obtaining a reliable rate of response needed for the study (Toit

and Pienaar, 2005; Elumilade et al., 2006; Correia and Cramer, 2008; Mohammed, 2013). Nevertheless, in relation to individual methods, most firms in Africa adopted the profitability index (PI), payback period (PBP) and internal rate of return (IRR) respectively (Khamees et. al., 2010).

Table 2.4: Past researches on the Use of Investment Appraisal Techniques in making Capital Investment Decisions in Nigeria and other Countries in Africa

Authors	Country	Research Type	Samples	Major Discoveries
AlWakil (2000)	Libya	Survey Questionnaire	4 sectors consisting 40 firms	Of Aall 43 firms, 74% adopted PBP, ARR33%, P.I. 25%, NPV17%andIRR 5%.65%of all firms considered risk intuitively.
El-Shazly (2004)	Egypt	Analytical study	All firms in the SME	Via diffusion-jump process systematic framework, sculpting the uncertainty associated with time, it was discovered that waiting time increases with uncertainty; because of this, the snag rate also increases with uncertainty. This is capable of being a major limitation for firms.
Gilbert (2005)	South Africa	Case study and Interviews	2firms	These firms do not adopt the conventional decision-making model. Instead, they use a multi-staged procedure to decide on project adoption. Qualitative dynamics are adopted in reducing possible alternatives. Hence, the DCF techniques are used as a major tool with less emphasis on the value of the project.
Toit and Pienaar, (2005)	South Africa	Questionnaire	4 ISE listed firms	Companies prefer IRR and NPV; easy methods like PBP are used but as substitutes. The methods used show a relationship with the size of the budget's capital. Most companies' used IRR to make decisions on projects that are mutually exclusive.
Elumilade et.al. (2006)	Nigeria	Surveys & Questionnaire	100 NSE firms	Most of these companies make use of a benchmark or an alternative, companies in the private sector adopt beyond one technique. PBP is the mostly used method, whereas NPV&IRR are adopted as subordinate techniques. 65.9% of companies often times fail to quantify risk accurately. Majority of the companies take care of risk by restricting the mandatory PBP while hovering the obligatory return rate
Correia and Cramer (2008)	South Africa	Surveys & Questionnaire	All JSE listed firms	Companies usually adopt DCF techniques such as the Net Present Value and Internal Rate of Return in most cases. Capital Asset Pricing Model nearly every time is adopted when determining the cost of capital. It is evident that there exist some gap in the adoption of comparatively refined methods for instance, real options. Majority of the companies make use of breakeven analysis, sensitivity analysis and scenario analysis, correspondingly when assessing risk.
Mohammed (2013)	Libya	Interviews & Questionnaire	45 firms	The main findings indicate that non-financial criteria (e.g. political priorities, State development plan and personal experience) play a more important role than financial factors. While Libyan companies use multiple techniques to appraise capital investments, usage of discounted cash flow techniques (DCF), although increasing is not yet as high as in developed nations, with payback remaining the most popular

2.13 Overview of SMEs and Clustering in Nigeria

Generally, the definitions of small and medium sized firms (SMEs) mostly revolve around the specifics of size and type. Based on the size, the yardstick used in classifying SMEs include assets, capital base and employment generation capacity. There are various forms SME definitions and they differ from one institution to another, and country-to-country.

According to the organization for economic and cooperation and development (OECD), the characteristics of small and medium sized firms does not solitary depict the pecuniary structure of a nation; but also the socio-cultural dimensions. These diverse options are evident in the SME definitions and criteria used by different countries. In view of this, some countries define SMEs with respect to the number of employees; some make use of the capital invested in defining SMEs while others define SMEs with a combination of both the volume of funds invested and the amount of workers (Imegi et. al, 2015).

The European commission defines small and medium enterprise as enterprises that employ the services of less than 250 workers having a yearly sale of not more than $67million and a total asset of not more than $56million. Small enterprises are said to be those businesses that hire not less than 50 workers with a yearly sale or total asset of not more than $13million while micro firms are said to employ not less than 10 individuals and with a yearly sales and total asset of not more than $3million (Dababneh &Tukan, 2007).

The International finance corporation (IFC) and the multilateral investment guarantee agency (MIGA) describes small businesses as firms that exhibits any two of the situations listed below:

- Below fifty workers
- Below $3,000,000 in entire assets
- Below $3000,000 in overall yearly trades

While medium sized firms are said to be those firms that meets the demand of any two of the conditions mentioned below:

- Below 300 employees
- Below $15,000,000 in entire assets
- Below $15,000,000 in overall yearly sales.

The European Union (EU) defines SME in relation to turnover or balance sheet total and employment. It further went to state that there are certain conditions to be met in order to be classified as an SME and such conditions include amount of workers and any of the two economic conditions of either gross revenue or balance sheet total not forgetting the fact that it must be autonomous (Subrahmanya, 2005).

Table 2.5 European Union definitions of SMEs

CRITERIA	**MICRO ENTERPRISE**	**SMALL ENTERPRISE**	**MEDIUM ENTERPRISE**
Number of Workers	<10	<50	<250
Gross revenue (Million Euros)	2	10	50
Balance sheet Total (Million Euros)	2	10	43

Table 2.6 Relative descriptions of Small and Medium Size Firms

Description By Size	**Micro Firms**	**Small Firms**	**Medium Firms**
USA Small Business Management	1 – 19	20 – 99	100 – 499
United Kingdom department of trade and Industry	1 – 09	10 – 49	50 – 249
Euro stat	1– 09	10 - 99	100 - 499

Source: Dagmar, 2001

2.14 Overview of SMEs in Nigeria

2.14.1 Definition and Features of SMEs in Nigeria

Currently, there exist no major distinction amongst a small sized firm and a medium sized firm in Nigeria. The circular relating to monetary policy No.22 of 1988 of the Central Bank of Nigeria (CBN), defines small sized firms to be such firms with their yearly turnover not higher than five hundred thousand naira. The government of Nigeria in its budget of 1990, defines small sized firms as those firms with a yearly turnover of not more than five hundred thousand naira for commercial bank loans, and firms with funds of not more than two million naira not including the price of land or a limit of five million naira for the use of trade bank credits. The National Economic Reconstruction fund (NERFUND) defines small-scale firms as those with an annual turnover and capital investment of about #10,000,000 (naira).

The Company and Allied Matters Decree 1990 (CAMD '90) section 37b (2) describes a small business as a firm having a yearly income of not exceeding #2,000,000 (naira) and a net asset worth of not exceeding #1,000,000 (naira). On the other hand, in 2005 when the committee of bankers' reviewed the SMIEIS scheme, they define SMEs as a venture having a total asset sordid of #500million not including working capital and land with no specific number of employees.

It is evident that there is no particular definition for SMEs and SME is seen from various perspectives from different sects. However, for the purpose of this research work, the adopted definition for SMEs in Nigeria will be ventures having an asset base of between #5,000,000 to #500million, which excludes land, and a labour force of about 11 to 300 employees. It is noteworthy that this definition was adopted recently by the Central bank of Nigeria (CBN) for Small and Medium Enterprise Credit Guarantee Scheme (SMECGS).

2.14.2 Characteristics of SMEs in Nigeria

In Nigeria, most of the Small and Medium, sized Enterprises (SMEs) have a key feature and this key feature relates to the capital base and or ownership structure, which largely centres on a family or an individual. Thus, predominance of most small and medium sized Enterprises (SMEs) is mostly sole proprietorship or partnerships as the case may be.

In most circumstances, where the company is even listed as a limited liability company, the actual ownership of the business is an individual, partnership or family whichever the case is. Not considering size alone as a feature of SMEs, small and medium sized firms in most cases have three other distinguishing features as postulated by Olokoyo (1999). He further elucidates these three features as:

- Management: the owner who is often referred to as an owner-manager usually carries out the control and coordination of a small business venture. Owner managers in most cases make individual decisions, which are often based on personal experience. The owner – manager plays a dual role of both the employer and the investor, which give him the total control of the business.
- Required Capital: the capital requirement of setting up a small firm is comparatively small when likened with that of larger firms. A person or group of persons or in some cases family members usually contributes this small amount of capital.
- Local Operation: Small businesses carry out their business operations mostly in local areas. The business owner and his employees in most cases reside in the area in where the firm is located. It cannot be said that small businesses necessarily only supply local markets but rather, they extend their services beyond the shores of their immediate environment to other areas of the country.

However, small and medium sized firms do have other features and they include a less complex organisational structure, insufficient professional managers, good industrial relationship, relatively high rate of failures in business operations, small number of employees, minimal capital requirement etc.

Odeyemi, (2003) orates in his paper *"Conceptual Issues and features of Nigerian SMEs"* that Small and medium sized firms (SMEs) starts off classically with a proprietorship and an operation system of a sole proprietorship. Recently and precisely in the last two decades, this norm has gradually been faced out due to innovations, enlightenment, exposure and better understanding. Quite a number of SMEs are listed as limited liability companies, partnership businesses or even enterprises but their operations and activities are labour intensive. Their administration and management is also highly centralized and in most cases built around owner managers, which in essence is their main reason for operation (Nweze, 2009; Imegi, 2015).

2.14.3 Functions of SMEs

Small and medium sized firms (SMEs) are catalyst for the development and development of the Nigerian economy because they hold a major proportion amongst all the business operations carried out in the country. The contributions of SMEs to the growth of the country cannot be overemphasized most particularly in the parts of job creation and output of goods and services. SMEs are seen to be a tool that is used to reduce income disparities thereby creating a group of semi-skilled or skilled workers, which forms a foundation for industrial expansion in the future. They also create opportunities for the development and adaptation of relevant technological approaches and proffer a perfect training environment for managing prospective entrepreneurial talents, which is often scarce in most developing economies amongst other (UNCTD, 2004).

Small and medium sized enterprises have predominantly gained full recognition by development experts and the government in general as a main tool for economic growth and a key issue in the promotion of the development and partnership of the private sector. SME growth is an indispensable component of the growth strategy in various economies and is very significant for Nigeria as well (Udechukwu, 2003). Small and medium sized firms (SMEs) also help in improving standard of living as they are said to create a significant formation of capital thereby achieving a high altitude of competence and output. They are identified as the major means by which unbiased and sustainable business diversification and distribution can be achieved (Imegi et. al., 2015)

In Nigeria, SMEs serves as a means of mobilising and utilising local reserves in addition to increasing competence through lessening of fee and better elasticity. Nigerian SMEs are seen to be extremely famous manufacturing bakery produce, leather products, furniture, clothing, textile, and some other construction materials such as bricks, blocks and cements (Olorunisola, 2003). However, a research conducted by the IFC illustrates that almost 96% of businesses in Nigeria are categorized as small and medium sized (SMEs) unlike the US with 53% and Europe 65%. Small and medium enterprises (SMEs) in Nigeria is said to characterise about 90% of the industrial and manufacturing sector as they add about 1% to the country's GDP (Oyelaran-Oyeyinka, 2008).

2.14.4 Challenges of SMEs in Nigeria

It is already a recognised fact that small and medium sized enterprises has contrived apposite dissemination of wealth, mitigation of insufficiency, generating employment and economic development in nations that are yet developing in Africa and all over the world. Nevertheless, it is discovered that in Nigeria, most small and medium sized firms (SMEs) within their first

5 years of operation usually go into annihilation while others struggle to survive but within 6 to 10years of operations, they also fall into extinction. It is worthy to note that only about 10% of SMEs on the average truly survives and gradually grow into maturity (Basil, 2005). The weakness, slow rate of development and unhealthy state of the small and medium sized sector in Nigeria has in current times been niggling.

Various cruel economic issues which stands as the major features of the business atmosphere of the nation has been seen to be the likely cause of this. These economic factors as identified by various researches include lack of finance, inadequate planning, unfavourable government policies, poor infrastructural facilities, poor business strategies, lack of strategic objectives, insufficient manpower, inadequate technological development, poor profit recognition and accounting methods etc. (Aftab and Rahim 1989, Ekpeyong1983,Ogechukwu 2006, Basil 2005, Achoja, Eyaefe 2010, Imegi et. al., 2015). The aforementioned challenges are grouped into 4 major factors and they are explained thus:

Poor infrastructural provisions: Insufficient and poor infrastructural amenities, which include poor electricity supply, poor motorway system and lack of proper communication facilities, are amongst numerous other factors, which form a major issue disturbing the improvement and survival of small and medium sized firms (SMEs) in Nigeria. A World Bank investment climate assessment research (ICA) in 2008 describes the major problem of SMEs in Nigeria is lack of sufficient finance and meagre infrastructures including bad roads and poor power supply. Furthermore, the report explains that poor infrastructural provisions to a large extent contributes relatively to the high overhead cost incurred in running the business and it in turn results in a loss of about 16% yearly.

Of all the issues associated with poor infrastructural provisions, electric power supply is the most crucial. The supply of electric power all over Nigeria has been unreliable and

inconsistent which affects the operations of most firms small, medium or large. This unreliable and inconsistent power supply has made most firms resort to the use of alternative electric power supply sources to help sustain their business operations. Examples of these alternative sources include the use of inverters, solar energy and electric power generating sets to mention a few. In Nigeria, it is shown statistically that an average of #16.408(Naira) trillion is expended on fuelling electric power generating sets annually. This high cost of alternative supply of power increases overhead on operations thereby affecting services and products market costs.

Nevertheless, the unfortunate state of the road network in Nigeria results in valuable man power trouncing thereby hindering businesses from meeting up with deadlines, business appointments and contract schedules as the case may be. These bad roads contribute also to the numerous losses of lives and increased transportation cost.

Inconsistent Government policies: The Nigerian business sector is been controlled by incoherent and conflicting policies with scrawny legal support and institutional system. There is the lack of adequate protection and security for small and medium sized firms by most government business policies. Oji (2006) states in his study that Nigeria has no clear-cut or definite policy that controls the small and medium sized firms' sector except for an agency which is the Small and Medium Enterprises development Agency (SMEDAN) which was instituted in 2003 to assist in facilitating and nurturing the expansion and growth of small and medium sized firms (SMEs) in Nigeria.

These erratic government policies allow the economic system of the country to encourage bureaucracy, which prolongs the delivery time for tackling issues thereby encouraging bribery.

Lack of sufficient Funding: Most developing countries in Africa are faced with the challenge of funding compared to their bigger counterparts. As a result, of SMEs' prone to high rate of failure which affects their growth and development. The issue of SME funding largely remains informal when it comes to SMEs in Nigeria. Most Nigerian SME rely mainly on the personal savings of the owner or borrowings from friends and family which is often and mostly propelled by the unavailability of both short and long term loan facilities to small and medium business from financial institutions. Scholars have argued that banks in the sub-Sahara region do play crucial roles in financing small businesses due to their financial system dominance thereby limiting the informal funding sources such as personal funding etc.

On the other hand business funding options in Nigeria to a great deal is only assessable to large enterprises (Beck et al, 2008; Ayagari et al, 2012; Imegi et. al., 2015). However, it is evident that most financial institutions are not willing to provide funding assistance such as loan facilities to SMEs due to the fear of the businesses' survival but rather prefer to fund big and established businesses. Even the microfinance schemes cannot on their own provide adequate funding for small and medium businesses because they themselves are still in their developmental stage.

According to World Bank, (2013) cross-country reports, one of the major determinants of a financial institutions' involvement with an SME is the size of the economy. It was discovered that banks in Nigeria prefer to make available their loan facilities to established sectors such as the oil and gas and the telecommunication sectors coupled with their value chains.

Internal Organizational Issues: Friedlander & Pickle, (1968) in their empirical study opines that quite a number of other studies demonstrates that the attitude, characteristics and the personal mind set of most small business owners affects the success and growth of the business. This owner manager's attitude and characteristics deterring the development and

subsistence of small businesses is a common phenomenon amongst SMEs in Nigeria. Some of the problems associated with small business owners' attitude include mismanagement of funds, poor managerial skills, lack of skilled labour force and obsolete management and accounting policies.

The aforementioned problems are still because of most entrepreneurs lacking the required entrepreneurial skills such as planning, coordinating, coordinating, communication etc.

The ability of SMEs to secure loan facilities from financial institutions depends on the attitude and intention of the owner and the capability of small business owners to provide collateral for securing loans. The central bank of Nigeria (CBN) in one of its regulations states that any credit or lending going over #10 million NGN ($ 86,000 USD) must be secured with collateral of either a land or building. Similarly, loans that are not up to this stipulated amount also involve some form of collateral or the other.

However, most small business owners believe that the interest rate of most loan facilities are too high and even the loan application process is too oppressive and that most bank loan policies are likely set out to take over the management and ownership of their small businesses from them. Enwenghara (2006), in his paper stated that the unavailability of permitting political, economic, ethical, infrastructural environment does not encourage Nigerians in Diaspora to invest in the country's small businesses thereby encouraging finished goods importation from neighbouring countries.

In spite of the numerous challenges faced by SMEs as pointed out by different studies, the financial constraint has been the most coherent amongst others as identified by most studies carried out on Nigerian SMEs. (Basil, 2005; Afolabi, 2013). Nevertheless, empirical studies explain that funding or finance as the case maybe only contribute to just 25% of the success

of SMEs (Ogunjuiba et. al, 2004; Imegi et. al., 2015). Hence, creating an atmosphere that encourages the success, growth and development of SMEs should not solely be based of finance or funding but rather on all other highlighted challenges.

2.14.5 The emergence of SME Clustering

Over the last few decades, liberalization and globalization of business strategies have extensively increased the expectations of proposed customers and augmented competition between companies in the same sector (Lavapo and Szirmai, 2012). Simultaneously, small and medium sized enterprises are been offered numerous commercial opportunities by this sudden globalization (Gradzol et al., 2005). This recent move has seen small and medium sized enterprises boost their individual competitiveness through various forms of synergy and co-operative business relationships with other related firms in order to withstand the high rate of competition and consistently benefit from the increased globalization (Mano et al., 2012). Hence, it should however be noted that the synergies and co-operative business relationships formed by small and medium sized enterprises is known as the 'Cluster' notion.

In Nigeria, the emergence of the cluster concept as projected by the federal ministry of commerce and industry in 1997 has been a major force behind Nigeria's new industrialised improvement stratagem since the challenges posed by the previous strategies. It is worthy to note that Clustering in itself was not a total change of policy (bearing in mind that Nigeria had previously engaged in the setting up of industrial estates) but rather a means to changing on the implementation strategy of the country towards achieving a speedy move and sustainable survival of efficient small and medium sized enterprises in Nigeria. This move was a means to drive economic growth towards swift industrialization and attaining the 7 point agenda and vision 20:20 of the then Administration which was intended to make sure

the country's economy will be among the first twenty largest economies by year 20:20. It's unfortunate that this agenda did not see the light of day after a change of government in 2015.

After the introduction of clustering as a development strategy to Nigeria's industrial policies in early 2007, various scholars have attempted to contribute to the industrial policies of Nigeria since independence (Dare-Ajayi, 2007 and Anakom, 2008). Nevertheless, most of these academic contributions show a certain level of biasness on some of these policies. Hence, there has been no serious discussions or contributions on clustering except for Abiola 2008; Iwagu 2011; Adebowale & Oyelaran 2012). Adebowale & Oyelaran (2012) explains the intrinsic advantages of clustering clearly stating that its major charm lays in the pull effect, which developed cities with recognized industrial foundations and decent infrastructure mostly have on industrial accretions. They further maintain that SMEs within a particular industry could position themselves in the same location because proximity leads to positive externalities or 'accumulation effects'.

Clustering as a concept was expected to build a community of small and medium sized enterprises co-located in a particular place where member firms would enjoy social, environmental and corporate trade performance towards achieving operational international trade competitiveness. It was also viewed as an opportunity for the government to concentrate efforts towards developing infrastructures and other amenities needed for suave business operations of these SME clusters as identified in various locations (National bureau of Statistics 2010).

Clustering was also believed to propel the concentration of public resources towards positive use. Besides, the geographical proximity of SMEs will attract other businesses such as financial institution and other businesses thereby enhancing the efficiency of the innovation

process needed to spur the take-off of Nigeria's industrialization international competitiveness. Similarly, Agu and Avoh (2011) opines that clustering will foster localization of economy and further improve the possibility of cross-firm communication and technological improvement which will in turn encourage most SMEs to swerve towards product specialization and technology embrace.

Furthermore, Amokom (2008) identified clusters as havens of industrial commerce situated 100 to 1000 hectares of land often managed by private individuals. Clusters unlike the industrial parks are much smaller in most cases and were to be recognised by states in conjunction with local governments. It was hoped that states and local governments would assist in tackling prospective issues that may be faced by SMEs in various clusters such as adequate training for new entrepreneurial start-ups, funding and access to credit facilities (Adebowale and Oyelaran-Oyeyinka, 2012). Clustering is also considered to enhance the efficiency with which firms participate both in national and global trades. Karev (2007) opines that clustering have been largely accepted and adopted by small and medium sized enterprises (SMEs) and it is seen as a means of networking and debarring the size limitations of SMEs individually. Essentially, clustering is viewed as a very important strategy that helps withstand competition and enhance innovation and productivity.

It is important to note according to Zeng (2008) that as international companies carry on leveraging technology to push innovation around their businesses and they tend to be more focused on supporting programmes such as sub-contracting, crowd-funding as well as co-operation; hence, positioning themselves to make the most of new opportunities. In line with this development, Mano et al., (2012) is of the opinion that Nigeria lags behind and as such needs to increase its embrace of clustering with intents of uplifting her SME sector from torpor. The mesh of technology and the budding drift of advanced shared- service business

model, has established it as a major factor in the pursuit of measure for advocates of SMEs internationally (Lavapo and Szirmai, 2012). It is important that Nigeria follows the trend in the quest to develop a base for sustainable small and medium sized businesses; nevertheless, it would be realistic to make developing the internal capacity a priority by providing universal support for the poorly SME sector.

For instance, India is currently undergoing an economic resurgence, which is on the back of a scheme to enhance their economic internal capacity, loosen trade policies, develop infrastructure, eliminate corruption and ultimately provide mouth-watering trade deals with allied nations (Srinivas, 2010). It is worthy to note that India's effort towards supporting SMEs have attracted accolades from foreign investors. This can be seen from the flow of international foreign direct investments (FDIs) into India in order to mitigate the country's infrastructural deficiency and increased efforts towards implementing a cashless economy (World Bank, 2015). United Nations in 2013 explains that small and medium sized firms are mostly affected by market globalization because of globalization; hence, every enterprise is coerced into thinking globally. They further stated that there is cluster policy guidance for SMEs operating in Europe, which was introduced by the European Union (EU) to coordinate specific cluster issues of local SMEs. This in general has helped to raise an encouraging business atmosphere, link business systems, and encourage sub-contracting and ultimately providing funding at an affordable rate for SMEs.

To further iterate the stance of various literatures reviewed above and harmonize the findings of this research in relation to the premise of the capital investment decision-making processes of SME clusters in Nigeria, the following Hypothesis was developed which will set a basis for the empirical analysis of this study.

Research Hypothesis

1. H_1: There is no significant relationship between capital investment decision making (Internal rate of return) and the financial performance of SME clusters in Nigeria
2. H_2: There is no significant relationship between capital investment decision making (Net present value) and the financial performance of SME clusters in Nigeria
3. H_3: There is no significant relationship between capital investment decision making (Payback) and the financial performance of SME clusters in Nigeria
4. H_4: There is no significant relationship between capital investment decision making (Profitability index) and the financial performance of SME clusters in Nigeria
5. H_5: The proximity of the investment to market considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters in Nigeria
6. H_6: The available infrastructural facilities considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters in Nigeria
7. H_7: The available infrastructural facilities considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters in Nigeria
8. H_8: Availability of cheap inputs considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters in Nigeria

CHAPTER THREE

THEORETICAL AND CONCEPTUAL FRAMEWORK

3.1 Theoretical and Conceptual Framework

For the purpose of this research, the adopted theoretical framework adopted is established on the premise of capital investments decisions and the theory of finance; precisely the ones involving discrete adoptions and maximization of utilities. In accordance with the theory of finance, capital Investment decisions ought to make best use of the wealth of shareholders (Copeland et al. 2005; Seth and Chaudry, 2015). Hence, for the purpose of exploring and construing the Capital investment decision making processes of SME clusters in Nigeria, the outline for this study is developed from this standpoint. Specifically, the economic and finance theories will support in providing answers to the inquiry questions developed for this study:

(i) what types of capital investment appraisal methods are employed by SME clusters

(ii) what role do non-financial factors play in deciding whether or not to continue with a project;

(iii) are elements of risk considered when making investment decisions;

(iv) are SME clusters faced with capital rationing issues;

(v) What funding sources are available to SME clusters in Nigeria in relation to huge capital investments?

For the purpose of capital investments, shareholders provide funding to ventures to receive a reward on the funds provided; this reward is often referred to as returns on capital. These rewards or returns on capital as the case maybe provides some form of compensation for the capital invested within the time duration and in line with the associated risks tangled in the process of making capital investment decisions. It is of a truth that most SMEs or

firms as the case maybe make returns from funds invested on projects of capital nature having viable future periodic income. Fisher (1930); Heirshleifer (1958); Copeland et al., (2005); Seth and Chaudry (2015) made it known in their work that every firm must continue to accept projects of capital nature pending the period that the internal rate of return of the latest scheme matches the desired returns on capital invested as required by financiers this is simply at the point where NPV is equal to nil.

This is the point at which shareholders are allowed to lend or borrow at the current interest rate of the market thereby achieving their anticipated consumption form which maximizes their value (Arnold, 2008; Brigham and Ehrhardt, 2011; Imegi et. al., 2015). Hence, in line with this notion, the firm's net worth is the sum of the NPVs of all investments by the company within a particular period. This is termed as the value-additive principle which basically suggests that the Net Present Value of an venture is fundamentally the input of this venture to the value of the firm (Hughes et al., 2009).The principle also submits that Net Present Values in most cases moves unswervingly into variations in the value of equity and as a result of this, shareholders maximize returns as soon as all investments with a positive NPV are embarked on (Mohammed, 2013; Mamo, 2014; Imegi et. al., 2015).

Hypothetically, the decision-making process of capital investment rule suggests that it is very important for the management of any firm or corporation to adequately evaluate the value added from any new investments undertaken during a particular period. This evaluation process is mostly done by making use of the discounted factor (DCF) methods, which is usually referred to as the sophisticated techniques of capital investment appraisal. This sophisticated techniques involve the use of financial statistical tools such as net present value (NPV), internal rate of return (IRR) and the weighted average cost of capital (WACC) (Gilbert,2005; Mohammed, 2013; Imegi et. al., 2015).

Brigham and Ehrhardt, 2011 explains that the net present value (NPV) of an investment is the present value (PV) of a venture‘s future cash flow less the current value (PV) of its outlays; it signifies the contributions of the project to the wealth of investors. Hence, the investment that comes up with the prime net present value (NPV) contributes more to the wealth of investors and consequently upsurges the share price of the corporation.

It is assumed that investment or project managers should continue to accept projects showing favorable NPVs as it ultimately results in greater values of shares. As a result of this, net present value (NPV) is considered like the most preferred technique of appraising capital investments, primarily because the technique is openly connected to the key aim of the firm which basically is the boosting of the inherent value of a business‘s shareholding. Mohammed (2013) explained that companies with effective and efficient management put in so much resources and time into creating capital investments decision proposals. Most finance theories proposes that a firm ought to accept virtually all independent investments with favorable net present values (NPVs), then in case of jointly exclusive projects, the firm is advised to accept the investment with the topmost net present value (NPV).

Nonetheless, in reality difficulties are often encountered when this finance theory is applied. Initially, there is difficulty in identifying the suitable rate of discount to adopt when evaluating investments, which is contrary to the supposition of Heirshleifer (1958) and Fisher (1930) that the rate of borrowing is frequently dissimilar from the lending rate. Secondly, comprehensive and adequate knowledge of likely projects or investments as the case maybe and their respective cash flows are in most cases unavailable to the management and the company as a whole; hence, most firms occasionally put in place bounds on the availability of capital for investment in fresh projects which is frequently referred to as capital rationing in financial literatures (Moll et al., 2006). Thirdly, the main study of Heirshleifer (1958) was

primarily grounded on a dual-era model; which is often different in practice, from majority of the investments in financial texts and even corporations consider continuing for numerous years. However, regardless of these precincts, the study of Heirshleifer (1958) is primarily stressed in most financial investment works as the major hypothetical foundation for the adoption of net present value (NPV) technique of appraising capital investments and making capital investment decisions.

3.2 Developed Conceptual Framework

The effect of ancient, topographical and outer settings on indigenous milieus are vital and ought to be well thought out when trying to attain an improved knowledge of any finance process especially when making decisions associated with capital investments (Carnegie and Napier 2002; Acquaye 2013; Mohammed, 2013; Tesfaye 2020). This is generally the case when it comes to researches relating to the area of financial management because some of the aforementioned factors can sway several areas of capital investment. Nevertheless, when faced with allocating limited resources among investments (which involves making capital investment decisions), academic researches focus more on the choice of an individual in a situation where the maximum objective is to maximize that individual's wealth; this direct investigation has recently expanded its horizons to include corporations and countries (Nwosu and Ochu, 2017).

This slant particularly may create some bottlenecks due to the increasing need to recognize the actions of the major players of the capital investment decisions process not forgetting that corporations have political roles and function in political environs thereby interacting with other relevant social and cultural contexts as it affects the business operations (Mohammed, 2013; Jifar, 2020).

Consequently, Mamo (2014) acknowledges the importance of considering the effect some other dynamics have on the decision-making process and the company in general when researching on areas like capital budgeting in investments. These other factors include religious, cultural, political, and historical (which is often post-colonial).

It is therefore necessary to develop an extended conceptual framework to expedite a detailed understanding of the discoveries of this study and to recognize the role these contextual factors play in the capital investment decision-making processes of SME clusters in Nigeria.

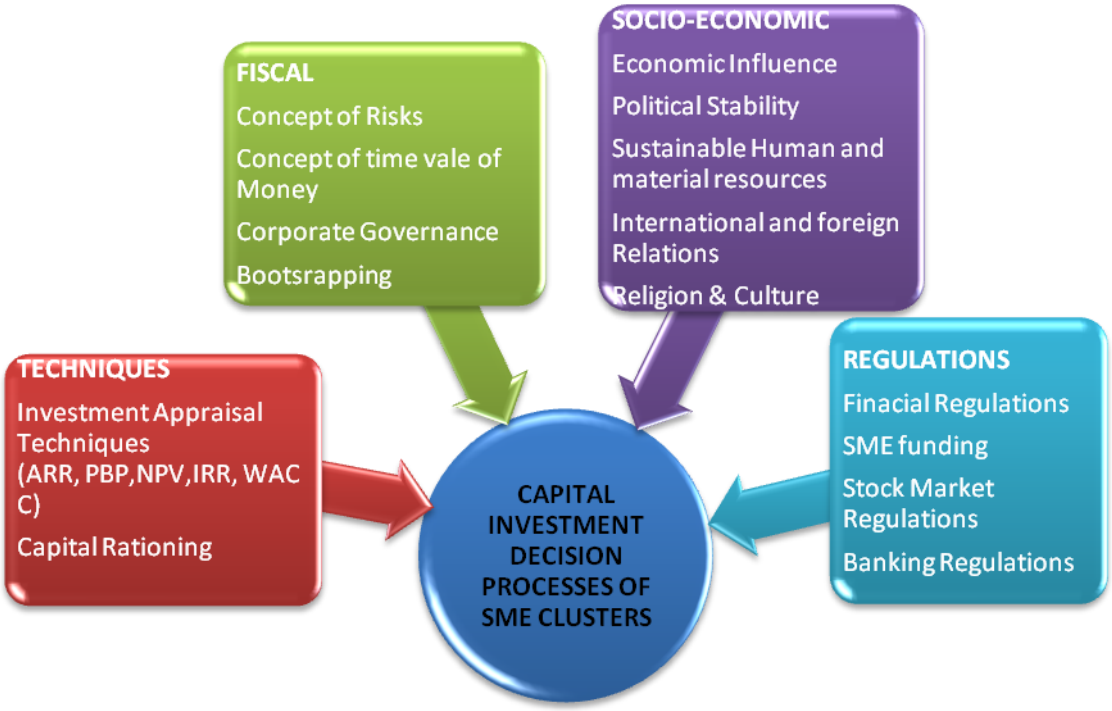


Figure 3.1: Conceptual Framework Chart - Source: Author

Figure 3.1 above shows four different categories of factors, which has the ability to influence the general operations and capital investment decision-making processes of SME clusters particularly in Nigeria. These four categories of factors are:

(i) Post-Colonial
(ii) Fiscal
(iii)Techniques of appraising Investments
(iv)Regulations.

The framework in Figure 3.1 shows the first category of factors as post-colonial; this relates to the political stability of the nation in which the business operates, economic influence, sustainable human and material resources, international and foreign relations and religion and cultural influences. All these factors are categorized by the author under the post-colonial scheme that plays a key role in the process of making capital investment decisions; the existence of a pure and succinct developmental program established by devoted and idealistic leaders. The literature review chapter of this research explained some of the numerous political variations that have happened in the country over a certain period. The conceptual framework argues that these purported political variations in one way or the other might have influenced investment decisions in the country. Hence, it is of a truth that Nigeria's socio-economic situation is very influential when examining the current capital investment decision-making practices of most corporations of the country.

The second category of factors involves the fiscal factors, which includes bootstrapping, the idea of time value of money, corporate governance and the idea of risk management. Most owner-managers of SME clusters in Nigeria usually make investment decisions based on their experience and this is a major factor to be considered likewise managing risk, and time value of money. Not all these factors can be over emphasized when capital investment decisions are made in a country like Nigeria.

The third category of factors to be considered is the techniques of investments, which simply refer to the methodological approach adopted by any organization to appraise an array of investments before making a decision. The commonly used techniques is popularly denoted as capital budgeting methods or investment appraisal techniques which is categorized into the traditional approach i.e. the Accounting Rate of Return (ARR) and Pay Back Period (PBP); the sophisticated techniques which includes Net Present Value (NPV), Internal Rate of

Return (IRR), Weighted Average Cost of Capital (WACC) and Capital Rationing (CR).

It is assumed that most corporations will adopt either the traditional approach of sophisticated method of appraising capital investments (Mamo, 2014). This category of factor is also important when examining the concept of capital investments in Nigeria.

The fourth category of factors relate to the regulations that affect the financial and business environment of the country. It consists of banking regulations especially of lending, financial regulations, SME funding sources, and stock market regulations as it affects capital provisions as to whether SMEs or SME clusters as the case maybe could access funding via the stock market.

The inference of the conceptual framework above is that there is the need for a more robust theoretical framework which will aid the interpretation and understanding of the various roles played by the diverse factors in various studies as it is presented in this research; or else, salient concerns overlooked by conventional theories of finance but crucial in practice may also be ignored and the influence posed by these factors on the capital investment decision making processes of SME clusters in Nigeria disregarded. It should however be noted that recent and conventional influential theories complement the key investment theories by creating more acumen and detailed knowledge of the part these features play in the capital investment decision making processes of SME clusters in Nigeria (Nwosu and Ochu, 2017).

Similarly, Imegi et.al., (2015) in his study maintains that intra-organizational arrangements, procedures, processes and policies are very important when trying to understand the various choices or resolutions of people in a particular environment; likewise in this study, capital investment decision making processes of SME clusters in Nigeria are also presumed to be predisposed to some specific external factors. In the same way, most financial scholars claim

that, for instance, the concept of capital rationing amongst multiple projects cannot be directly executed by a particular individual in an establishment but rather some other external factors which include but not restricted to active institutions, practices, policies in the same environment can also be considered (Acquaye 2013; Imegi et. a., 2015; Nwosu and Ochu, 2017; Tesfaye, 2020). The acceptance of this mode of operation and strategy can be viewed as an origin of structural legality.

Financial theories further maintain that small businesses function within the remit of pre-arranged regulations, values, policies, norms, and other relevant socio-cultural factors, which should be well thought-out when trying to explain capital investment decisions.

Conclusion

In conclusion, it should be noted that the various sections with their respective components in figure 3.1 join forces to encourage businesses including SME clusters to adjust their modus-operandi and procedures to be in line with the external environment. As a result of this, it is opined that most small businesses in most cases are obliged to carry out their business actions in accordance with the requirements of the immediate political, cultural and social, environment (Nwosu and Ochu, 2017; Tesfaye, 2020). Various financial theories and academic literatures provide an appropriate context for amplifying the effects of political, legal, socio-economic and environmental factors on a particular business or businesses as the case maybe in its cluster or industry its purposed strategy for combating these effects (Hussain and Hoque, 2002; Clemens and Douglas, 2005; Mohammed, 2013). These financial theories follow set regulations, guidelines, principles, standards and guidelines at the communal stage as describing the best and anticipated option in place at the organizational level (Molletal, 2006). Di Maggio and Powell (1983) asserts the fact of an organization being subjected to codes of practice and procedures that agree to their necessity for legitimacy. The

search for legality supports the clarification of the reasons precise techniques and organizational systems are in the same way practiced through organizations that function in akin situations, cultures, divisions and environments or arenas (Scott and Meyer, 1992).

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

In this chapter, the research methodology and methods adopted for implementing this research will be highlighted and discussed. These discussions will focus on the description of the setting, which the study was founded, the intended study population size, samples and techniques for sampling adopted, research apparatuses and other techniques used for the collection of data. In addition, there will be the recounts of the process of analysis of data that was used in giving responses to the research questions along with testing the research hypotheses.

Designing any research entails some important stages, which should commence with discovering a research paradigm (concept) that can stand in as a guide for the technique of the research. The next stage entails linking the research model (concept) with the experiential study through a proper procedure. The concluding stage is selecting a proper research method to be used in collecting and analysing necessary data (Denzin and Lincoln, 1994).

This chapter will be mainly channelled at considering the research paradigm (concept) which will give the research methodology direction and alternative approaches to be used in exploring the research questions to be addressed. Nevertheless, this chapter is be grouped into four sections of which the first is the introduction part followed by the part that identifies the approach used and establishing the current study inside the most suitable research model. The next part summarizes the two research methods used in conducting the empirical work of this study. The final unit summarizes the whole section and highlights specific connections to the rest of this thesis.

4.2 Theoretical Assumptions

Walliman (2006) in his work described research to be a systematic investigation making use of all the resources available for the purpose of instituting new truths or creating insights. Furthermore, in 2009, Collis and Hussey went a step ahead expanding Walliman's definition by defining research as an investigation process with the opportunity to determine the underlying reality of a phenomenon. Research in its real sense has been generally regarded as a pursuit channelled concerning data collection, theory examination, new facts creation, recommendations and ultimately conclusions. However, in the area of social science, investigation is perceived as examining the conduct of people in the bid to comprehend people's decisions and the reason behind their actions (Walliman, 2006).

Saunders et al. (2009) in his work established a broad-spectrum meaning for investigation:

> "*An event that is undertaken by individuals so as to discover stuffs in a Methodical manner, thus growing their awareness and understanding around the Phenomenon under investigation.*" (p.5)

In the business world, research is generally perceived to be an aspect of social science because it pertains to humans or establishments managed by humans where decisions, actions and results seems difficult to forecast with certainty. Researcher's paradigm and philosophy within the field of social sciences are commonly viewed as playing a significant role. Furthermore, understanding knowledge development in social science the opinion of the researcher greatly influences the entire procedure of piloting a research study (Nwokah et al., 2009). It is very critical for the researcher to comprehend philosophical or theoretical assumptions because it helps the researcher to be able to clarify matters regarding research

design and assist in ascertaining the 'suitable' knowledge sources and 'pertinent' tools of research needed to achieve the set aims of the research.

Burrell and Morgan (1979) propounded a common theory, which was grounded, on two major set of norms concerning the social science nature and two other major norms regarding the nature of the society; hence they classify research in social science in line with four major paradigms, which are ontology, epistemology, methodology and human nature. Below is a table showing the two dimensions of the social science theory as developed by (Burrell and Morgan, 1979).

Table 4.1: Two dimensions of Social Science Theory

The subjectivist attitude to social science	**Paradigms**	**The objectivist attitude to social science**
Nominalism	← **Ontology** →	Realism
Anti- positivism	← **Epistemology** →	Positivism
Voluntarism	← **Human nature** →	Determinism
Ideographic	← **Methodology** →	Nomothetic

Source: Burrell and Morgan (1979, pg.3)

4.2.1 Ontology

Ontology denotes the viewpoint backing up the authenticity of being. In the same vein, the supposition of ontology signifies the germ of the singularities that is currently examined (Bryman, 2004; Blaikie, 2007; Senik, 2009). In view of this, researchers in the social science field need to make decisions on the simple ontological queries before taking the research work to the experiential phase. In most literatures, ontology is categorized based on whether

the approach the researcher adopts which could be either the objectivist or subjectivist method. Burrell and Morgan (1979) define these dual methods to ontology thus:

> *"The stance of the nominalist focuses on the supposition that the societal realm outside of individual cognizance consist of no major thing other than concepts, labels and names, which in most cases are made use of to construct reality. Pragmatism, in contrast, assumes that the societal realm outside of individual cognizance is the actual world consisting of tough, perceptible and reasonably unassailable arrangements." (p.4).*

4.2.2 Epistemology

Burrell and Morgan (1979) acknowledged epistemology to be:

> *"Expectations on the foundations of information about the possibility of the necessity of understanding about the universe and the essence of communicating this as a transfer of knowledge to associated individuals; involving ideas, for instance, on the specific types of knowledge that is obtainable and the possibility of sorting out what can be considered to be true from that which can be considered to be false" (pg.1).*

Epistemology is keenly related to the viewpoint of knowledge and it focuses on issues, which include how do researchers know the world? How can untruth be differentiated from truth? Is knowledge experienced or acquired? What forms of knowledge is obtainable? What does it mean when researchers claim to know? (Guba and Lincoln, 1994; Creswell, 1997). Simply put, epistemology stipulates the procedures involved in knowledge acquisition about a subject under scrutiny.

4.2.3 Human Nature

Epistemological and ontological suppositions about the world shape the viewpoint of the researcher on the nature of human and the connection that exists between the human beings and their supposed environments. Human nature suppositions relate to issues of 'Determinism' i.e. if the environment determines the behaviour of humans or 'Voluntarism' i.e. in line with the will of humans (Burrell and Morgan, 1979). The human nature issue is concerned with whether maxims and rules that restrain humans exist or whether the topic under scrutiny is concerned with interpretation. Consequently, human activities occur because of some determining factors, which exists externally, or just within the free will of people (Burrell and Morgan, 1979).

4.2.4 Methodology

Methodology in the simple form includes the simple underlying suppositions and the essential philosophy that is used by a researcher to supply answers to the demands under investigation (Giona and Pitre, 1990). Conservative reasoning advocates that researchers make use of a methodology that will reform their understanding and knowledge of epistemology, human nature and ontology (Burrell and Morgan, 1979).

Collis and Hussey (2009) defines methodology as being *"an approach of swotting and thinking about the social reality".* They further described methodology as the all-encompassing method relating to the entire process of research starting from hypothetical basis to the gathering and evaluation of data. Likewise, Crotty (1998) in his study described methodology as:

> *"The stratagem, action plans, procedures or policy forming the basis of the choice and usage of the precise techniques and involving the selection and usage of approaches to the anticipated results"* (pg.3)

Consequently, Methodology can be said to be a scheme of investigation that delivers direction on the choice of apparatuses and measures to be followed ingathering and evaluating data, which relates to specific investigations (Crotty, 1998).

4.2.5 Paradigms

Burrell and Morgan (1997), states that both the regulation-radical and objective-subjective dimensions of change expose the science nature when brought together. This model makes it possible for the researcher to visualize the world from any of the four archetypes, which are functionalist, drastic change, interpretive, and radical structuralism.

Figure 4.1: Paradigms for analysing social change

The sociology of Radical Change / The sociology of Regulation		
	Radical Humanist	*Radical Structuralist*
	Interpretive	*Functionalist*

Source: Burrell and Morgan (1979)

The figure 4.1 above explains the linkage between the four major paradigms. It is evident that every one of the models shares a group of usual topographies with others vertically and horizontally. Every paradigm set connotes a discrete social science reality.

The schematic represented in figure 4.2 is envisioned to work as a guide helping researchers ascertain the current situations i.e. present and future positions respectively. Therefore, a particular position in any of the paradigms submits that there is a particular way with which the researcher sees the world, which is due to the fact the four paradigms gives four different views which individually hinges on a specific philosophical assumption. Hence, it is notable that the four paradigms are said to be equally exclusive. As a result of this, the researcher can

adopt just one paradigm at any particular time. Hence, you reject the assumptions of other paradigms when accepting the assumption of one.

Hussey and Hussey (1997) states that the numerous and diverse paradigm standings of most researchers are frequently viewed as positivism and phenomenal which is in line with the interpretive and functionalist paradigms of Burell and Morgan. In most cases, these research approaches are often described as qualitative and quantitative researches (McCluskey, 2005). Burrell and Morgan (1979) explained that the functionalist archetype is resolutely based on the sociology of guidelines and approaching its actual theme from the viewpoint of an objectivist; it in essence makes use of a realistic approach, which is also determinist, no mephitic, and positivist. The functionalist paradigm is noticeably the principal model required for an organised study. It is intended to offer lucid and coherent clarifications of the affairs of humans and it is logical and extremely entrenched in sociological positivism.

Relationships are perceived to be tangible and it is recognized, researched and analyzed making use of scientific tools. Burrell and Morgan (1979) claimed that the functionalist model explains the position of the social order, status quo, unanimity, social integration, cohesion, contentment and reality. On the contrary, the interpretive paradigm mirrors the sociology of regulation but makes use of an idiosyncratic method to enquiry in social science. Ardalan (2008) as described it:

> *"The interpretive archetype proposes that societal realism is an end product of the idiosyncratic understandings of people. It perceives the societal world as a procedure that was produced by people. Societal realities, in so far because it occurs away from the perception of anyone, is viewed as a grid of norms and entomb instinctively mutual denotations. This postulation ignites the conviction that there are collective numerous veracities which are constant and improved. Researchers are familiar with*

their function within the portent under examination. Their edge of allusion is an individual partaker, instead of a spectator. The major aim of an interpretive researcher is to ascertain the instructions that triumph inside the portent under reflection; nevertheless, they are mostly often not unprejudiced."(Pg.5)

The interpretive archetype is mostly faced with the comprehension of the intuitively formed world "the way it is" by taking cognizance of the society as a continuous process. It pursues explaining behavioral stability from the opinion of an individual, accentuating the mystical nature of the world making use of a method that is voluntarism, ideographic, nominalist and anti-positivist. At the foundational level, arguments relating to methods of research can be abridged as a choice between qualitative and quantitative methods. A qualitative research method makes use of notion development, insights understanding through serious assessment. On the contrary, the quantitative research method is linked with a positivist perspective and typically makes use of statistical techniques such as graphs, time series data, questionnaires, and mathematical modeling.

Nevertheless, these investigation methods are not equally exclusive, nevertheless can be considered in most cases as two dissipations in these elections to be made (Laughlin, 1995).The argument about the right research approach is inevitable at the foundation level of every research. This squabble can be condensed to making the right choice between the quantitative and the qualitative research methods. However, these two research methods are not jointly exclusive but rather regarded as two uncertain when making selections.

4.2.6 Research Paradigm and Objectives

From the perspective of Burrell and Morgan‘s (1979) context, it is essential and of extreme significance that the investigator embraces a paradigm or a method even though information

is been sought after. The study in focus is predominantly founded on a quantitative research, with a subjectivist viewpoint. However, a major worry is the issue of sociology of guideline. Hence, throughout the research the explanatory archetype is consequently adopted. Particularly, this study is positioned at an angle in the interpretive paradigm range which is not far from the central link splitting the functionalist amidst the interpretive paradigm. The sociology of drastic variation is not the most suitable for a research of SME clusters in Nigeria where there is a deeply embedded centralized planning and control system.

Additionally, rather than merely recounting the portents which are under enquiry, this research aims to comprehend and construe the concerns relating to the issues being viewed. Therefore, this study purposes to critically comprehend the scope of the capital investment decision making processes of SME clusters in Nigeria as at the period of this investigation. It is vital that the researcher make available proof to sustain the results of the findings while contributing to the discuss about this significant issue; this is realized by making use of research approaches that are attuned with the interpretative archetype and steady with the method and the investigator‘s philosophies around the theme under debate.

Summarily, Gaffikin (2006) explains the right research method as one which is based on the manner with which truth is defined. Mingers (2001) however established this perceptive when he noted that:

> *“Research method is generally viewed as an instrument adopted for infuriating a reply from its users or recipients as the case maybe. Various methods when used, often produces facts in line with various features of the domain”* (pg.243).

The researcher is conscious of the advantages of engaging numerous diverse approaches so as to help develop the argument by giving details, intuitions and means of viewing the study portents or the issue; if diverse investigation tools are adopted, the findings are intended to be

dependable. On the contrary, when a study is based on just one research tool to obtain information about the portents under examination, there may be limitations to findings (Mingers, 2001). The research methods initially embraced for the essence of this research is semi-structured interviews; and questionnaire survey, which is centered on the analysis of relevant literature and on the major outcomes from the semi-structured interviews. However, there were difficulties in conducting the semi-structured interviews as majority of the stakeholders of the SME clusters in the sample refused to give audience to the researcher for interviews due to some confidential reasons best known to them. As a result of this, the researcher could only rely on the respondents of the questionnaire survey and the details given.

Analyzing of pertinent literature is seen as a part of the research approach in this study since it assists the researcher in developing new understandings regarding the present state of information on capital investment decision-making processes of SME clusters, predominantly in an emerging nation like Nigeria. The combination of these two research methods is adopted to provide answers to these research questions, which are founded on the objectives:

Firstly, What conceptual models and theoretical frameworks relate to investment appraisal, SME clustering and capital investment decisions? Here the resaercher seeks to examine relevant literatures as it relates to the subject area of this research which include SME clustering, capital investments appraisals, capital rationing and other capital investment appraisal techniques, risks etc.

Secondly, What is the current state of the capital investment decision making processes of SME clusters in Nigeria and are there any form of inconsistencies in any of the capital investment decision making processes adopted by SME clusters? If yes examine the causes. The researcher would evaluate the current capital investment decision making processes of SMEs within the selected sample to determine the current state and check if there are any inconsistencies within the process and possibly investigate the causes of any inconsistency found in the decision making processes of SMEs with the purpose of ascertaining why majority of SMEs in Nigeria go into extiction in the first five years of operation.

Thirdly, what methods of capital investment appraisal are employed by SME clusters ? the researcher will examine if SMEs in Nigeria make use of any method or technique to appraise capital investments and also determine what the actual methods or techniques adopted are. In essence, this indicates the actual motives behind the choice of capital investment assessment methods.

Fourthly, Do the choice of capital investment appraisal method impact the financial and overall acheivement of SME clusters? As a result of the third research question above, the resaercher will further verify if the choice of capital investment appraisal method affect the productivity, viability and overall financial performance of the business in general.

Lastly, the fifth research question, Is there any effective capital investment decision making process model available for SMEs in Nigeria?; if none, propose and recommend one. This resaerch question paves way for the researcher to find out if there exist a process model which SME clusters in Nigeria could adopt when making capital investment decisions. If such process model does not exist, the researcher will design a process model and recommend such at the end of the thesis. As explained in the preceding sections of this thesis,

this study is primarily exploratory and qualitative; there are no key comprehensive hypotheses for additional studies.

The major aim is to provide an evocative description of a misunderstood portent, i.e. the capital investment decision-making processes in the multifaceted business setting of SME clusters in Nigeria. Consequently, the logical methodological suppositions of this research are positioned towards affecting the ideographic approach of social science, founded on the notion of the fact that the investigator could only comprehend the social world through gaining practical understanding of the research focus from the partakers of the process.

4.3 Research Methods

In existing researches, there are various arguments on how a researcher should gather information. Many researchers argue that information gathering ought to commence with conducting interviews or handing out questionnaires while others are of the opinion that they should be done concurrently. Arnon and Reichel (2009), postulates that the two methods (i.e. interviews and questionnaires) should be carried out simultaneously. However, Moscovici (2008) argued in that questionnaires should be used to initially collect data especially when it is to be used with interviews. This he further justified with the explanation that ambiguity of any kind arising from the questionnaire results could then be deliberated with the interviewees to establish the rationale behind a particular finding.

Jarratt (1996), on the contrary argued that when both data collection methods (interview and inquiry forms) are used, conducting interview must be the foremost in order that it's discoveries could be adopted to draft a constructive questionnaires; which is particularly suitable with a lack of proof on the issues to be examined in the research, which is almost the scenario in this study. In this particular study, the researcher will hence conduct interviews

first for owner managers of proposed SMEs in the clusters to attain a deeper comprehension of the process of capital investment decision making among these SME clusters; it was anticipated that the results of this interview would assist the researcher in designing and defining a constructive questionnaire.

Hamersley and Atkinson, (1995, 2011) termed the mixture of interviews and questionnaires adopted in this research a methodological data source triangulation. This is due to the fact that it allowed the researcher to reconnoitre the disparities between the actual actions of the owner-managers and what they claim to have done, therefore posing a room for verification (Holliday,1992). Gummesson (1991, 2001) explained that in the social science, triangulation is a word used to describe the process of applying more than two research methods on a particular research problem to upsurge the validity and dependability of the findings. Furthermore, it should be noted according to Dalton (1964), that combining different research methods in the same research eradicates any shortcomings linked with any of the research methods, and the data from any of the research methods can be used to irradiate the other (Hamersley and Atkinson, 1995; Atkinson et. al., 2001; P. Atkinson, 2005).

Consequently, Schein (1969, 1978, and 1990) views a mixture of observation and interviews as an ideal methodology for the process study.

4.3.1 Study Setting

This research was conducted in Lagos state, Nigeria, West Africa. The state being one of the largest states in Nigeria is with a total population of about 22,000,000 and is statistically classified as the most populous of all the 36 states including the Federal Capital of the country. Lagos is the Nigeria's economic capital as it used to be the federal capital since independence before the capital was moved to Abuja by the then Head of State General

Ibrahim Babangida. Lagos geographically, is home to over 80% of the country's industries. Lagos stretches centrally from the Gulf of Guinea through to the Lagos Lagoon. The state has Twenty (20) local council jurisdictions with 57 local council development areas (LCDA) with its political capital city is Ikeja. According to the National Bureau of Statistics (NBS, 2017), Lagos is included as one of the debauched developing cities globally and it is a major financial centre in Africa ranking fourth among the first four highest GDPs in the whole of Africa and houses one of the biggest and action-packed harbours on the continent. It is home to thousands of small and medium-sized businesses across various sectors of the Nigeria's economy.

4.3.2 Target Population

The study focused on a number of small and medium-sized firms (SMEs) in Lagos Nigeria. In particular, owners, managers and senior employees (such as accounts and other management staff) of the SMEs constituted the focus of the study. SMEs in Lagos are estimated by the Lagos state government at over 11,000.

4.4 Sample Size

In determining the sample size, this research adopted the Taro Yamane's formula. This formula is appropriate to illustrative studies where the population study is identified and the main concern is to assess the frequency of a distinguishing of interest. The method used in calculating the sample size is:

$$n = \frac{N}{1 + [Ne^2]}$$

Where: n is the size of the sample; N is the targeted population; e is the level of precision or sampling error (5%).

When making use of this method for the purpose of this study, n is determined thus:

$$n = \frac{11{,}000}{1 + [11000(0.05)^2]}$$

$$n = \frac{11000}{1 + [39.5]}$$

$$n = \frac{11000}{40.5}$$

$$n = 271.6$$

A total of 272 respondents in 300 SMEs over 3 major SME Clusters were used for the study.

4.5 Sampling Techniques

A stratified sampling technique was used for the study. In this, popular SMEs in Lagos state were divided into four different strata. These were SMEs in the Information and Communication Technology (105), Music and Video production (60), Mechanical (80) and the Agriculture (27).

4.6 Semi – Structured Interviews

Ahrens and Chapman (2006) states that as a result of broad insights, material evidence and experiences acquired from the review of relevant past researches on the area of this research topic, a primary effort at creating a semi-structured interview manuscript should happen first. Hence, the researcher initiated a preconceived set of questions based on the literature reviewed which was expected to support the semi-structured interviews. The semi- structured interview procedure according to Bryman and Bell (2007) is explained as such:

> *"The investigator draws up a set of questions on objectively precise subjects or areas to be examined, which is in most cases used as a guide to the interview, however the respondent has a sufficient level of freedom as to how to respond. These questions in most cases often do not go in line with the way it is listed on the plan. Random questions, which are primarily not contained within the plan, can be inquired, as there is the possibility of the interviewer noticing certain responses from the respondents. Nevertheless, virtually all the questions contained in the plan will be asked and a replicated in every interview session with all intended respondents."* (pg.474).

Suler (2010) assumes that making use of semi- structured interviews provide extensive knowledge about a specific study, problem or inquiry (p.1).Ahrens and Chapman (2006) in the same vein stated expressly that semi-structured interview: "might be viewed as a continuous conversation in which the researcher enthusiastically works to comprehend" (p.822).

Additionally, Elyet.al. (1991), stated that when making use of an explanatory method, semi-structured interviews are mostly suitable as the investigator would *"prefer responses to come directly from the individuals or objects under study in order to get their undiluted viewpoints in words and other actions"* (p.4).

To further enhance this research, the semi-structured interview was developed through the sensitivity propositions created from the review of relevant literature and several brain-racking sessions, which were exploratory in (Jarvis et al., 1996). These interview questions created the primary boundary for the study and detailed information about owner managers such as academic background, professional experience, age and other relevant trainings. In line with Gill and Johnson (1997) the semi-structured interview focused on origin of the

SMEs, the definition of business objectives by owner managers, attitude of the SME in relation to growth, future plans and stringent issues of the business. This information helped to shed more light on the major issues of this study creating good rapport between the researcher and the SMEs.

Getting sufficient background information about the owner managers helps in determining whether these influences their capital investment decision making processes. The importance of sensitivity propositions emphasizes its importance thus:

> *"It offers the user an overall nous of allusion and guiding principles in approaching experiential occasions. Preparing concepts is a major kick off point; this is basically the origin of the investigation, and it is capable of providing a centre for further collection of data" (Hamersley and Atkinson, 1995, pg.212).*

Furthermore, the other parts of the questionnaire concentrated on capital investment decision-making processes, capital investment financing sources, capital investment appraisal techniques, risks and other issues affecting the decision-making processes and choice of appraisal techniques. Even though the semi-structured interview focused primarily on owner mangers of SMEs, some other employees of the SMEs were also interviewed. They include accountants, business advisors etc. this according to Stockport and Kakabadse, (1992) helped in scrutinising and validating conflicting information. The interview sections and questions were organised in such a way that accommodated flexibility, which gave room for detailed questioning on all areas of the research not in any specific order.

Also, the chance to investigate concerns rose during the interview sessions. All these were included in the plan for the interview. Bryman and Bell, (2007) explained that while preparing for semi-structured interviews, researchers should have some set questions which

are broad in nature. They also argued that even though researchers are constrained by their conceptual framework, they ought not to be restrained by them. It should however be noted that provisions should be made for deviating from the original interview sequence in order to adhere strictly to important inquiry lines and also facilitate unbroken discussions (Chapman, 2006). Consequently, the interview sessions were detailed and hitch free as the interview was more of a discussion and conversation with the questions created to obtain open narratives on capital investment decision-making processes.

Respondents were particularly given the freedom of expression and encouraged to be more elaborate in their statement by using non-directive probes. In line with the postulations of Spence and Rutherfoord, (2001), the interview facilitated a constructive discussion giving room for the interviewee much privilege to converse in personal terms. Generally, the interview sessions lasted between 1 to 2 hours as most discussions were detailed. Nevertheless, the interview sessions were recorded with permission and in agreement with owner managers based on the understanding that every information will be treated with high confidentiality. Interviews are very important when carrying out a research as it affords the researcher the opportunity to intensely investigate certain issues, discover a new dimension to a problem, and find out new clues securing vivid and precise accounts, which are based on personal experience (Suler, 2010). Ahrens and Chapman (2006) views interview as a technique that enumerates the pros of qualitative research in presenting an evident clearer scenario than the variable based correlation of quantitative research.

Hence, interviews provide detailed

> *"knowledge of how people create the true importance and importance of their circumstance from the multifaceted individual context of dogmas and beliefs, which*

have been created all through their lifetime so as to assist in explaining and predicting happenings around them" (Easterby-Smith et al., 1991, pg.73).

It is worthy to note that the collective perspective of interview is essential to comprehending the information gathered.

4.6.1 Questionnaire

According to Sekaran (2003) a questionnaire can be defined as a tool for data collection that allows every person in the proposed research sample to participate by providing answers to series of outlined and written related set of questions. In social science research where huge samples of opinions are being investigated, questionnaire can be said to be the one of them if not the mainly used method of data collection (Collis and Hussey, 2009). Furthermore, Kumar, (2005) and Saunders et al., (2009) explained that questionnaire can be used in either subjectivist or objectivist research. Over the years, especially amongst researcher's questionnaire has increasingly become the most popular tool for data collection. This is because of a cheap and reliable postal service in most countries and even the advent of technology, which makes questionnaire distribution, is quite easy. Additionally, considering the emergence and rapid development of technology, there is the possibility of analyzing large response samples to an ample amount of questions (Sharp et al., 2002).

Questionnaire in itself is grouped into two major types based on the universal design or layout (Sekaran, 2003). The open-ended questionnaire is the first type of questionnaire. This type of questionnaire affords the participants to answer the questions freely without prejudice by writing down their remarks to very broad set of questions. It should be noted that in most cases, this questionnaire type may be quite easy to construct, but on the other hand more difficult for the proposed contributor to provide response to; hence, responses may become

more demanding to code and analyze (Saunders et. al., 2009). The other questionnaire which is the second type is popularly referred to as the close ended questionnaire which gives the participants an option of providing a Yes ‘or No answer to a group of set questions (Blaxter et al., 2010).

Kumar (2005) explained that there exist numerous factors which play a significant role when making decision as to which of the two types of questionnaires is to be adopted. In this instance for example, motivation and the experience or expertise of respondents are crucial factors to be considered. Additionally, the content of the questionnaire, administrative and logistics issues, and the available time for developing the proposed questions for the questionnaire also play a major role when deciding whether to adopt an open-ended or closed-end questionnaire.

However, survey can be of different forms i.e. via the internet (emails, blog posts, face book etc.), telephone, mailing, and confrontational (Blaxter et al., 2010). During Confrontational survey which in most cases comes in form of an interview, the researcher personally contacted the proposed participants. When a questionnaire is administered in this manner, it gives room for the researcher to establish the response in writing while clarifying any likely questions at the same time if need be. (Saunders et al., 2009).

Carrying out a survey making use of a questionnaire is a means of overcoming the limitations posed by the interview survey method and at the same time discovering the opinions of a larger group of participants. Nevertheless, collecting research data via the use of the questionnaire has numerous inadequacies. Relatively, the apparent shortfall of the questionnaire relates to the probability of a small reply rate from respondents in addition to the complexity of having to deal with questions unanswered. Another major constraint is that respondents may also misconstrue or get the wrong idea about some of the questions due to

lack of interest or inadequate knowledge relating to some of the issues of the subject matter. Furthermore, the biasness of respondents is another shortfall of the questionnaire; some of the respondents who take part in the questionnaire survey may demonstrate different impetus or traits when answering questions than other respondents. In a situation where there is a very low response rate, the ultimate findings may be affected seriously since the results of the questionnaire may not originally reflect the genuine views of the research sample (Kumar, 2005).

Various literatures show that respondents more often than not read all the questions prior to starting the completion of the questionnaire. This may rather influence the sovereignty of the questions and the answers. However, In the event that close-ended questionnaires are having a restricted amount of pre-planned likely responses, respondents are often times not given the opportunity to freely give their honest views (May,2005). As a result of this, the researcher chose to personally deliver and collect the questionnaires to respondents and the close-ended type of questionnaire was adopted for this study for some reasons. Firstly, in line with various literatures, the self-administered questionnaires have a propensity to attain a greater response rate in relation to other survey methods (Blaxter et al., 2010).

Secondly, the postal service in Nigeria are inefficient and unreliable; most streets, houses, and are as are not sufficiently coded hence, firms and individuals in most cases do not often rely on the traditional mailing system; as an alternative, they make use of a post office box, usually located at various post offices across the country. Additionally, the unavailability of sufficient and affordable internet facilities, which debars the usage of emails and online surveys, are also a major constraint for most individuals and companies in Nigeria; hence, it will not be effective to adopt these as a means to administer and distribute questionnaires.

In line with the explanations of Kribat (2009), designing the questionnaire for this research

and its increased effectiveness as the major research instrument for this study, some major issues were duly taken into consideration. The researcher choose to pattern the questionnaire along these lines that will reduce the frequently notable problems associated with surveys and drastically reduce any substantial bias in the study (Kribat, 2009). For instance, some of the decisions made are:

(i) The medium of communication adopted for the questionnaire should be such that will be easily understood by the respondents;

(ii) There should be clarity and conciseness in the type of questions enclosed in the final questionnaire;

(iii) The content of the questionnaire should not be too voluminous since this influences the response rate directly. Hence, the lengthy the questionnaire, the lesser the response rate that will be possibly received (Sharpet.al. 2002). Consequently, the questionnaire used for this research was intended not to take over ten minutes to finish and not exceeding ten pages in general.

Considering the issues mentioned above, the following were duly considered while drafting the questionnaire. The expressions and vocabulary used in the questionnaire were selected for simplicity and easy comprehension. The questionnaires questions were designed to be in its shorted possible form to upsurge the rate of reply by decreasing the duration it should take to complete the questionnaire. Moreover, the amount of questions in the questionnaire was kept to the barest minimum. Likewise, both the close-ended and open-ended questions were adopted so as to persuade the responder to providing the needed data in a format that would be easily analyzed statistically. Simultaneously, the open-ended questions gave the participants the chance to address any form of issue that might have risen from answering the

questionnaire and have not been dealt with in the whole questionnaire. The logical arrangements of the questions, the structure and entire layout of the questionnaire was also keenly considered. Certainly, the chosen layout was adopted in order to make sure that every participant or respondent as the case maybe would and comprehend the questions as explained by Collis and Hussey, (2009).

Moreover, to inspire the partakers in completing and giving back the questionnaires, the questionnaire was designed in such a way that it will be intended to be an eye-catching arrangement, subsequently growing the response rate (Kumar 2005). Every element were meticulously chosen to maximize the dependability and the legitimacy of the examination (Saunders et al., 2009). As earlier stated, the questionnaire which is self-administrated was selected as the investigation technique, such that most of the questions contained therein were close-ended except for one of the questions that is open-ended which ensured each responder had the opportunity to mention any issues not addressed by the additional questions in other sections of the questionnaire.

Most of the questionnaire questions for this research adopted a five-point like rate scale with the likely responses from point 5, which represents completely important to point 1 representing completely unimportant. Some questions in the questionnaire required a direct yes or no answer, while other questions required an initial yes or no answer and, with a supplementary question requiring, a five-point rate scale based on the reply. Most of the questions presented an opportunity for the participants to include any answer not provided or to append any clarification for a specific answer. In addition, the questionnaire made provision for a section of questions, which were patterned to gather primary and widespread information about the SMEs and the individual participants.

It should however be noted that the questions were primed after the researcher had completed

the literature review and after proper studies of the previous researches in the research area under scrutiny. Additionally, some previous researches in the area of capital investment decisions that had made use of a questionnaire in their researches were critically studied. These researches includes: Klammer and Walker (1984), Sangster (1993), Abdel-Kader and Dugdale (1998), Arnold and Hatzopoulos (2000), Lazaridis (2004), Toit and Pienaar (2005), Elumilade et al.(2006),Pike and Nile (2006, 2009), Correia and Cramer (2008), Khamees et al. (2010), Acquaye (2013), Mohammed (2013), Etuk. et. al., (2014) and Etela and Onoja, (2017).

The ultimate edition of the questionnaire used by the researcher consisted 16 unambiguous questions which were divided into six divisions: background information, capital investment appraisal methods/techniques, risks, procedure for capital investment decision-making, capital rationing and general (which was mainly the authority of interloper groups for instance financial institutions, government agencies and other non-financial factors on the process of making decisions on capital investments).The questionnaire was in black and white and in English language which happens to be the lingua franca in Nigeria.

Additionally, the aforementioned persons finished the survey as a preliminary study to elucidate on the provisions of the questionnaire and the suggested questions from the stand point of the respondent (Ghauri et al., 1995; Sekaran, 2003). Initially the sample was designed to survey about 150 SMEs in various clusters in three major geo-political zones of Nigeria, each SME given one questionnaire. The chosen SME clusters were considered from five main sectors of the economy: Electronics Sale SME clusters, Mechanical spare-part sale SME clusters, Technology SME clusters, Food and Beverages SME clusters, Textile SME clusters; an average of 30 SMEs were chosen from each of the aforementioned sector with diverse forms of ownership and a range of capital sizes. This stage of the study occurred

between the ends of December 2015 to end of January 2016.The designed questionnaire form was circulated personally by the researcher. This was due to the unavailability of an efficient, reliable and cheap postal service in Nigeria. It was also unworkable and not feasible to send the questionnaires by e-mail as there was no guarantee that it will reach the intended recipient due to lack of or ineffective internet services in the country. Therefore, the questionnaire was distributed in person by the researcher to quite a large amount of SMEs. Nevertheless, some of these SMEs refused to collect the questionnaires for reasons best known to them. As a result of this, the amount of SMEs that participated in the exercise was 400.

The questionnaire distribution process required a lot of travelling by road and air between these cities and in most times the researcher needed to visit some SMEs between two to three different times in order to ensure that questionnaire were completed properly and returned earnestly. Altogether, the researcher collected an average of 271 out of the 400 questionnaires distributed and 252 of those were fully completed and were useful for the research (this is about 93%response rate on the average). Majority of those that participated in the process were part of the administration and had direct involvement in the process of making capital investment decisions in their respective SME. According to the analysis 68.3% of the respondents were the owners themselves, while 28.6% of the respondents were managers, and only 3.2% of the respondents were accountants. This depicts that majority of the responders in the sample were the SME owners who also doubled as managers of the business themselves.

4.6.2 Research Instrument

The study used a self-developed organised questionnaire focusing on the objectives for the study for gathering information. The questionnaire was grouped into six sections: The first

division collected data on the responders' socio-demographic characteristics while the remaining sections addressed each of the study's five objectives.

The sections of the instrument consist of multiple choice and the respondents were required to pick the most appropriate option from the available options. Some of the questions obtained responses with the use of like rate scale such as Strongly Agree (SA), Agree (A), Undecided (UN), Disagree (D) and Strongly Disagree (SD).

4.7 Reliability of the Study Instrument

The reliability of the research instrument was tested using two different procedures - the Cronbach's alpha and the Split Half Techniques. These were adopted in measuring the central stability of the study instrument, by analysing the scale reliability of the questionnaire.

The dependability factor varieties between 0 and 1. Whereas 0 specifies total inconsistencies, 1 shows flawless dependability. The nearer the coefficient to these two immoderations, the more they share their metiers.

Table 4.2 Case Processing Summary

		N	%
Cases	Valid	27	100.0
	Excluded[a]	0	.0
	Total	27	100.0

a. List wise deletion based on all variables in the process.

Results in table 1 showed that all cases in the reliability analysis were valid as there was no excluded case. This showed that the instrument scales were valid.

Table 4.3 Reliability Statistics (*Cronbach's Alpha*)

Variables	Cronbach's Alpha Coefficient
Section B	0.879
Section C	0.811
Section D	0.736
Section E	0.789

Table 4.4 Reliability Statistics (*Split-half*)

Split-half	N of Items
.827 (Spearman rank)	27
0.819 (Pearson's)	27

The Cronbach's Alpha coefficients (Table 2) for the constructs in the sections B to E on the research instrument were 0.879, 0.811, 0.736 and 0.789 respectively, proposing that the instrument items had high internal consistency. For the Split-half (Table 2), the questionnaire item responses were split into halves (each measured by separate evaluators) and were correlated both with Spearman rank and Pearson correlation procedures, which gave reliability coefficients as 0.827 and 0.819 respectively.

In general, a reliability coefficient of 0.70 or higher is considered acceptable. Here, all of the coefficients had no less than 7.0 and this suggested that the items on the research instrument had relatively high internal consistency. The measurement instrument measured the study constructs consistently, as used at different times by different evaluators. These results pointed that the research instrument was reliable as it measured with high internal consistency.

4.8 Method of Data Analysis

Following completion of the questionnaire, retrieved copies will be exposed to authentication so as to determine their correctness and comprehensiveness. Information from correctly completed questionnaire will be graded, after which it is imputed into the SPSS version 20.0

for analysis. Descriptive statistics such as percentage scores, bar charts, pie charts and frequency counts were used. Also, inferential statistics such as chi-square and Independent Samples T-test were adopted in testing the geometric implication of the connection amid variables.

4.9 Ethical Considerations

An ethical authorisation was gotten from the Ethical Review Board of the University. Furthermore, the researcher gave detailed clarification of the objectives of the study to permit the responders trust and were guaranteed that their responses would be used sternly for the purpose of this research only. They were guaranteed that they reserved the right to hold back their answer to any question they had doubt about and that they could withdraw their involvement during any phase of the information gathering without any consequences to them.

4.10 Conclusion

This chapter was aimed at outlining the adopted methodology of research and methods used for this research. The type of model delineated by Burrell and Morgan (1979) inclined the choice of the procedural style. Burrell and Morgan (1979) in their studies opined that the significant and imperative theoretical suppositions of are searcher ought to be sound and constructively formulated before any empirical study is commenced so as to make sure that the ontology, epistemology, methods and methodology are unswerving, reliable and dependable with one another and in accordance with the major intents of the study. The interpretative model was chosen for this research due to the scenery of the research subject under examination; which is simply a descriptive study of the capital investment decision making processes of SME clusters in Nigeria where the data required for this purpose are in most cases subjective, quantitative and qualitative in nature.

This chapter then enumerated the two methods of research adopted by the researcher for the purpose of conducting the empirical studies of this research. The Semi-structured interview was penciled down as the initial stage of the empirical research so as to better understand the process creating comparatively deep insight on the research area in question with the relevant issues surrounding it. However, it is worthy to note that the researcher could not achieve this as all the SME clusters in the sample refused to be interviewed due to some confidentiality reasons best known to them.

This left the researcher to rely only on the questionnaire survey to gather the needed data. The second stage of the empirical study was delineated to be questionnaire survey which was purposed to cover a bigger sample concentrating more on acquiring more comprehensive information about definite matters that arose during the proposed interview questions in addition to the existing literature.

Having outlined the theoretical and conceptual milieu to this study in the first part of the research, the next part will begin with Chapter Five, which kicks off the analysis, findings, conclusion and recommendation part presenting the empirical studies by recounting, unfolding, analyzing and thrashing out the results the responses in the survey questionnaire.

CHAPTER FIVE

DATA ANALYSIS AND INTERPRETATION OF RESULTS

5.1 Introduction

This chapter showcases the analysis of the gathered data and elucidation of the outcomes from the data gathered through the questionnaires. These include the descriptive exhibition of the socio-demographic physiognomies of target audience making use of tables in addition to inferential exploration of interactions among variables. This study analysis focused on 252 fully filled questionnaires at 94% response rate.

5.2 Socio-Demographic Characteristics of the Respondents

Contained in this segment is the Socio-Demographic Physiognomies of the small scale business owners and their employees used as respondents in this study. These include their positions in the SMEs, academic qualifications, firm size and sectors.

The results as offered in the Table 1 shows that 57.1% of the respondents were male while 42.9% were female. The results on the respondents' positions in their respective SMEs showed that 30.2% were the business owners while 50.8% were managing the businesses on behalf of the owners. The results on academic qualifications indicate that 57.1% of the respondents had Bachelor's degrees while 20.6% had postgraduate degrees.

Furthermore, it was shown that 44.4% of the respondents have held their current position for about 5-10 years but only 9.5% have spent above 20 years in their current position. The sectoral distribution of the SMEs used for this study showed that 39.7% belonged to Information and Communication technology, 20.6% were in Music and Video production, 30.2% were into Auto parts and mechanical and 9.5% belonged to the Agribusiness. In

addition to these, the results on the firm sizes, measured in terms of the number of employees they had, showed that 42.9% had between 5 to 8 employees while 33.3% had about 1-4 employees. However, only 6.3% had above 12 employees

Table 1

Respondents' Background Characteristics

VARIABLES	RESPONSES	FREQUENCY (n=252)	PERCENTAGE (%)
Gender	Male	144	57.1
	Female	108	42.9
Position in the SME	Owner	76	30.2
	Manager	128	50.8
	Accounting Officer	36	14.3
	Others	12	4.8
Academic Qualifications	SSCE	20	7.9
	Diploma/NCE	36	14.3
	Bachelor's Degree	144	57.1
	Postgraduate Degree	52	20.6
Period Length of being in the Current Position (in years)	Less than 5	56	22.2
	5 – 10	112	44.4
	11 -15	40	15.9
	16-20	20	7.9
	Above 20	24	9.5
SMEs' CLUSTERS	Information & Communication Technology	100	39.7
	Music & Video Production	52	20.6
	Auto Parts & Mechanical	76	30.2
	Agribusiness	24	9.5
Firm Size (*number of employees*)	1-4	84	33.3
	5-8	108	42.9
	9-12	44	17.5
	Above 12	16	6.3
Total		252	100.0

The results as illustrated in the Figure 1 show the sources of funding for investment by the SMEs. It was shown that 87.6% relied on self as a source of funding for investment while

65.3% sourced their funds from commercial banks. Meanwhile, 46.9% sourced their funds from international investors while 41% got their funds from nominal partners. The results showed that the least source of funding for investment by the SMEs was through government.

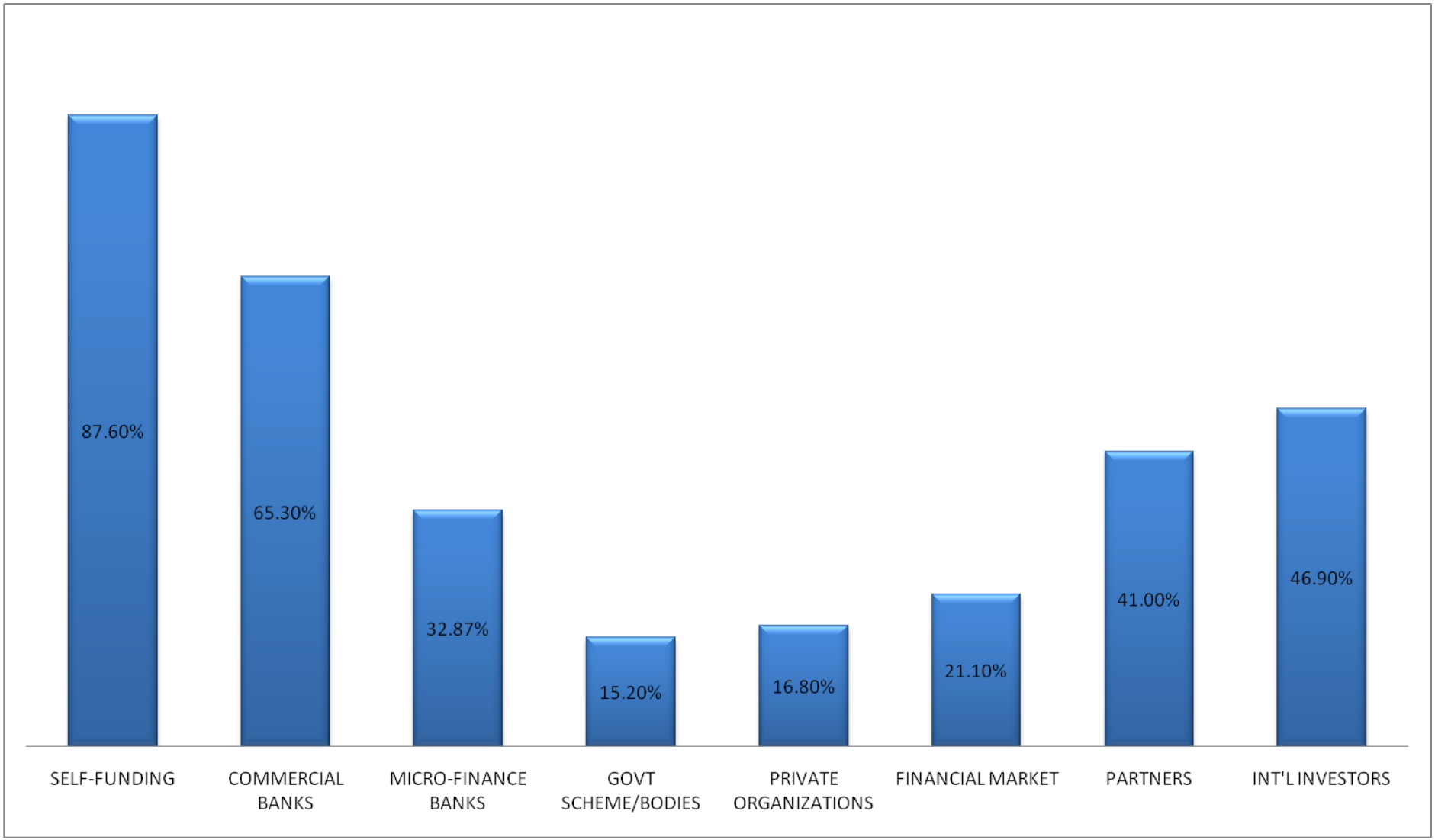


Figure 1: Sources of Funding for Investment

The results as presented in the Table 2 showed that 65.1% of the respondents indicated that their SMEs had expansionary plan such as that which aims to acquire the status of a public limited company.

Table 2

Future plan of SMEs

Question Statements	**Responses**		
	YES	NO	Total
SMEs plan to be a public limited company in the Future	164 (65.1%)	88 (34.9%)	252 (100%)

5.3 Methods of Capital Investment Appraisal Employed by SME Clusters

The various methods of capital investment appraisal adopted by the SMEs in investment decision making are as presented in the Table 3. On the frequency of investment appraisal, 46% indicated that they did appraise their capital investment periodically while 36.5% pointed out that they did make investment appraisal only at a time capital investment was about to be made. Further analysis showed that the periodic appraisal did occur for 37.9% on monthly basis while 48.3% did theirs annually. In doing this appraisal, however, 61.9% reported that they did hire experts with their investment appraisal while 38.1% used no expert for their investment appraisal.

Table 3: Responses on the Methods of Capital Investment Appraisal

VARIABLES	FREQUENCY	PERCENTAGE
How often do you appraise your capital investment?		
Periodically	116	46.0
When investment decision is about to be made	92	36.5
When we are asked to do so	44	17.5
Total	252	100.0
*If '**peridodically**', please state the period!*		
Weekly	16	13.8
Monthly	44	37.9
Annualy	56	48.3
More	0	0.0
Total	116[1]	100.0
Do you hire experts to help with your investment appraisal?		
Yes	156	61.9
No	96	38.1
Total	252	100.0

1 = relates only to those who periodically appraise their capital investment

The financial factors considered in the techniques used in investment appraisal are presented in the Table 4. It was shown that profitability index, which enables the ranking of projects based on values to be created per unit of investment, was used by 82.5% and about 54% of them expressed that this factor was very important in their decision-making process. Furthermore, the second most considered financial factor in capital investment decision making was the accounting rate of return on investment, which estimates the average rate of return on investment without considering the time value of the money. However, 61.4% expressed that the accounting rate of return on investment was only fairly important to their decision.

Another financial factor considered in investment decision making was the payback and this was used by 63.5%. This technique, which considers the period it takes for a project to repay

its initial investment, was described as being very important to investment decision by 80% of those who used it. Also, 52.4% considered the net present value of investment in making their decision. This technique, which considers the difference between the present value of cash inflows and of the cash outflows of the proposed investment, was described as being very important to investment decision making by 52.4% of those who used it. Furthermore, the internal rate of return on investment was a factor considered by 44.4% in investment decision making. This technique, which estimates the return on investment without considering external factors such as inflation or the cost of capital, was considered fairly important by 57.1% of those who used it.

Table 4: The Financial Factors in Investment Decision Making

Methods of Investment Appraisal Techniques used (*in the last 2 years*)	Responses		Importance of the Technique in the decision made			
	YES	**NO**	**Very Important**	**Fairly Important**	**Not Important**	Total
Profitability index (*used for ranking projects based on values to be created per unit of investment*)	208 (82.5%)	44 (17.5%)	112 (53.8%)	76 (36.5%)	20 (9.6%)	208
Accounting rate of return (*the average rate of return on investment without considering the time value of the money*)	176 (69.8%)	76 (30.2%)	44 (25.0%)	108 (61.4%)	24 (13.6%)	176
Payback (*the period it takes for a project to repay its initial investment*)	160 (63.5%)	92 (36.5%)	128 (80.0%)	28 (17.5%)	4 (2.5%)	160
Net present value (*the difference between the present value of cash inflows and of the cash outflows of the proposed investment*)	132 (52.4%)	120 (47.6%)	68 (51.5%)	40 (30.3%)	24 (18.2%)	132
Internal rate of return (*the return on investment without considering external factors such as inflation or the cost of capital*)	112 (44.4%)	140 (55.6%)	40 (35.7%)	64 (57.1%)	8 (7.1%)	112

The non-financial factors considered in the techniques used in investment appraisal are presented in the Table 5. It was shown that 58.7% agreed that the political party ruling the territory where the investment is about to be located was a factor they considered in making investment decision. Although, 41.3% reported that they were not in the habit of giving consideration to the political relevance of the existing competitors, 54% strongly agreed that they did consider how business-friendly the laws governing the investment location are before making their investment decision.

Furthermore, the results showed that one of the non-financial factors considered by 74.6% of the respondents in making investment decision was the competitors' ignorance of untapped business opportunities in the location. Also, 50.8% strongly agreed that they did consider availability of cheap inputs while 81% strongly agreed that the personal evaluation of opportunities in the investment location was a factor they did consider. In addition to these, 46% strongly agreed that they did consider the proximity of the investment to market and 30.2% also strongly agreed that they did consider the testimonies of good returns from investors in location similar to the proposed investment settings before they made investment decision. Another non-financial factor considered was the population strength of the investment location and this was used by 60.3%. Similarly, 25.4% considered the infrastructural facilities available in the location while 17.5% agreed that the cooperation of the host communities was a factor they did give consideration in making their investment decision.

Table 5: The Non-financial Factors in Investment Decision Making

Which of the following non-financial factors does your firm consider in investment appraisal?

Question Statements	Responses				
	Strongly Agreed	**Agreed**	**Undecided**	**Disagreed**	**Strongly Disagreed**
The ruling party of the investment location	20 (7.9%)	148 (58.7%)	8 (3.2%)	52 (20.6%)	24 (9.5%)
The political relevance of the existing competitors	36 (14.3%)	44 (17.5%)	16 (6.3%)	104 (41.3%)	52 (20.6%)
How business-friendly the laws are	136 (54.0%)	44 (17.5%)	28 (11.1%)	12 (4.8%)	32 (12.7%)
The competitors' ignorance of untapped business oportunities	188 (74.6%)	44 (17.5%)	8 (3.2%)	8 (3.2%)	4 (1.6%)
Availability of cheap inputs	128 (50.8%)	76 (30.2%)	32 (12.7%)	12 (4.8%)	4 (1.6%)
Personal evaluation of opportunities in the investment location	204 (81.0%)	24 (9.5%)	8 (3.2%)	8 (3.2%)	8 (3.2%)
The proximity of the investment to market	116 (46.0%)	68 (27.0%)	36 (14.3%)	32 (12.7%)	0 (0.0%)
Experts' recommedations	24 (9.5%)	44 (17.5%)	140 (55.6%)	28 (11.1%)	16 (6.3%)
Testimonies of good returns from investors in location	76 (30.2%)	60 (23.8%)	38 (27.0%)	32 (12.7%)	16 (6.3%)

similar to our proposed investment settings					
The population strength of the investment location	32 (12.7%)	152 (60.3%)	20 (7.9%)	28 (11.1%)	20 (7.9%)
The infrastructural facilities available	28 (11.1%)	64 (25.4%)	124 (49.2%)	8 (3.2%)	28 (11.1%)
The cooperation of the host communities	32 (12.7%)	44 (17.5%)	60 (23.8%)	60 (23.8%)	56 (22.2%)

5.4 Choice of Capital Investment Appraisal Method

The results from this study showed that not only did the SMEs put the financial and non-financial factors into considerations in their investment decision appraisal, but they also considered the project features in determining the choice of techniques adopted. It was shown that 81% of the respondents considered the size of the project extremely important in determining the type of technique used. However, much less than half (39.7%) considered the duration of the project also extremely important. About 52% of the respondents were indifferent about the level of importance placed on the main funder of the project in determining the choice of appraisal technique.

Futhermore, 25.4% of the respondents indicated that the alternative source of funding for the project (aside bank) was a project feature they considered slightly important in determining their choice of appraisal technique while 66.7% considered the type of ownership of the project (self or partnership) as extremely important in the choice of appraisal technique. In addition, 33.3% expressed that the interest of the parties involved such as owner of SMEs, funder, partners etc were slightly important. However, the agreement made with host

communities (such as how labour will be recruited, lease on land etc.) was considered unimportant in determining the choice of appraisal technique for investment decision making.

Further analysed showed that the relative importance of the various project features were weighted using the relative frequencies. The responses on the levels of importance of the project features were used in ranking them from the considered important (1st) to the least (nth). This was done by dividing the sum of the weighted relative frequencies (*f*) by the sample size (63), to give the weighted total (∑) which was then divided to give the weighted mean ($\overline{X}$). The ranking of these means showed that the *size of the project* was considered as the most important project feature (1st with $\overline{X} = 4.63$) in determining the choice of capital investment appraisal technique. This was followed by the *type ofownership of the project* (2nd with $\overline{X} = 4.16$) and then the *duration of the project* (3rd with $\overline{X} = 3.90$).

Table 6: The Importance of Project Features in determining the Choice of Techniques for Capital Investment Decision Appraisal

	Responses							
How important are these in determining the type of technique?	Extremely Important (f_5)	Slightly Important (f_4)	Indiffrerent (f_3)	Slightly Unimportant (f_2)	Exremely Unimportant (f_1)	Weighted Total ($\sum$)	Weighted Mean ($\bar{X}$)	Rank
The size of the project	204 (81.0%)	28 (11.1%)	4 (1.6%)	8 (3.2%)	8 (3.2%)	1167	4.63	1st
The type of ownership of the project (self or parnership)	168 (66.7%)	28 (11.1%)	12 (4.8%)	16 (6.3%)	28 (11.1%)	1048	4.16	2nd
The duration of the project	100 (39.7%)	72 (28.6%)	36 (14.3%)	44 (17.5%)	0 (0.0%)	983	3.90	3rd
The main fund provider (Bank)	36 (14.3%)	64 (25.4%)	132 (52.4%)	12 (4.8%)	8 (3.2%)	864	3.43	4th
The interest of the parties involved such as owner of SME, funder,	48	84	36	52	32	819	3.25	5th

partners etc	(19.0%)	(33.3%)	(14.3%)	(20.6%)	(12.7%)			
The alternative source of funding for the project (aside bank)	44 (17.5%)	64 (25.4%)	40 (15.9%)	56 (22.2%)	48 (19.0%)	756	3.00	6th
Practictioners' accounting and financial education	20 (7.9%)	24 (9.5%)	108 (42.9%)	76 (30.2%)	24 (9.5%)	695	2.76	7th
The agreement made with host communities. For example, rent/lease on land, or the means of labour recruitment (whther SME must use locals or not)	24 (9.5%)	36 (14.3%)	44 (17.5%)	108 (42.9%)	40 (15.9%)	653	2.59	8th

The results as presented in the Table 7 showed 57.1% of the respondents reported that their SMEs have previously carried out post-investment performance assessment before. Asked about the most used appraisal techniques for the previous post-investment assessment, 44.4% reported payback as the most used, 36.8% indicated the most used was profitability index while 12.5% mostly used internal rate of return.

Table 7: Responses on the previously used Appraisal Techniques

VARIABLES	FREQUENCY	PERCENTAGE
Has your firm carried out post-investmnent performance assessment before?		
YES	144	57.1
NO	108	42.9
Total	252	100.0
The most used appraisal techniques for the last post-investmnent assessement		
Payback	64	44.4
Profitatbility Index	53	36.8
Net Present Value	7	4.9
Internal Rate of Return	18	12.5
Accounting Rate of Return	2	1.4
Total	144[1]	100.0

1 ~ relates only to those who have previously carried out post-investment performance

The results as shown in the Table 8 indicated that 77.8% of the respondents did compare the pre-investment predictions with post-investment performance. Asked about the outcome of the post-investment performance appraisal, 67.3% described their performance as satisfactory.

Table 8: Conparison of Pre-investment Predictions with Post Investment Performance

	Responses		
Did your firm compare the performance after implementation with the predictions during the evaluation phase?	YES	NO	Total
	196 (77.8%)	56 (22.2%)	252 (100.0%)

If YES, what was the outcome?	**FREQUENCY**	**PERCENTAGE**	
Satisfactory	132	67.3	
Unsatisfactory	64	32.7	
Total	196[1]	100.0	

1 ~ relates only to those who have previously compared investment performance with predictions during evaluation phase

5.5 Reasons for Inconsistencies in the Capital Investment Decision Making Processes of SME Clusters

The results as presented in the Table 9 show that 36.5% of the respondents strongly agreed that the adoption of wrong capital investment appraisal techniques was a reason for inconsistency in capital investment decision-making process. Only a few (7.9%) respondents disagreed with this. Also, 49.2% strongly agreed that wrong implementation of the chosen appraisal techniques was a reason for inconsistency. However, 44.4% were undecided as to whether appraisals are based on unrealistic assumptions or not. Similarly, 65.1% of the respondents were undecided about whether poor attitude towards the adoption of appraisal techniques before investiment decision was a reason for inconsistency in investment decision making or not.

However, 46% disagreed that a reason for inconsistecy was the refusal to hire experts in investment appraisal processes. Majority (74.6%) of the respondents believed that lack of reliable data for use in investment appraisal processes was a reason for inconsistency while 46% added that the act of deliberately ignoring experts' recommendations was a reason for inconsistency in investment decision making. In addition to these reasons for inconsistencies, 92.1% strongly agreed that SMEs are mostly unable to afford the inclusion of the cost of investment appraisals in their operating costs, 65.1% identified inconsistent government policies that lead to frequent changes thereby making initial assumptions invalid and hasty investment decisions without feasibility studies as the reasons for inconsistency.

Table 9: Responses on Reasons for Inconsistencies in the Capital Investment Decision Making Process

Possible Reasons for Inconsistencies in the Capital Investment Decision	Responses				
	Strongly Agreed	**Agreed**	**Undecided**	**Disagreed**	**Strongly Disagreed**
Adoption of wrong capital investment appraisal techniques	92 (36.5%)	64 (25.4%)	68 (27.0%)	20 (7.9%)	8 (3.2%)
Wrong implementation of the chosen appraisal techniques	124 (49.2%)	56 (22.2%)	28 (11.1%)	24 (9.5%)	20 (7.9%)
Appraisals are based on unrealistic assumptions	40 (15.9%)	52 (20.6%)	112 (44.4%)	36 (14.3%)	12 (4.8%)
Poor attitude towards the adoption of appraisal techniques before investiment decision	36 (14.3%)	12 (4.8%)	164 (65.1%)	8 (3.2%)	32 (12.7%)
Refusal to hire experts in investment appraisal processes	24 (9.5%)	16 (6.3%)	76 (30.2%)	116 (46.0%)	20 (7.9%)
Lack of reliable data for use in investment appraisal processes	188 (74.6%)	36 (14.3%)	8 (3.2%)	4 (1.6%)	16 (6.3%)
Deliberately ignoring experts' recommendations	48 (19.0%)	116 (46.0%)	80 (31.7%)	8 (3.2%)	0 (0.0%)
SMEs are mostly unable to afford the inclusion of the cost of investment appraisals in their operating costs	232 (92.1%)	8 (3.2%)	12 (4.8%)	0 (0.0%)	0 (0.0%)

Inconsistent government policies that lead to frequent changes thereby making initial assumptions invalid	164 (65.1%)	44 (17.5%)	20 (7.9%)	8 (3.2%)	16 (6.3%)
Hasty investment decisions without feasibility studies	164 (65.1%)	44 (17.5%)	16 (6.3%)	20 (7.9%)	8 (3.2%)
Lack of knowledge of market preferences	28 (11.1%)	48 (19.0%)	140 (55.6%)	12 (4.8%)	24 (9.5%)

5.6 Financial and Overall Performance of SME Clusters

The Table 10 presents results on the overall performance of SMEs clusters used in this study. It was shown that 63.5% of the respondents strongly agreed that they serviced payments on their cost of production without defaulting and 57.1% also strongly agreed that they were not used to defaulting in their payment of salaries and wages to staff/employees. However, 46% were undecided as to whether based on customers' feedbacks, their products and services met their expectation and requirements. Although, a total of 38.1% (23.8+14.3) expressed agreement that their products and services did meet customers' expectation and requirements based on feedbacks they received from them.

Furthermore, 50.8% were undecided as to whether or not their firm never experienced shortage of funds for operating costs in recent time. About a quarter (25.4%) strongly agreed that they have mechanisms in place for their business organization to reach global markets and 36.5% strongly agreed that they provided their customers with access to the goods and services they produced. About 70% indicated that on the average, their business contact and clients are on the increase and 55.6% also expressed that on the average, they did get exciting projects and win important clients and are well respected by competitors.

The pattern of responses on the SMEs' financial performance showed that that majority of them believed that their performance with respect to the question statements (in the Table 10) have been average (undecided). This is demonstrable in 49.2% who were undecided as to whether or not their organization executes projects without relying on external funding and 47.6% who were also undecided as to whether they did default on their corporate social responsibilities. Also, 58.7% indicated that on the average, they did not default on their responsibilities to lenders and 52.4% consistently serviced their loans and repayments as at when due.

Table 10: Responses on the Overall Performance of SME Clusters

Statements on performances of SME clusters	Responses				
	Strongly Agree	Agreed	Undecided	Disagreed	Strongly Disagreed
Based on customers' feedbacks, our products and services meet their expectation and requirements	60 (23.8%)	36 (14.3%)	116 (46.0%)	28 (11.1%)	12 (4.8%)
We do not default in our payment of salaries and wages to staff/employees	144 (57.1%)	44 (17.5%)	32 (12.7%)	24 (9.5%)	8 (3.2%)
We service payments on our cost of production without defaulting	160 (63.5%)	44 (17.5%)	36 (14.3%)	4 (1.6%)	8 (3.2%)
In recent time, our firm never experienced shortage of funds for operating costs	40 (15.9%)	68 (27.0%)	128 (50.8%)	4 (1.6%)	12 (4.8%)
We have mechanisms in place for our business organization to reach global markets	64 (25.4%)	56 (22.2%)	112 (44.4%)	20 (7.9%)	0 (0.0%)
We provide our customers with access to our goods and services	92 (36.5%)	64 (25.4%)	56 (22.2%)	28 (11.1%)	12 (4.8%)
Our business contact and clients are on the increase	16 (6.3%)	44 (17.5%)	176 (69.8%)	12 (4.8%)	4 (1.6%)
We get exciting projects and win important clients and are well respected by competitors	52 (20.6%)	28 (11.1%)	140 (55.6%)	24 (9.5%)	8 (3.2%)
Our internally generated revenues is now consistently on the increase	12	24	180	8	28

	(4.8%)	(9.5%)	(71.4%)	(3.2%)	(11.1%)
Our organization executes projects without relying on external funding	12 (4.8%)	48 (19.0%)	124 (49.2%)	32 (12.7%)	36 (14.3%)
This organization has been experiencing increase in output	56 (22.2%)	52 (20.6%)	104 (41.3%)	24 (9.5%)	16 (6.3%)
Financially, we do not default on our corporate social responsibilities	36 (14.3%)	48 (19.0%)	120 (47.6%)	20 (7.9%)	28 (11.1%)
We do not default on our responsibilities to our lenders	16 (6.3%)	12 (4.8%)	148 (58.7%)	28 (11.1%)	48 (19.0%)
We consistently service our loans and repayments as at when due	20 (7.9%)	24 (9.5%)	132 (52.4%)	20 (7.9%)	56 (22.2%)

The responses in the Table 10 were weighed such that a ‘strongly agree’ had a weight of ‘5’, the choice of ‘agree’ had a weight of ‘4’ up until ‘strongly disagree’ which was assigned a weight of ‘1’. These weights were applied to compute composite performance scores. From the scores, the mean value was 47 ± 8.0 and the maximum and minimum attitude scores were 70 and 14 respectively. Furthermore, the performance scores were grouped into three levels, such that scores within the range 47 ± 8.0 i.e. from 47-8 (which equals 39) to 47+8 (which equals 55.0) were grouped as ‘fair’. Scores above 55 were grouped as ‘good performance’ while scores below 39 were regarded as ‘poor performance’. Therefore, the results as presented in the Table 10a show that 46% of the SMEs had fair financial performance. About 40% recorded good financial performance while 14.3% had poor financial performance.

Table 10a: Summary of Results on the Financial Performances of SME Clusters

Financial Performances of SME Clusters				Mean	S.D.	Min.	Max.
Results	Range Scores	Frequency	Percentage	47	8.0	14	70
Good	Above 55.0	100	39.7				
Fair	39.0– 55.0	116	46.0				
Poor	Below 39.0	36	14.3				
Total		252	100.0				

5.7 Effect of Capital Investment Appraisal Methods on the Performance of SME Clusters

5.8 Hypotheses Testing

Testing of the relationsip between the finacial processes of capital investment decision making and the overall financial performance of the SMEs

Hypothesis One

H_0: There is no significant relationship between capital investment decision making (Internal rate of return) and the financial performance of SME clusters

The results as presented in the Table 11 show the relationship between the financial performance of SMEs clusters and the use of internal rate of return as an appraisal technique in investment decision making. The relationship between the two variables had a chi-square value of 2.451 at p=0.136. This p-value was not less than the 0.05 significant level, hence, the null hypothesis (H_0: There is no significant relationship between capital investment decision making (Internal rate of return) and the financial performance of SME clusters) was not rejected. It was therefore concluded that the use of internal rate of return as an investment appraisal technique did not have significant positive effect on financial performance of SMEs clusters.

Hypothesis Two

H_0: There is no significant relationship between capital investment decision making (Net present value) and the financial performance of SME clusters

The results as presented in the Table 11 show the relationship between the financial performance of SMEs clusters and the use of net present value as an appraisal technique in investment decision making. It was shown that 54.5% of those who used this technique had good financial performance. More than half (56.7%) of those who did not use net present

value recorded fair performance. Furthermore, the relationship between the two variables had a chi-square value of 2.869 at p=0.001. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: There is no significant relationship between capital investment decision making (Net present value) and the financial performance of SME clusters) was rejected. It was therefore concluded that the use of net present value as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Hypothesis Three

H_0: There is no significant relationship between capital investment decision making (Payback) and the financial performance of SME clusters

The results as presented in the Table 11 show the relationship between the financial performance of SMEs clusters and the use of payback as an appraisal technique in investment decision making. It was shown that 50% of those who used this technique had good financial performance. While, only 21.7% of those who did not use this technique recorded good financial performance. Furthermore, the relationship between the two variables had a chi-square value of 8.614 at p=0.000. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: There is no significant relationship between capital investment decision making (Payback) and the financial performance of SME clusters) was rejected. It was therefore concluded that the use of payback as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Hypothesis Four

H_0: There is no significant relationship between capital investment decision making (Profitability index) and the financial performance of SME clusters

The results as presented in the Table 11 show the relationship between the financial performance of SMEs clusters and the use of profitability index as an appraisal technique in investment decision making. It was shown that 46.2% of those who used this technique had good financial performance. Whereas, only about 9% of those who did not use this technique recorded good financial performance. Furthermore, the relationship between the two variables had a chi-square value of 9.365 at p=0.000. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: There is no significant relationship between capital investment decision making (Profitability index) and the financial performance of SME clusters) was rejected. It was therefore concluded that the use of profitability index as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Table 11: Cross Tabuletions of the Financial Peformance of SMEs Clustersby Financial Factors Considered in the Choice of Appraisal Techniques

The Financial Processes used		**Financial Performance of SMEs Clusters**			Total	df	χ^2	***p***	Remark
		Good	Fair	Poor					
Internal Rate of Return	Yes	40 (35.7%)	44 (39.3%)	28 (25.0%)	112 (100%)	2	2.451	***0.136***	***Not significant***
	No	60 (42.9%)	72 (51.4%)	8 (5.7%)	140 (100%)				
Net Present Value	Yes	72 (54.5%)	48 (36.4%)	12 (9.1%)	132 (100%)	2	7.869	0.001	***Significant***
	No	28 (23.3%)	68 (56.7%)	24 (20.0%)	120 (100%)				
Payback	Yes	80 (50.0%)	64 (40.0%)	16 (10.0%)	160 (100%)	2	8.614	0.000	***Significant***
	No	20 (21.7%)	52 (56.5%)	20 (21.7%)	92 (100%)				
Profitability Index	Yes	96 (46.2%)	96 (46.2%)	16 (7.7%)	208 (100%)	2	9.365	0.000	***Significant***
	No	4 (9.1%)	20 (45.5%)	20 (45.5%)	44 (100%)				
Total		100 (39.7%)	116 (46.0%)	36 (14.3%)	252 (100.0%)				

Testing of the Relationsip between the Non-Financial Processes in Capital Investment Decision Making and the Overall Financial Performance of the SMEs

Hypothesis Five

H_0: The proximity of the investment to market considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters

The results as presented in the Table 12 show the relationship between the financial performance of SMEs clusters and the use of non-financial factor (proximity of investment to market) as an appraisal technique in investment decision making. It was shown that 47.8% of those who used this technique had good financial performance. Whereas, majority of those who did not use this technique only recorded fair financial performance. Furthermore, the relationship between the two variables had a chi-square value of 5.879 at p=0.025. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: The proximity of the investment to market considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters) was rejected. It was therefore concluded that the consideration of the proximity of the investment to market as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Hypothesis Six

H_0: The available infrastructural facilities considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters. The results as presented in the Table 12 show the relationship between the financial performance of SMEs clusters and the use of non-financial factor (availability of infrastructural facilities) as an appraisal technique in investment decision making. It was shown that 78.3% of those who used this technique had good financial performance. Whereas, very few (17.5%) of those

who did not use this technique recorded good financial performance. Furthermore, the relationship between the two variables had a chi-square value of 7.264 at p=0.001. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: The available infrastructural facilities considered in capital investment decision making has no significant effect on the financial performance of the SMEs clusters) was rejected. It was therefore concluded that the consideration of the availability of infrastructural facilities as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Hypothesis Seven

H_0: Experts' recommedations considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters.

The results as presented in the Table 12 show the relationship between the financial performance of SMEs clusters and the use of non-financial factor (conforming to experts' recommendations) as an appraisal technique in investment decision making. The relationship between the two variables had a chi-square value of 0.264 at p=0.935. This p-value was not less than the 0.05 significant level, hence, the null hypothesis (H_0: Experts' recommedations considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters) was not rejected. It was therefore concluded that conforming to experts' recmmedations as an investment appraisal technique did not have significant positive effect on financial performance of SMEs clusters.

Hypothesis Eight

H_0: Availability of cheap inputs considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters

The results as presented in the Table 12 show the relationship between the financial performance of SMEs clusters and the use of non-financial factor (availability of cheap inputs) as an appraisal technique in investment decision making. It was shown that 47.1% of those who used this technique had good financial performance. Whereas, very few (8.3%) of those who did not use this technique recorded good financial performance. Furthermore, the relationship between the two variables had a chi-square value of 6.598 at p=0.004. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: Availability of cheap inputs considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters) was rejected. It was therefore concluded that the consideration of the availability of cheap input as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Hypothesis Nine

H_0: The political relevance of the existing competitors considered in capital investment decision making have no significant effect on the financial performance of the SMEs clusters

The results as presented in the Table 12 show the relationship between the financial performance of SMEs clusters and the use of non-financial factor (the political relevance of the existing competitors) as an appraisal technique in investment decision making. The relationship between the two variables had a chi-square value of 1.026 at p=0.061. This p-value was not less than the 0.05 significant level, hence, the null hypothesis (H_0: The political relevance of the existing competitors considered in capital investment decision making have

no significant effect on the financial performance of the SMEs clusters) was not rejected. It was therefore concluded that the consideration of the political relevance of the existing competitors as an investment appraisal technique did not have significant positive effect on financial performance of SMEs clusters.

Table 12: Cross tabulations of the Financial Performance of SMEs Clusters by the Non-financial Factors Considered in the Choice of Appraisal Techniques

The Non-financial factors considered		**Financial Performance of SMEs Clusters**			Total	df	χ^2	***p***	Remark
		Good	Fair	Poor					
Proximity of Investment to Market	Yes	88 (47.8%)	80 (43.5%)	16 (8.7%)	184 (100%)	2	5.879	***0.025***	**Significant**
	No	12 (17.6%)	36 (52.9%)	20 (29.4%)	68 (100%)				
Availability of infrastructural facilities	Yes	72 (78.3%)	16 (17.4%)	4 (4.3%)	92 (100%)	2	7.264	0.001	**Significant**
	No	28 (17.5%)	100 (62.5%)	32 (20.0%)	160 (100%)				
Experts' recommedations considered	Yes	24 (35.3%)	24 (35.3%)	20 (29.4%)	68 (100%)	2	0.264	0.935	**Not Significant**
	No	76 (41.3%)	92 (50.0%)	16 (17.4%)	184 (100%)				
Availability of cheap inputs considered	Yes	96 (47.1%)	100 (49.0%)	8 (3.9%)	204 (100%)	2	6.598	0.004	**Significant**

	No	4 (8.3%)	16 (33.3%)	28 (58.3%)	48 (100%)				
The political relevance of the existing competitors considered	Yes	44 (55.0%)	20 (25.0%)	16 (8.7%)	80 (100%)	2	1.026	0.061	**Not Significant**
	No	56 (32.6%)	96 (5.8%)	20 (25.0%)	172 (100%)				
Total		100 (39.7%)	116 (46.0%)	36 (14.3%)	252 (100.0%)				

Having examined the relationship between SMEs' choice of capital investment techniques and their financial performance with the use of chi-square analysis, the effect of the capital investment appraisal methods that were significant (on chi-square) was further examined using the Independent Samples T-test and the results were presented in the Table 13. This T-test statistic examines the relationship between two variables, one of which has two groups (*used* or *not used*) and the other quantitative (weighed financial performance scores). This was done by comparing the financial performance scores between the two groups of SMEs who used each of these appraisal techniques and those who did not use them. Furthermore, the mean financial performance scores of the two groups were compared to show the differences between the two means and the significance of the observed differences (if any).

The results showed that the mean financial performance score for the SMEs who used Net Present Value (NPV) as a capital investment appraisal technique was 14.56 while that of those who did not use NPV was 9.56. The test of difference of the two means gave a t-value of 8.056 at p=0.00. Since this p-value was less than the 0.05 significant level, it was concluded that there was significant difference in the mean financial performance scores between the two groups. Hence, it was concluded that the adoption of NPV as a capital investment appraisal technique had significant effect on SMEs' financial performance.

Furthermore, the mean performance scores for the SMEs who used Payback as a capital investment appraisal technique was 18.21, compared with 9.56 for the SMEs who did not consider Payback in their investment decision making (t=8.648; p=0.04). Also, the use of Profitability Index fetched the SMEs a performance score averaged at 18.21 while those who did not use Profitability Index had 5.56 (t=12.45; p=0.00). In addition to these, the

consideration of the availability of infrastructural facilities in capital investment decision making earned an average performance score of 21.36 for those who used it while those who did not use it had 5.98. The test of difference of the two means gave a t-value of 15.02 at p=0.00. Since this p-value was less than the 0.05 significant level, it was concluded that there was significant difference in the mean financial performance scores between the two groups of SMEs who used and did not used the appraisal technique. Hence, it was concluded that considering the availability of infrastructural facilities in the process of capital investment appraisal had significant effect on SMEs' financial performance.

Table 13: Effect of Capital Investment Appraisal Methods on the Financial Performance of SMEs Clusters

(*Independent T-test***)**

Appraisal Techniques		N	Mean F.P.	t	Sig.
Net Present Value	Yes	132	14.56	8.056	0.00
	No	120	9.56		
Payback	Yes	160	18.21	8.648	0.04
	No	92	6.02		
Profitability Index	Yes	208	17.02	12.45	0.00
	No	44	5.56		
Proximity of Investment to Market	Yes	184	16.89	11.69	0.00
	No	68	9.66		
Availability of infrastructural facilities	Yes	92	21.36	15.02	0.00
	No	160	5.98		
Availability of cheap inputs considered	Yes	204	19.74	13.65	0.00
	No	48	7.68		

Note: **F.P.** ~ Financial Performance; * ~ *significant at 5% level*

CHAPTER SIX

DISCUSSION OF FINDINGS, CONCLUSION, RECOMMENDATIONS, LIMITATIONS AND AREAS FOR FUTURE RESEARCH

6.1 Introduction

This is the concluding chapter of this thesis and it highlights the vital findings from the experiential analysis and results accessible in the previous chapter of this thesis with reference to the capital investment decision making processes of SME clusters in Nigeria. This chapter further synthesizes the domino effect from the analysis carried out by the researcher, recognizing the limitations encountered during the course of the research and ultimately outlines the purposed contribution of this work to the existing information in relation to the theory of finance especially capital investment decision making processes of SME clusters in Nigeria and beyond. The conclusion of this further suggests relevant prospective boulevard for future research.

Initially, this research tried to review the current position of the capital investment decision making processes with SME cluster in Nigeria. Particularly, the research intended to document evidences relating to the processes of making decisions on capital investments en bloc. During the course of this study, the researcher was also able to seek various views on the major factors that also influenced or were capable of influencing capital investment decisions within SME clusters in Nigeria.

6.2 Discussion Of Findings

6.2.1 Socio-Demographic Characteristics

The results shows that 57.1% of the respondents were male while 42.9% were female. The results on the respondents' positions in their respective SMEs showed that 30.2%

were the business owners while 50.8% were managing the businesses on behalf of the owners. The results on academic qualifications indicate that 57.1% of the respondents had Bachelor's degrees while 20.6% had postgraduate degrees.

Furthermore, it also showed that 44.4% of the respondents have held their current positions for about 5-10 years but only 9.5% have spent above 20 years in their current position. The sectoral distribution of the SMEs used for this study showed that 39.7% belonged to Information and Communication Technology, 20.6% were in Music and Video Production, 30.2% were into providing Mechanical and Auto Parts services and 9.5% belonged to the Agric business industry. In addition to these, the results on the SME sizes, measured in terms of the number of employees they had, showed that 42.9% had between 5 to 8 employees while 33.3% had about 1-4 employees. However, only 6.3% had above 12 employees.

Review of Objectives in line with Findings

This section gives detailed synopsis of the major premise emerging from the empirical findings; it outlines the various suppositions relating to the capital investment decision making processes that exist within a structure that give retorts to the five research questions which was outlined in accordance to the research objectives in the first chapter of this thesis. Basically, it explains how the findings of the thesis meet the objectives. Below is a detailed summary of this from the perspective of each of the research objectives of this thesis.

Objective One

To review the conceptual models and theoretical framework as it relates to investments appraisals, SME clusters and Capital Investment Decisions

The second chapter of this study critically examines relevant literatures as it relates to investment appraisals, capital investment decisions and SME clusters. The significance of the adopted conceptual framework established in the 3rd chapter cannot be undervalued. This is basically the underpinning substance with which this study sits. The conceptual framework chapter was very influential and helpful in numerous parts of this research, for instance determining the most appropriate methodology needed to quiz the ensuing suppositions. The conceptual framework chart was primarily constructed as a result of the reviewed literatures relating to the concepts of capital investment decisions; Investment appraisal techniques, capital rationing, Risks in investments and SME clusters. Other literatures concerning capital budgeting and investment appraisal (Modigliani and Miller, 1958; Klammer and Walker, 1984; Pike, 1988; Sangster, 1993; Pike, 1996; Pike and Neale, 2006, Acquaye 2013, Mohammed, 2013) was studied with crucial leitmotifs such as the Capital Budgeting (CB); Capital Rationing (CR); Capital Investment Appraisal Techniques (CAIT); and Risks and Returns on investments.

As discussed in Chapter 4 of this work, a suitable technique was construed from the conceptual and theoretical framework. This was carried out making use of the proposed objectives of this research and other relevant key literature areas. This embraced methodology has an undeviating relationship with the operational characterisation for capital investment decisions.

The literatures that relate to the concept of capital investment decisions concentrated more on investment appraisal techniques; capital budgeting; capital rationing; investment decision making and control; risks and no-financial factors affecting capital investment decisions. The literatures on capital investment decisions (Modigliani and Miller, 1958; Klammer and Walker, 1984; Pike, 1988; Sangster, 1993; Pike, 1996; Pike and Neale, 2006, Mohammed, 2013) for this study was comprehensively and systematically examined in line with the logic behind the processes involved when SME clusters make capital investment decisions. This examination unveiled a consistent pattern in the way by which investment decisions were made by most SMEs.

Other relevant literatures in line with the object of study were also reviewed such literatures include: concept of capital investment, theories on capital structure, risks in investments, and economic and corporate governance (Modigliani and Miller; 1958; 1963; Merton, 1974; 1976; Myer and Majuf, 1984; John and John, l991). The concept of clustering was duly compared with the structure of SME clusters in Nigeria as discussed in the 2ndchapter of this study. During the literature review, a major concept regarding 'capital rationing' arose which was in line with the funding of SME clusters. Some evidence gathered from theories relating to capital investments of SME clusters suggests that most SME clusters are usually financed through personal funds from owner managers and mostly through debt. This squabble was a key rationale for this study due to the fact that most owner mangers of SMEs in Nigeria usually believe in the concept of 'bootstrapping' when it comes to funding an SME (Nwosu and Ochu, 2017).

The gathering of key literatures on the major concepts (Capital investments, SME clustering, capital budgeting and SME funding) of this research was aided through making use of some academic peer reviewed databases. Some of these databases include

JSTOR, Emerald, Ethos, Ebscohost, Osiris, Science Direct, Oxford and Cambridge journals, Google scholar and Social Science Research Network (SSRN). It could however be concluded that the review of relevant literature created a foundational basis for the research questions and established the hypothetical substance for the research. It should therefore be noted that the value of the urgings were made in relation to the developed conceptual framework through the applicable literatures on the area of study.

Objective Two

To evaluate the current state of the Capital investment decision making processes of SME clusters in Nigeria

To achieve this objective, various aspects of the decision making process currently in use by SMEs that fall within the sample used by the researcher will be critically analysed. These aspects include: sources of funding available to SMEs and how these funds are rationed, commonly used method of capital investment appraisal employed by SMEs and non-financial factors considered, how SMEs assess risks when making capital investment decisions and how the process is managed and controlled and the likely reasons for inconsistencies in the processes of making decisions around investments of capital nature.

The sources of funding available to SME clusters in Nigeria and how these funds are being rationed.

This research has shown that there are various sources of capital assessable to SMEs in Nigeria. Some of these sources includes private funding, bank loan, grants from government bodies, shares and foreign investors. However, more than half of the SMEs private fund their businesses. As mentioned by Olorunishoola (2003), SMEs assist with

mobilising and utilising internal reserves because many business owners uses private savings for business funding. Based on findings from theme 6 of the data analysis in Chapter 5 of this research, it was deduced that more than half of the SMEs faces shortage of funds for investment and this is because Nigeria strongly depends on foreign aids for small business development (Mambula, 2002).

Since 1980, Nigeria has relied on funds from World Bank to develop and support SMEs through the Nigerian Industrial Development Bank (NIDB) and The Nigerian Bank for Commerce and Industry (NBCI). These funds from foreign aid are shared using several government empowerment schemes (Nwosu and Ochu, 2017) but the schemes do not cover the entire SMEs therefore leaving significant number of SMEs stranded and begging for support (Etela and Onoja, 2017). A dominant factor that leads shortage of funding is the fact that government plays a role as the sole owner of the development of finance institutions and therefore remain a major provider of the financing of the SMEs which is why SMEs fail to develop adequately because government has not been able to support all SMEs due to the increasing number in Nigeria.

Theme 16 of the analysis chapter of this research also shows that SMEs in most cases will resort to raising funds by going public which is through the issuing of new shares and bonds. However, most of these SMEs will have no choice than to make use of the Nigerian Stock Market as a reliable source of funding through Initial Public Offers (IPOs). Nevertheless, how to access to the stock market remains a concern for many SMEs despite the conscious exertion of Nigerian Stock Exchange (NSE) and Securities and Exchange Commission (SEC) to grant easy acccess to funding for SMEs in Nigeria (Nwosu and Ochu, 2017).

As mentioned by Acquaye (2013) in his research , a well functioning financial system will enable businesses with innovative product to contribute to economic productivity improvements within the economy. Eniola and Ektebang (2014), in their findings also identified financial factors as possessions that are capable of enhancing the performance and development of SMEs and the non-performance and extraordinary degrees of fiasco amongst SMEs in Nigeria are a result of SMEs functioning in a non-conductive financial forecasting setting over high rate of interest, and problems of gaining access to data (Eniola and Ektebang, 2014).

As much as funding is a major issue facing SME clusters in Nigeria, so also is how to equitably distribute these funds amongst multiple investments remains a major concern. Mohammed (2013) in his study explains that capital rationing is a very important subject when it comes to funding multiple projects especially in a situation where the funds available is not sufficient to finance the proposed investments as the case maybe. Most SMEs in Nigeria, due to the fact that they are managed by owner- managers do not necessarily take into cognisance the importance of prioritising investments and divesting available funds into the most profitable investment because most of these owner-managers do not have the expertise when it comes to capital investment processes or capital rationing as the case maybe. As a result of this, returns on investments (ROI) will be deficient which may ultimately lead to project failure (Adisa, Abdulraheem, and Mordi, 2014).

Nevertheless, most SME clusters in Nigeria do not necessarily engage in multiple investments in a particular period of time; rather they commit their funds to a particular investment with the aim of dominating the market and maximizing returns using a single portfolio (Acquaye, 2013). This singular action of engaging in just one investment is what gave birth to 'clustering' in the Nigerian SME sector. As a result of this, most SMEs with complimenting investments or products come together in a particular location to cohabit and carry on their business dealings with no major threat of market entry. It could however be deduced that no form of capital rationing is inherent in this mode of operation as majority of the SMEs in aprticular cluster commit all the resources available to them to just one business type or investment.

The commonly used method of capital investment appraisal employed by SME clusters and the non-financial factors considered

The various methods of capital investment appraisal adopted by the SMEs in investment decision making are as presented in the Table 3. On the frequency of investment appraisal, 46% indicated that they did appraise their capital investment periodically while 36.5% pointed out that they did make investment appraisal only at a time capital investment was about to be made. Further analysis showed that the periodic appraisal did occur for 37.9% on monthly basis while 48.3% did theirs annually. In doing this appraisal, however, 61.9% reported that they did hire experts with their investment appraisal while 38.1% used no expert for their investment appraisal.

It was shown that profitability index, which enables the ranking of projects based on values to be created per unit of investment, was used by 82.5% and about 54% of them expressed that this factor was very important in their decision-making process.

Furthermore, the second most considered financial factor in capital investment decision making was the accounting rate of return on ventures, which estimates the average rate of return on investments without considering the time value of the money. However, 61.4% expressed that the accounting rate of return on investment was only fairly important to their decision.

Another financial factor considered in investment decision making was the payback and this was used by 63.5%. This technique, which considers the period a project takes to repay its original investment, was described as being very important to investment decision by 80% of those who used it. Also, 52.4% considered the net present value of investment in making their decision. This technique, which considers the variance amongst the current value of inflow of cash and of the outflow of cash of the proposed investments, was described as being very important to investment decision making by 52.4% of those who used it. Furthermore, the internal rate of return on investment was a factor considered by 44.4% in investment decision making. This technique, which estimates the return on investment without considering peripheral influences such as price increases or the capital costs, was considered fairly important by 57.1% of those who used it.

Furthermore, the results showed that one of the non-financial factors considered by 74.6% of the respondents in making investment decision was the competitors' ignorance of untapped business opportunities in the location. Also, 50.8% strongly agreed that they did consider availability of cheap inputs while 81% strongly agreed that the personal evaluation of opportunities in the investment location was a factor they did consider. In addition to these, 46% strongly agreed that they did consider the proximity of the investment to market and 30.2% also strongly agreed that they did consider the

testimonies of good returns from investors in location similar to the proposed investment settings before they made investment decision. Another non-financial factor considered was the population strength of the investment location and this was used by 60.3%. Similarly, 25.4% considered the infrastructural facilities available in the location while 17.5% agreed that the cooperation of the host communities was a factor they did give consideration in making their investment decision.

By synthesising this research with other works, Khamees et al (2010) in their own findings argued that most firms in Africa adopts internal rate of return, Profitability Index and Payback period. While Toit and Piernaar (2005) also stated that Payback is always adopted because it shows a relationship with the size of the budget capital which appears easier to adopt when making decisions by business owners; this is the main reason why it is preferred more than NPV and IRR by many business owners. Elumiade et al (2006) in their review found that private sectors in Nigeria uses more than one method to appraise invetsments but Payback is the most commonly used method because more than half of the business owners do not measure risk objectively rather they require payback period to accomodate the risk to meet the required return. Similarly, the investment appraisal approach used by the private sectors in Nigeria according to Elumiade et. Al., (2006) is the typical invetsment appraisal method adopted by SME clusters in Nigeria. This is because most SMEs focus more on the time with which they can recoupe their funds and begin to accrue returns rather than taking into consideration other factors such as risks, changes in fiscal and monetary policies, time value of money and polical instability which is pertinent to Nigeria as a nation (Okpara, 2011). Since SME owner-managers do not have the requisite knowledge about capital investment processes, they tend to tilt towards the traditional methods which is basically recouping invested funds and accruing

profit or returns over a period of time (Eniola and Ektebang, 2014). This basically defeats the purpose of other methods of appraising capital investments for example net present value (NPV) and internal rate of return (IRR) which might have taken into consideration the time value of money and incorporates risk.

More importantly, it is worthy to note that some non-finacial factors should be considered when appraising capital investments especially by SME clusters. While looking at the non-financial factors considered by the SMEs, in the analysis chapter (Chapter 5) of this research, it is evident that political priorities of the state is the main non-financial factor many of the SMEs considers even though there are other factors such as development plans of the state, competitions and personal experience. This is because political instability affects most businesses including small and medium enterprises (SMEs). The instability of the government of any nation will have a significant impact on trade deals with local and international markets, economic stability, infrastructures and other business logistics (Etuk, Etuk, and Michael, 2014). A typical example of political instability will be a restructuring of an SME market cluster by a new government elected which often affects many SMEs in Nigeria after a previous government has granted permission for the cluster to operate in a certain location.

Adisa, Abdulraheem and Mordi (2014) cited that most samll businesses operations in Nigeria require expediting resources and amenities and these amenities are sometimes the duty of the government or proprietor. Hence, the facilities are expected to enhance growth of businesses but the inadequate or absence of these amenities have been recognised as a main challenge encountered by small industries in Nigeria and it thus hamper the growth of the economy. However, the success of SMEs should be at the heart of any government as SMEs are said to the catalyst of any economy just as it is evident in

western economies such as United Kingdom, China, United States of America etc (Burn, 2007). Contrary to previous government ideology in Nigeria, the effort of the present government towards developing the SME sector cannot be overlooked. This is due to the introduction of SME development schemes by the government to encourage funding of SMEs i.e. trader money initiative, N-Power which encourages the unemployed to go into small busineses such as petty trading, incentivising e-agriculture and agribusinesss etc (Etela and Onoja, 2017).

It is of a fact that when appraising capital investments, financial factors which includes investment appraisal techniques both traditional and sophisticated and the non-finacial factors are two sides to a coin. Hence, one cannot be left out of the other when capital investment decisons are to be made.

Choice of Capital Investment Appraisal Method

The results from this study showed that not only did the SMEs put the financial and non-financial factors into considerations in their investment decision appraisal, but they also considered the project features in determining the choice of techniques adopted. It was shown that 81% of the respondents considered the size of the project extremely important in determining the type of technique used. However, much less than half (39.7%) considered the duration of the project also extremely important. About 52% of the respondents were indifferent about the level of importance placed on the main funder of the project in determining the choice of appraisal technique.

Futhermore, 25.4% of the respondents indicated that the alternative source of funding for the project (aside bank) was a project feature they considered slightly important in determining their choice of appraisal technique while 66.7% considered the type of

ownership of the project (self or partnership) as extremely important in the choice of appraisal technique. In addition, 33.3% expressed that the interest of the parties involved such as owner of SMEs, funder, partners etc were slightly important. However, the agreement made with host communities (such as how labour will be recruited, lease on land etc.) was considered unimportant in determining the choice of appraisal technique for investment decision making.

Further analysed showed that the relative importance of the various project features were weighted using the relative frequencies. The responses on the levels of importance of the project features were used in ranking them from the considered important (1^{st}) to the least (^{n}th). This was done by dividing the sum of the weighted relative frequencies (*f*) by the sample size (63), to give the weighted total ($\sum$) which was then divided to give the weighted mean ($\overline{X}$). The ranking of these means showed that the *size of the project* was considered as the most important project feature (1^{st} with $\overline{X} = 4.63$) in determining the choice of capital investment appraisal technique. This was followed by the *type of ownership of the project* (2^{nd} with $\overline{X} = 4.16$) and then the *duration of the project* (3^{rd} with $\overline{X} = 3.90$).

Reasons for Inconsistencies in the Capital Investment Decision Making Processes of SME Clusters

The results as presented in the Table 9 show that 36.5% of the respondents strongly agreed that the adoption of wrong capital investment appraisal techniques was a reason for inconsistency in capital investment decision making process. Only a few (7.9%) respondents disagreed with this. Also, 49.2% strongly agreed that wrong implementation of the chosen appraisal techniques was a reason for inconsistency. However, 44.4% were

undecided as to whether appraisals are based on unrealistic assumptions or not. Similarly, 65.1% of the respondents were undecided about whether poor attitude towards the adoption of appraisal techniques before investiment decision was a reason for inconsistency in investment decision making or not.

However, 46% disagreed that a reason for inconsistecy was the refusal to hire experts in investment appraisal processes. Majority (74.6%) of the respondents believed that lack of reliable data for use in investment appraisal processes was a reason for inconsistency while 46% added that the act of deliberately ignoring experts' recommendations was a reason for inconsistency in investment decision making. In addition to these reasons for inconsistencies, 92.1% strongly agreed that SMEs are mostly unable to afford the inclusion of the cost of investment appraisals in their operating costs, 65.1% identified inconsistent government policies that lead to frequent changes thereby making initial assumptions invalid and hasty investment decisions without feasibility studies as the reasons for inconsistency.

The Table 10 presents results on the overall performance of SMEs clusters used in this study. It was shown that 63.5% of the respondents strongly agreed that they serviced payments on their cost of production without defaulting and 57.1% also strongly agreed that they were not used to defaulting in their payment of salaries and wages to staff/employees. However, 46% were undecided as to whether based on customers' feedbacks, their products and services met their expectation and requirements. Although, a total of 38.1% (23.8+14.3) expressed agreement that their products and services did meet customers' expectation and requirements based on feedbacks they received from them.

Furthermore, 50.8% were undecided as to whether or not their firm never experienced shortage of funds for operating costs in recent time. About a quarter (25.4%) strongly agreed that they have mechanisms in place for their business organization to reach global markets and 36.5% strongly agreed that they provided their customers with access to the goods and services they produced. About 70% indicated that on the average, their business contact and clients are on the increase and 55.6% also expressed that on the average, they did get exciting projects and win important clients and are well respected by competitors.

The pattern of responses on the SMEs' financial performance showed that that majority of them believed that their performance with respect to the question statements (in the Table 10) have been average (undecided). This is demonstrable in 49.2% who were undecided as to whether or not their organization executes projects without relying on external funding and 47.6% who were also undecided as to whether they did default on their corporate social responsibilities. Also, 58.7% indicated that on the average, they did not default on their responsibilities to lenders and 52.4% consistently serviced their loans and repayments as at when due.

This study also shows that the relationship between the financial performance of SMEs clusters and the use of profitability index as an appraisal technique in investment decision making. It was shown that 46.2% of those who used this technique had good financial performance. While, only about 9% of those who did not use this technique recorded good financial performance. Furthermore, the relationship between the two variables had a chi-square value of 9.365 at p=0.000. Since this p-value was less than the 0.05 significant level, the null hypothesis (H_0: There is no significant relationship between capital investment decision making (Profitability index) and the financial performance of

SME clusters) was rejected. It was therefore concluded that the use of profitability index as an investment appraisal technique had significant positive effect on financial performance of SMEs clusters.

Capital investment decision is very important in strategic change management and helping to sustain business performance in the long run (Arnold, 2008). This study demonstrates the importance attached by SMEs to capital investment appraisal by reporting that more than three-fifths (61.9%) of them hired experts to help with their investment appraisal. Also lending credence to this, Pike & Neale (2003) state that every capital investment decision signifies a prospective challenge in risk management and this helps them in planning to mitigate the potential risks. It should, however, be noted that, there are basically two major situations which engineer the need to make capital investment decisions and these are: the objectives of a business entity and a list of investment alternatives that are capable of contributing to the actualization of these set objectives. At the same time, these objectives define the choice of appraisal technique that will be adopted.

This study shows that ranking of projects based on values to be produced per unit of investment (profitability index) was the most used financial factor in capital investment decision making. This should not be surprising since profit making is the major goal of every business and to remain operational, costs must stay well below inflows. This is similar to the reports by Brealey & Myers (2003) that profit making is the top consideration in any investment decision and a gloomy index in profitability analysis should be enough to rescind investment decision. Pinches (1982)'s submission are also in consonance with this. However, King (1975) and Arnold (2008) state that best practices in making capital investment decisions has always been using a discount rate which is

risk adjusted in obtaining the present value of payoffs and predicting expected returns on investment. They added that this best practice as the case may be; make possible the comparison of two separate investments making use of the current risk attuned rebate rate. In order words, the preference for the use of discount rate, as against profitability index, is not unconnected with the fact that investment may not bring profits initially, but so long as there are no risks to prevent reinvestment, such investments are worth pursuing.

McIntyre & Coulthurst (2015) found that the success of the process of capital investment decisions is grounded on the subsistence of good, achievable and efficient strategic plans. Capital investment decisions which involve developing new products, new facilities investment, acquiring new assets, technological advancement, adopting relatively new business lines or combining any of the aforementioned have been seen to have either a favourable or adverse effect on the firm and its accomplishment in future(Arnold, 2008; McIntyre and Coulthurst, 1985). It should however be noted that, there are basically two major situations which engineer the need to make decisions on capital investments and these are: the objectives of a business entity and a list of investment alternatives that are capable of contributing to the actualization of these set objectives (Lumby & Jones, 1999).

This study shows that the size of the project, type of project ownership and project duration were the three most used methods for investment appraisal. Similarly, Maritan & Coen (2004) reported that an important factor in investment decision is the availability of infrastructures such as road network, power and raw materials because these enable firms produce at the minimal costs. Also, the cost importance of proximity to market is that firms would not have to be incurring huge expenses on distribution and by so doing,

they would be able to sell relatively cheaper than existing producers and this gives them a huge market share. Adler (2010) supports these results with his study's conclusion that availability of infrastructures and nearness to market are sufficient to make investment decision. The findings by Wootton (2005) and Drury *et. al,*(1993) are in consonance with this study.

Pike and Neale (2006) in their work highlighted some assumptions of various texts in relation to capital investment appraisal processes. These assumptions include: that capital investment ideas are only conceived by managers or owner managers as the case maybe, that investment alternatives are totally independent, that risk is totally incorporated into the net present value, that cash flow estimation is free from any form of biasness and that intangibles are immaterial. Whereas theoretically, capital investment processes pervade the whole enterprise. However, in practice capital investment processes is frequently a bottom up procedure; on the contrary, a company's tactical action plan functions on a top-down basis (Brealey and Myers, 2003). A conflict might arise between the two in some cases as a result of this difference. The processes involved in capital investment are extensively recognized to be comprehensive in practice than as mentioned in various textbooks. For instance, there are so many employees operating at various management levels that are tangled in the process of making decisions around investments of capital nature which usually consist of numerous task and duties (Pike and Neale, 2006; Arnold, 2008). Often times, the phases and task run concurrently, however, this might not continually be the situation due to the fact that some capital investments are objectively exclusive and some phases might not be relevant (Pinches, 1982).

Capital investment appraisal was found to be significantly associated with higher financial performance of SMEs. It was concluded in this study that there was substantial

difference in the mean financial performance scores between the SME clusters who regularly used and those who did not use capital investment appraisal techniques. This result has earlier been reported by McIntyre & Coulthurst (2005) who found that using profitability index to appraise the potential return on a given investment leads to significant increase in the financial performance of firms. Conversely, the substantive literatures tend to concentrate more on the investment assessment phase and the use of evaluation methods of capital investments. This has been discredited by other authors; stating that there exist other vital stages which deserve special attention. Such stages include idea conception stage, funding availability for the investment, monitoring and control of the investment overheads from implementation to completion and also the post audit of the investment.

How SMEs assess risk when making Capital Invetsment Decision and how the decision making process is being managed and controlled.

Risk assessment in business remains a crucial aspect for business success (Mohammed, 2013). The findings in this research as analysed in theme 12 showed that majority of the SMEs do risk assessment when making capital investment decision but do not take into consideration the importance of risk assessed because they make use of cost of debt to determine the cost of capital assest pricing model. This is because capital assest pricing model helps them determines the cost of capital for the trade and they build leverage on the capital cost thereby ignoring the risk assessment undertaken before going into the business (Elumilade et al., 2006). They manage their decisions with the aid of monitoring and control method and this was revealed in the research undertaken.

According to Etuk, Etuk and Michael (2014), monitoring and control method is adopted by all SMEs as business are constantly monitored and controled by owner managers due

to prevailing economic and political conditions that have not given SMEs room to thrive. Other factors that are considered when making decision are determination of budgets, research and development, evaluation and authorisation. However, the research also conforms to the findings of Etuk et. Al.(2014) which opines that monitoring and control are the most importantly considered by SME business owners. It is a fact that most small businesses in Nigeria are managed by its owners, as such these owner-managers monitor the business closely and do not hand over control to anyone else even when they do not have the required knowledge and skills to do so.

Furthermore, from the analysis in in chapter 5 of this research, it was noted that majority of the SMEs conducts ex-post audits between 37 – 40 months of the commencement of the business through follow-up from the descretion of the owner-managers. This also confirms the findings from monitoring and the control method used by business managers when carrying out ex- post audits. It was discovered that majority of the owner-managers in these SME clusters in most cases do not necessarily compare the performance of the investment after its execution with the prediction of the feasibility study in the appraisal stage, rather they tend to mostly carry out mere regular follow-up which does not include comparing the performance of the business and its intended plan (Etela and Onoja, 2017).

As mentioned by Onugu (2005), in his list of the key ten probelms facing small and medium sized firms (SMEs) in Nigeria, management glitches rank top priority in the number one position and this is due to the fact that most small businesses are managed by individual owners who do not have sufficient knowledge, skills and the technical know-how needed to efficiently manage the business. Consequently, quite a number of these small businesses do not have any sense of direction and they can be easily swayed when

their mode of operationdoes not fall in line with industry standards which makes it difficult to establish or ensure whether the business is operating in the right direction or not.

Furthermore, findings from this research on project feature showed that most SMEs are faced with funding issues and funding sources remain an essential part of this problem.As a result of this, the nature and size of the project are less taken into consideration when making capital investment decisions realting to either business expansion or establishing new ventures. As earlier mentioned, due to the lack of sufficient technical know-how of owner managers; managing and controlling the operations of SMEs remains a difficult task as the findings of this research show that owner managers mostly rely on boostrapping when managing their small businesses (Mohammed, 2013). Consequently, they (owner-managers) do not consider other non-financial factors that might affect the running of the business which includes the concept of time value of money, risks, economic and political changes etc.

The findings of this research falls in line with previous literatures (Acquaye, 2013; Mohammed, 2013 and Etuk et. al.,2014) that the importance of risks, proper management and control cannot be overlooked when making capital investment decisions. Even though this is true, there still exist some critical factors as mentioned earlier that hinders owner-managers from proper management and control of the business. Since many owner-managers believe more in personal experience rather than professional experience, it is difficult to impose theoretical knowledge and assumptions in such instances. For instance, it is difficult to introduce the sophisticated capital invetsment appraisal techniques (NPV, IRR and Cost of capital) to an SME owner-manager who is used to the traditional method (PBP and ARR) in appraising proposed investments.Hence, this gives

room for further studies on how to effectively manage this difficulty in the longrun.

Objective Three

To acsertain if there are any required changes to the current state of capital investment decision making processes of SMEs in Nigeria and if a model can be emperically validated.

The ultimate aim of this research as established in the first chapter is to investigate if an effective capital investment decision making process model exist in Nigeria for SMEs; if not, propose and recommend a model that can be adopted by SMEs and even larger corporations when making capital investment decisions. in line with this aim, the findings of this research according to Mohammed (2013) shows that there exist no such effective capital investment decision making process model that SMEs or even larger corporations in Nigeria could adopt when making invetsments of capital nature. As a result of this, the researcher was able to develop a model with the help of the theoretical conceptual framework and findings from this study. This model conceptualise the key issues (financial and non-financial) that must be duly considered when making capital investment decisions in Nigeria. These key issues are segmented into steps in the proposed model and each of these steps are explained below:

Proposed Capital Investments: this is basically the total funds devoted to an SME for the singular aim of advancing the business operations while achieving its objectives. Mohammed (2013) and Acquaye (2013) goes a step further to explain capital investments as the acquisition of Fixed or capital assests (Plants and machinery) which is percieved to be productive over a long period of time. It could also be investments in expansion or adding a new line of business to the existing one as the case maybe (Etuk. et. al., 2014). All these definitions simply explains what capital investment really is and it is worthy to note that a firm or SME could want to iunvest in one or more of these. Hence, the major reason why decisons are made concerning capital investment. In the proposed model according to the

researcher, knowing and identifying the proposed capital investment is the first step. This is because before any decision can be made, it is important to identify the probable capital investments needed to be funded before making a decison of whether or not to go ahead with the investment (Onugu, 2005; Mohammed, 2013).

Investment (Project) Evaluation: the next stage in the proposed model is the capital investment evaluation stage. This is where the capital investment explained above are assessed or evaluated in order to ascertain its viability and profitability. This stage is very important in the life cycle of any form of capital investment (Mohammed, 2013). At this stage, the capital investment is evaluated using capital budgeting techniques such as the Payback period (PBP), accounting rate of return (ARR), net presnt value (NPV), internal rate of return (IRR) and the cost of capital (COC). Acquaye, (2013) and Mohammed (2013) postulates that these capital investment evaluation techniques are statistical or mathematical methods that takes into consideration the time value of money over the useful life of the capital investments showing the periods that the investment will pay back its initial outlay and start to yield returns. Furthermore, in evaluating capital investments it is equally important to take into consideration other non-finacial factors (Economic and political factors, fiscal and monetary policies, environmental factors etc.) that may affect the capital investment; all these should be done in detail and in line with the financial evaluation of the capital investment (Mohammed, 2013; Etuk. et. al., 2014; Etela and Onoja, 2017).

Funding: funding is popularly referred to as the lifeblood of any capital investment. Infact, Etuk. et. al., (2014) in their study opines that without the availability of funds no capital investment will see the light of the day. Hence, after the viability of the capital investment has been determined it is important to consider how this investment will be funded. At this stage, SME clusters are to explore the various funding sources open to them in order to

determine the available options and the cheapest of them all. Etela and Onoja, (2017) explains that in most cases, majority of the SMEs in Nigeria and their capital investments are usually being funded by individual funds from owner-managers, their family members and friends; it is in rare cases that SMEs resort to borrowing to fund capital investments.

However, Etuk. et. al., (2014) categorically states that in recent times most SMEs resort to government funding or borrowing from financial institutions or even going public by way of initial public offers (IPOs) to fund capital investments. The source of funding is equally as important as the funds itself because the cost of getting the funds should be weighted as this directly impacts the overall cost of the capital investment in the long run (Acquaye, 2013). It should however be noted that the issue of funding cannot be overlooked as it plays a major role in the life of any capital investment.

Risks: Risks in capital investment can be said to be the possibility or probability that a loss which is virtual to the returns on capuital investment will occur. Mohammed (2013) explains it as the measure of the uncertainty level that the expected returns on the proposed capital investment will be achieved. Risk comes in different forms part of which include political, environmental, economic, social or even technoloical. Hence, whenever any capital investment decision is to be made, it is important to consider probable risks taht is associated with the investment before making any decisions (Mohammed, 2013; Etela and Onoja, 2017). In the proposed model, the resaercher makes it clear that risks should be an integral part of the capital investment decision making process and this cannot be overlooked. Acquaye (2013) in his research mentioned that the underestimation of probable risks in the life of a capital investment could affect the productivity of that investment which ultimately will affect the viability and profitability of that product over time. As a result of this, the concept

of risk is factored into the capital investment decison making process model proposed by the researcher.

Capital Investment Decision: this stage of the model is one where the actual decision whether or not to undertake the capital investment is made. There must have been a through, judicious and strict adherence to the aforementioned stages in this section of the thesis before such accept or reject decision of a capital investment can be made. Hence, the researcher proposes in this model that before SMEs make any capital investment decision, the types of investment must be determined and evaluated, after evaluation then funding options including costs of fund shouls also be considered, anticipated investment risks should also be factored in. After all these steps have been duly followed, then a decision can be made on.

Monitoring and Control: the process of making capital investment decisions should not end when the actual decsion of whether or not to undertake the capital investment. It is important and essential for the SME's management or owner-managet as the case maybe to put in place control measures and continuous monitoring procedures in order to ensure that the capital investment delivers the purported benefits highlighted in the evaluation stage of the process (Mohammed, 2013). The monitoring and control stage of the process model as developed by the researcher is a critical part of the process as capital investments ought to be closely monitored and controlled in order for it to be successful.

6.3 Summary

This research explored the effect of capital investment methods of appraisal of SMEs clusters on financial performance. Specifically, the study examined the capital investment appraisal methods employed by SMEs clusters, determined their choice of capital investment appraisal method mostly used, identified the reasons for inconsistencies in their processes of making decisions around investments of capital nature; evaluated the financial and overall

performance and determined the effect of capital investment appraisal methods on the financial performance of the SMEs clusters.

The study used four (4) SMEs clusters and these comprised SMEs in Otigba Information and Communication Technology Cluster Ikeja (100), International Music and Video Production Cluster, Alaba (52), Auto Parts and Mechanical Cluster, Ladipo (76) and the Agribusiness cluster (24) and these made a total sample of 252 respondents at 94% responses rate. The reliability of the questionnaire was tested using Cronbach Alpha technique and the result gave 0.86 as reliability coefficient. Data were analysed with SPSS 22.0 using chi-square and independent T-test.

Findings showed that the size of the project, type of project ownership and project duration were the three most used methods for investment appraisal. About 92% reported that a reason for inconsistencies in investment decision making was the SMEs's inability to afford the inclusion of the cost of investment appraisals in their operating costs. Other reasons were the lack of reliable data for use in investment appraisal processes (74.6%) and hasty investment decisions without feasibility studies (65.1%). Meanwhile, about 40% of the SMEs reported good financial performance. No less than 14% had poor financial performance while 46% reported fair financial performance.

Additionally, results showed that the financial processes of capital investment techniqueswhich had significant influence on SMEs' financial performance were the use of net present value (χ^2=2.869; p=0.001), payback (χ^2=8.614; p=0.000) and profitability index (χ^2=9.365; p=0.000). The non-financial capital investment processes that had significant effect on financial performance were the consideration of availability of infrastructural facilities (χ^2=7.264; p=0.001), availability of cheap inputs (χ^2=6.598; p=0.004) and the proximity of investment to market (χ^2=5.879; p=0.025). In general, results showed that the

mean financial performance scores for the SMEs' clusters who used capital investment appraisal techniques were significantly higher than those of the SMEs who used none.

Furthermore, the five major research objectives in line with the research questions outlined in the first chapter of this thesis for the purpose of examination have been scrupulously considered in detail. All the major findings originating from the adopted procedure of investigation extensively contribute to the existing finance literatures especially in the area of capital investments and SME clustering. The value of the sources of data used for the analysis, the representative sample of the study, and the efficient methods of statistical analysis embraced for the purpose of this study eliminates the issue of the reliability and soundness of the findings. For this reason, the findings of this study are comprehensive and can be used by academics and professionals. The five research objectives and questions have a unique investigation technique, its findings, propositions and the al the leading literatures used have been unmistakably listed in the thesis. Conclusively, a process model in form of a pictorial representation showing reasonable steps that can be followed by SME clusters and even larger organizations when making capital investment decisions has been proposed by the researcher.

6.4 Conclusion

The use of capital investment appraisal techniques had significant influence on the financial performance of SMEs' clusters. In particular, the considerations of the availability of infrastructural facilities, availability of cheap inputs and proximity to market are healthy for financial growth of SMEs. Also, giving consideration to the financial processes such as examining the variance among the current value of cash inflows and of the cash outflows of the proposed venture (net present value),the period it takes for a project to repay its initial investmetn(payback) and the profitability indexhad significant positive effect on financial

performance of SMEs. It should also be noted from the analysis in the previous chapter that majority of the SMEs or SME owners as the case maybe are not fully aware of their financial performances and no financial knowledge whatsoever.

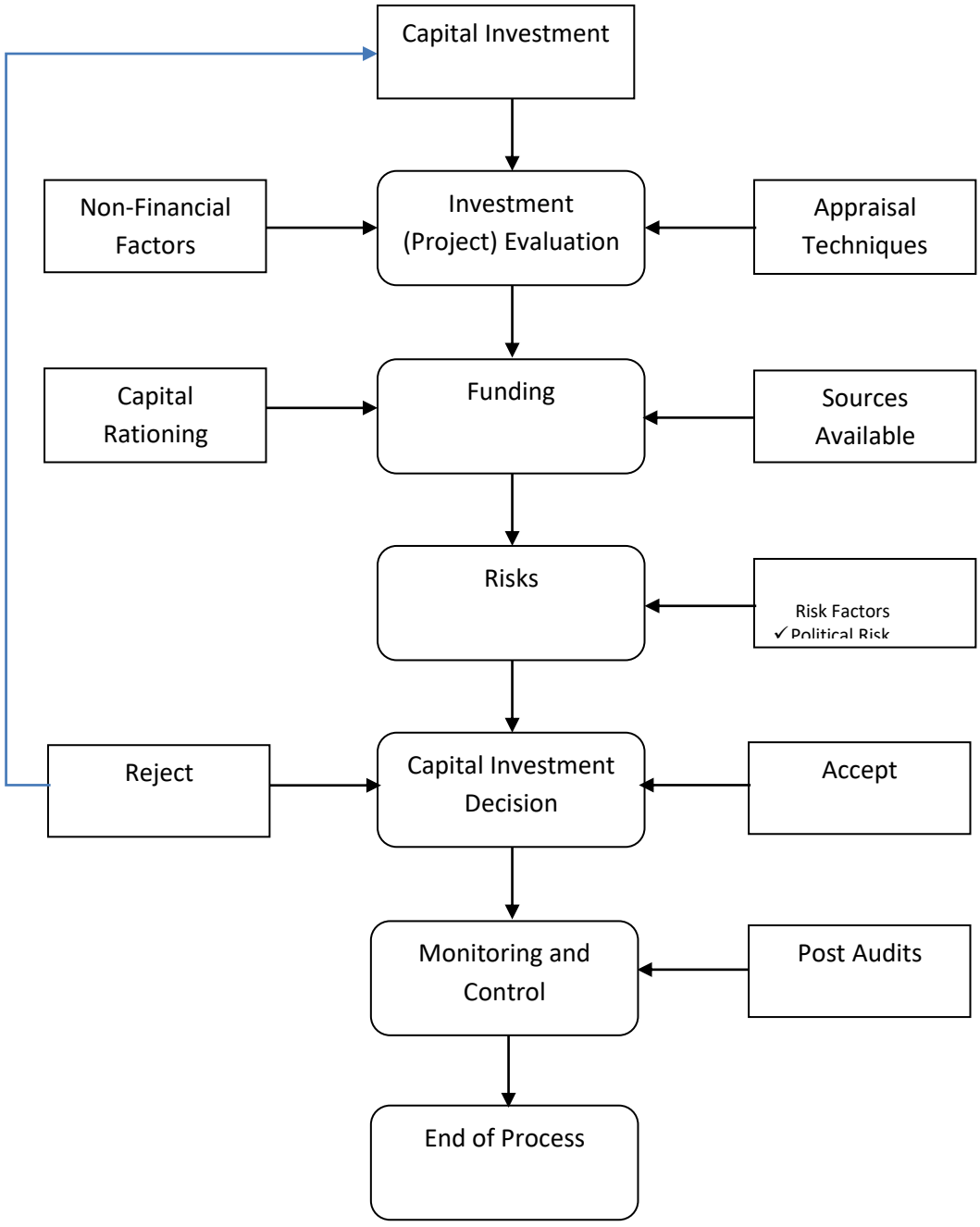
6.5 Recommendations

Focusing on the findings of this research, the subsequent recommendations are advised;

1. SMEs should desist from embarking on capital investment without fully engaging both the financial and non-financial processes involved in capital investment decision appraisal. Not doing this tends to negatively impair their financial performance;
2. Should SMEs find it unaffordable to hire experts for their capital investment appraisals, they must, in the least, give serious considerations to the availability of infrastructures, cheap inputs and the proximity of the investment to market. In addition, the payback period (the period it takes for a project to repay its initial investment) must be roughly ascertained;
3. The study found that the size of the project was the most important project feature to the SMEs. Whereas, this was insifnificanty associated with high financial performance, rather, the proximity of the investment to the market was. This was underscored by the result showing that the adoption of wrong capital investment appraisal techniques was a reason for inconsistency in their decision making processes.Hence, it is recommended that SMEs do a review of their capital investment appraisal processes and adopt the one that is friendly to their financial growth;
4. SMEs should ensure that they conduct feasibility studies before making financial investment decisions. Not doing this was significantly associated with poor financial performance;
5. In the event of lack of reliable data for use in investment appraisal processes, SMEs should give serious considerations to experts' recommendations.

Additionally, In line with research objective five in the first chapter of this thesis, the researcher recommends a model consisting of various steps that make up an effective capital investment process which can be adopted by SMEs or even larger corporations when making capital investment decisions. This model is a pictorial representation of the various steps explained under objective 5 in this chapter. This pictorial representation highlights the sequential order in which these steps should take with various touch points of high importance.

Figure 6.1 Proposed Capital investment Decision making process model for SME clusters and large corporations in Nigeria.



6.6 Limitations of the Study

This research was directed at investigating, analyzing and construing the capital investment decision-making processes of SME clusters in Nigeria. Despite the thorough attempt made by the researcher towards making sure that a reasonably complete and logical examination grounded on an in-depth research analysis was carried out all through the research, the research still had some hindrances and is viewed as being in complete. Hence, just like every other research, various forms of limitations exist. This section of the research is aimed at outlining and discussing these purported limitations in order to enhance the proposed contribution of this research to finance theory and capital investment decision-making processes of SME clusters in general.

Firstly, the research method was meant to be mixed through the distribution of questionnaires and conduct of interviews. However, the owner managers that were penciled down for interviews were not readily available to entertain interview sessions. The norm within most corporations in Nigeria especially SME clusters is founded on confidentiality which debunks the initiative of granting any form of interview especially where issues of sensitive nature might be discussed and published is looked at with suspicion. Hence, the researcher could only make use of questionnaires to gather necessary data for the research. Secondly, the researcher designed the sample to embody the views of various organizations; as a result, it was anticipated that every respondent would represent an SME in a cluster and must be unswervingly involved in the process of making capital investment decisions for the SME.

Similarly, this limitation also affects the survey sample for the questionnaire. Initially, this survey sample was aimed at representing a range of SME clusters by choosing respondents from the strategic management level who were involved unswervingly in the process of making capital investment decisions in each SME. Once more, the ratio of returned

questionnaire was minimal when compared to what was distributed which is as a result of the same reasons mentioned in the earlier part of this section. Additionally, the non- availability of an effective and proficient postal system in Nigeria and the drought of internet facilities amongst most SMEs in Nigeria makes it almost impossible to distribute questionnaires via emails. As a result of this, the researcher was compelled to hand out and collect the questionnaires personally which increased the cost and time incurred by the researcher. Nevertheless, it should be noted that a satisfactory quantity of completed questionnaire was received from various SMEs in most of the represented clusters in the sample. Conversely, it was difficult to ascertain if the respondents were a statistical representative sample of the entire SME cluster that existed in the whole of Nigeria.

Although the researcher intended to use interview and questionnaires as the research methods for this study, the questionnaire survey was the only method that was eventually used due to the reasons mentioned in the earlier part of this section; it should however be noted that the questionnaire survey in itself was also subjected to some limitations. Some of these limitations include but not limited to lack of understanding and delusion, which may have affected specific questions for some reasons. For example, the respondents may not be familiar with the topics in some of the questions asked in the questionnaire, but would not necessarily want to admit this fact; rather they chose to provide fictitious information. Additionally, certain difficulties were encountered during the process of evaluating and understanding the responses; slightly, majority of the analysis and interpretation depended on the standpoint of the researcher regarding the topics. Therefore, a great deal of prejudice is involved in the process and the findings in its real sense may not be generalizable.

The second limitation of this research is how the decision of the sample size was made and the SME clusters used were chosen. In Nigeria of today, there exists no major official data

base for small and medium sized enterprises (SMEs) in the whole of the country. This limitation is evident in previous studies as documented by some scholars (Onugu, 2005; Etuk. et. al., 2014; Etela and Onoja, 2017). Subsequently, the researcher was able to make considerable effort towards distributing and collecting a sizeable amount of questionnaire with the aim of getting sufficient and diverse standpoint of various respondents from multiple SME clusters in various locations.

The third limitation relates to the genuineness of the responses in the questionnaires collected; did the respondents honestly portray the capital investment decision-making practices within the SMEs where they are employed? It should be noted that the sample was chosen so as to establish the standpoints of the SMEs with each questionnaire depicting the perception of a particular SME. On the other hand, including the interloper group in the primary stage of the empirical study gave room for a signal of whether or not there exists any form of biasness in the responses of the respondents providing the SME standpoints. The interloper groups included three sub- divisions: the scholars, owner-managers and employees. Separately from the scholars, every other interloper sub-divisions had proficient knowledge, which gave them the opportunity to proffer insight on the processes of making capital investment decisions among SME clusters in Nigeria.

Another major limitation of this study was the reliance on individual SMEs' self-report on financial performance. Reliance on self-report without researcher's access to accounting reports or financial records of the SMEs could be deceptive. However, this challenge was overcome through winning of the respondents' confidence. A set of standard statements aimed at measure financial statements were adopted. These statements, which were made non-directional, were shown to measure financial performance consistently during the pilot study. In addition, the essence of the study being solely for academic purpose was clearly

explained and voluntary readiness to participate was achieved. This improved the consistency of reporting, as shown in the result from the pilot analysis.

Consequently, it can be concluded that various evidences evident in this research duly symbolize the view of the respondents on the present capital investment decision-making processes of SME clusters in Nigeria in line with the various governmental policies on encouraging the development of SMEs. Therefore, these views represent the actual picture in real time regarding the capital investment decisions within SME clusters in Nigeria. Furthermore, throughout the period of this study, there has been a change in government in Nigeria giving rise to economic instability with recession on the uprising, which has ultimately affected the capital investment processes of small businesses in Nigeria drastically. As a result of this, the opinions of the various respondents to the questionnaire might have changed over the period of conducting this research. It is however very important that all the limitations highlighted above be strictly considered when making use of the findings of this research when analyzing the process of making capital investment decisions by SME clusters in Nigeria.

6.7 Contribution to Knowledge and Applications

In general, it is evident that there are some limitations to this research; the researcher in the previous section of this chapter has pointed all these out. In spite of all these limitations, the significant contribution of this research to existing finance literature cannot be over emphasized. This study according to the researcher has contributed to the existing body of knowledge in multiple ways. Firstly, this research is the first of its kind in relation to theory of finance in Nigeria; especially with its exploratory nature, it characterizes an essential addition to the existing body of knowledge on the capital investment decision-making processes of SME clusters in Nigeria. Secondly, this research makes some significant

contribution to the budding literatures on capital investments decisions as a whole; more distinctively, the findings of this work make available evidences on the current position of the capital investment decision-making processes of SMEs in one of the biggest economies in Africa, which has not been looked into over the years.

Furthermore, this research was intended to explore a number of concerns more than just how capital investment decisions were made but rather it examined some other interrelated issues, such as the usage of appraisal techniques in the process, consideration of time value of money, risks, capital rationing, funding and ultimately the role which other non- financial factors play when making capital investment decisions within the SMEs in general. Additionally, most of the aforementioned issues were examined within the context of a business settings affected by drastic political and economic changes over the last 5 decades. This instability of the economy makes Nigerian SME sector a fascinating context for considering related issues with capital investment decisions, as there has been a great move economically since the advent of democracy in 1999 and up until now (2019).

Moreover, investigating the various standpoints of a wide range of decision-makers (owner-managers, fund providers and employees) both within and outside the SME clusters who through one way or the other influence the decision-making processes of capital investments establishes the fact that significant information have been acquired during the course of this research. Be it as it may, it is therefore imperative to note that most of these standpoints have not yet been examined in the Nigerian SME clustering sector.

Consequently, this study largely contributes immensely to existing literatures relating to the capital investment decision-making practices or processes as the case maybe in addition to the different views of academic scholars in this area. Hence, this research makes a constructive contribution to the existing knowledge on capital investment decision-making

processes of SME clusters with a further recommendation of a model on how this process should be implemented in large African economies like Nigeria, which is prone to constant fundamental and economic changes.

The knowledge garnered could also be infused into various existing financial theories on the modalities that SMEs and large corporations in general should follow when making capital investment decisions. In addition, this research further embodies some valuable information for Nigerian SME capital investment decision makers, sponsors including prospective foreign investors. It provides a purposed assessment on the current practices of the capital investment decision-making processes from the standpoint of various groups of decision-makers involved in the process both within and outside the clusters as mentioned earlier. In addition, the findings of this thesis help the researcher to design a model that can be used as a framework by academics and professionals. Hence, it provides professionals and scholars with a detailed framework needed for an efficient capital investment decision-making process by SMEs.

It further provides sufficient information regarding capital investments to the government and other regulating bodies who may be interested in encouraging the development of small businesses in any country. For instance, it is pertinent for SME owners, fund providers and proposed foreign investors to consider the non-financial factors that may affect the capital investment decision-making processes before making capital investment decisions in the Nigerian SME clustering sector. Similarly, government agencies rather than accentuating SME funding issue ruling out of majority of other relevant factors, should concentrate more on preaching the gospel of other non-financial factors when investigating and ultimately making capital investment decisions especially as it relates to small and medium sized enterprises (SMEs).

6.8 Areas for Future Research

The finding from this research, which focuses more on SME clusters in Nigeria, is expected to form a basis for future research. Related future research may perhaps be very imperative, particularly as the empirical part of this research was carried out brusquely after the 2015 national elections in Nigeria, which resulted in a total change in government as a different political party took over power. Without an iota of doubt, it is expected that such a huge change will affect the Nigerian economy significantly without leaving out the processes of making capital investment decisions by SME clusters or even larger corporation in Nigeria. The possibility of comparing the findings of this research with that of future findings cannot be overlooked as this would be instrumental in highlighting any purported changes in the practices of SME clusters when making capital investment decisions and some other viewpoints that relates to the entirety of the decision-making process.

A further area for future study may possibly be the use of another method of researches for example case study; to scrutinize in detail the major concerns enumerated in this research. The chosen case study may perhaps concentrate more on an array of investments of capital nature from the start to completion or post-completion audits; investigating each and every step-in profundity, documenting every lesson learnt from this exercise and ultimately examining how they the acquired knowledge maybe transferred to improve future investment decisions. Most significantly, the findings of this research may create a helpful basis for investigating the funding sources available to SME clusters and how available funds can be rationed judiciously among multiple capital investment projects open to SME clusters in Nigeria.

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