BEHAVIORAL FACTORS, FINANCIAL LITERACY AND INVESTMENT DECISIONS AMONG PROPRIETORS OF SMALL AND MICRO ENTERPRISES IN NAIROBI COUNTY, KENYA

BY

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A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS AND ECONOMICS, DEPARTMENT OF ACCOUNTING AND FINANCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT, (FINANCE)

MOI UNIVERSITY

2021

DECLARATION

Declaration by Candidate

This research thesis is my original work and has not been presented for any degree award at any other University. No part of the thesis should be reproduced without the prior permission of the author and/or Moi University.

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DEDICATION

This thesis is dedicated to my family members for their patience and encouragement throughout my studies and to my friends for their insights, advice and continued encouragement that I greatly appreciate. I also dedicate this thesis to Moi University as an institution.

ACKNOWLEDGEMENT

My sincere gratitude goes to my God and my great supervisors Dr.Josephat Cheboi and Dr.Catherine Muganda for their invaluable advice, support and rich contribution throughout the writing of this thesis.

ABSTRACT

Investment Decisions made by (SMEs) are crucial for economic development and are part of strategic decision-making in every enterprise because new investment projects essentially affect future economic results and the enterprise's prosperity. However, wrong investment decision may lead to a loss in an organization. SMEs are facing challenges in making rational decisions based on low managerial skills, experiences, academic ability and sometime personal behavior which influence their judgment. There exist theoretical as well as conceptual gap that bring out both behavioural and financial literacy in relation to investment decision to reduce the problem associated with SMEs failure as result of irrational decision making. Therefore, this study sought to determine moderating effect of financial literacy on the relationship between Behavioural Factors and Investment Decisions among Small and Micro Enterprises in Nairobi County. The specific objectives of the study are to determine the effect of: Overconfidence, Anchoring, Prospecting and Herding on investment decision making; and to investigate the moderating effect of Financial Literacy on the relationship between Overconfidence, Anchoring, Prospecting, Herding and Investment Decisions among Small and Micro Enterprises. The study was premised on the Behavioural Portfolio, Regrets, Prospects, and Competency theories. Positivism paradigm was deployed. The study adopted explanatory research design. The target population of the study was 102,821 owners of SMEs in Nairobi County in Kenya. A sample of 383 respondents was selected using random sampling technique. Hierarchical multiple linear regression was used in inferential analysis and the findings revealed that anchoring (β= 0.118, $p<0.05$), Prospect (β = 0.269, $p<0.05$) and Herding (β =0.458, $p< 0.05$) had positive and significant effect on investment decision. Overconfidence factors had no significant effect on investment decision (β= 0.017,$p>0.05$).The study found that Financial Literacy had a buffering moderation effect on the relationship between Overconfidence and Investment Decision (β = .22, $p<0.05$, $R^2\Delta$ = .182), Anchoring and Investment Decisions (β = .23, $p<0.05$, $R^2\Delta$ = .018), Prospecting and Investment Decision (β = .23, $p<0.05$, $R^2\Delta$ = .014) and Herding and Investment Decision among SMEs in Nairobi County(β = .22, $p<0.05$, $R^2\Delta$ = .009). Thus, the Behavioural Factors enhance Investment Decisions among SMEs except for Overconfidence. In addition, Financial Literacy moderates the relationship between Behavioural Factors and Investment Decisions among SMEs. The study recommends that SMEs should provide financial training to employees and management to enhance financial literacy to achieve better Investment Decision. There existed very strong relationship between the dependent and independent variables as result of financial literacy. Financial literacy contributes to enhance of investment decisions in maximizing portfolio through financial literacy to improve investment decision. It also contributes more knowledge on prospect and competency theory as results of contribution of financial literacy to both prospect and herding factors respectively. Policy makers, government and manager are encouraged to improve financial literacy in SMEs through training so as to improve investment decision.

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ABBREVIATIONS

BFMA	Behavioural Finance Macro
BFMI	Behavioural Finance Micro
GDP	Gross Domestic Product
IPO	Initial Public Offer
MNEs	Multi-National Enterprises
NACOSTI	National Commission for Science, Technology and Innovation.
SEO	Search Engine Optimization
SMEs	Small and Micro Enterprises

OPERATIONAL DEFINITION OF TERMS

Anchoring: Is a bias where an investor relies greatly on limited known factors or points of reference as they cannot integrate new information into their thinking since they stick to their existing views. Anchoring is when one base decision on logic relevance (Meir, 2010).

Behavioral factors Refers to human psychological and emotional states that affect financial decisions; they include anchoring, herding, prospect and overconfidence. Behavioral factors are motivated by a variety of psychological heuristics and biases (Pompian, 2006).

Financial literacy Possession of skills, knowledge and training in accounting and other related fields. Financial literacy includes: ability to read, analyze, manage and communicate personal financial conditions that affect material well-being (Huston, 2010).

Herding It is a behavior based on ignorance or lack of knowledge where an individual tend to follow the crowd. In the herd effect, ignorant, illiterate and emotional individuals are mentioned in the same category (Nofsinger and Sias 1999).

Investment Decision The process of choosing a particular business alternative from a pool of available business ideas before committing resources.

Overconfidence Refers to business behavior where a business person over-estimates their abilities in business undertakings. Dobelli (2014) defines this situation as the measure of the difference between real knowledge of an individual and the knowledge which an individual think they know.

Prospect Refers to a situation where a business decision is made based on the perceived facts about a phenomenon. It describes some states of mind affecting an individual's decision-making processes including regret aversion, loss aversion and mental accounting (Waweru *et al*, 2003).

Small and Micro Enterprises According to Kenya's Micro and Small Enterprises Act 2012, micro enterprises are defined as a firm, trade, service, industry or a business activity whose annual turnover does not exceed Kshs 500,000 and whose total employees are less than 10 people. Whereas small enterprises are those that have an annual turnover of Ksh 0.5-5 million, with the number of employees ranging from 10-50 people (Laws of Kenya, 2012).

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter covers the background, statement of the problem, objectives, research hypotheses, and significance, assumptions of the study and finally scope of the study.

1.1 Background of the Study

The ability to make investment decisions ranks among the strategies required by business owners to plan for a better future. Therefore, decision-making remains a vital tool that business owners can leverage to survive 21st century, which comes with enormous challenges including intense business competition, globalization, volatility in markets, and the COVID-19 pandemic among others (Hamid, Abdul, Hosna, Waliul, & Kamruzzaman, 2020). Small and medium size enterprises (SMEs) are emerging as central players in the economic developments of several nations, and outnumber large firms, shape innovation, and provide a livelihood through employment to many people (Madanchian et al., 2015). Due to the critical role they play, it is vital that proprietors of these SMEs take cognizance of investment decisions to continue developing and maintain operations in their business ventures.

Various decisions are often undertaken including suspension of financial resources for some extended period of time. The argument given for the suspension is that such entities will be able to enhance their market competitiveness in the long run after the effects of suspending financial resources become clear (Wildowicz-Giegel, 2013). Akintoye and Olowolaju (2008) advocate for the freezing of financial resources by arguing that the impact of the capability of a firm's management to make sound decisions on investments is felt through the advantage gained in analyzing the

financial performance of targeted investments. Akintoye and Olowolaju (2008) identify organizational, social, and economic benefits as some of the gains entities are bound to enjoy when prudent decisions directed towards financial performance are taken.

Investment decision refers to the determination made by the firms on how, when, where and how much capital is to be spent on available opportunities including determining the costs and returns for each option (Asetto, 2014). Investment decisions range in magnitude from very small to very large depending on the view of individual firms (Mark & Sheridan, 2013). Investment decisions are mostly long term, involving, and comparatively have huge cash outflows making it very important for an investor to make the right decision (Terry, 2013). Investment decisions vary from launching a new product, expanding the business by going into a new market segment, purchasing stock from the financial markets, purchasing new machines or equipment or other assets, putting up a new plant or expanding an existing one, instituting staff training, all of which involve outlay of funds (Wamae, 2013).

It is argued that such investment decisions are critical to businesses since they offer the directions that the business should take. Being determinations which businesses make in terms of the how, when, where and how of capital expenditure, such decisions have taken the primal position in the determination of business longevity and success (Asetto, 2014). This probably because investment decisions range in magnitude from very small to very large and can bring into the investor the allure of success depending on the investors goals and projections (Mark & Sheridan, 2013). True, investment decisions are mostly long term since entrepreneurs hope to eke a living out of operating for and must focus beyond their current settings. Such

decisions which involve comparatively huge cash outflows cannot be taken lightly since they have irreparable effects on individual's lives making it very important they should be the right decision (Terry, 2013). Although such decisions may appear simple tasks of launching a new product, expanding the business by going into a new market segment, purchasing stock from the financial markets, purchasing new machines or equipment or other assets, putting up a new plant or expanding an existing one, instituting staff training, they require a lot of wit and thorough planning in order to realize the funds required (Wamae, 2013

Individual differences are also associated with returns that accrue from investments decisions. For instance, Abdulahi (2014) demonstrated that an individual's perceptions, cognitive, routine, or emotional lineage determine decisions and returns from investment. Meanwhile, it has been argued that investors' decision-making is often constrained by limited gainful investments, which ultimately leads to some process of coming up with decisions regarding investment is complex and involves recognizing the problem, searching for the available information, evaluating the alternatives, investing, and post-investment behaviour.

Although several reasons are attributed to the high interest in SMEs, emerging structural changes in developing markets, coupled with an avalanche of low-cost industries, are the most predominant reasons for the recent interest in SMEs (Gveroski & Jankuloska, 2017). Indeed, SMEs accounted for most of the Gross Domestic Products (GDPs) and employment in most nations in the 70s and 80s (Gveroski & Jankuloska, 2017). The central role that SMEs play in economic development has seen them attract more credit for their development. The argument advanced when giving SMEs more credit is based on their nature and ease of their development.

Gveroski and Jankuloska (2017) argue that being small in nature, such entities are easy to fund and do not require complex decision-making processes. Mendes et al. (2014) support this notion of ease of funding by postulating that the two explicit groups of investment theories that underpin SMEs make the decision-making process simple. They identify the two groups as theories that perceive investment as a wrong decisions (Muthama, Mbaluka & Kalunda, 2013). Wamae (2013) adds that the function of external conditions, and theories that consider investment as a function of internal conditions.

Despite SMEs enjoying various advantages, most proprietors of these entities are challenged in decision-making. Several factors are attributed to these challenges. For example, it is noted that in small organizations, decision-making is perceived as a planned and supported process by data analytics (Simoin Gervais, 2009). However, proprietors of SMEs lack the financial muscle to recruit data analysis experts who could help them out with technical decisions. Besides, Simon Gervais (2009) argues that SMEs are not able to access the latest data analytics technology, meaning that proprietors often rely on personal judgment and experience to make financial decisions. In taking decisions proprietors exploit factors emanating from natural behaviours. Simon Gervais identifies several behavioural factors that influence SME proprietor's decision-making, including overconfidence, prospecting, herding, and anchoring. Proprietors of SMEs have for instance, been found to be usually overconfident when making decisions pertaining to investment (Simon Gervais, 2009). Globally, it is demonstrated that investment decisions by SME proprietors' are crucial in longevity and growth of such entities, and leverage behavioral factors that

are influenced by herding, anchoring, prospect, and overconfidence (Krans *et al*., 2019).

Recently, there has been an abundance of research in the context of behavioural finance (Dickason & Ferreira, 2018; Kapoor & Prosad, 2017; Singh, 2019; Tuyon & Ahmad, 2016). According to these scholars, extrinsic and intrinsic behavioural factors dictate investment decisions. Every decision made by a human being has an element of behavior attached to it. These behavior factors affect how human beings make decisions pertaining to several given choices or alternatives. Therefore, in line with these behavior factors a new discipline is emerging. Behavioural finance as a novel discipline seeks to maximize outcomes of investment decision-making by building on behavior factors (Kapoor & Prosad, 2017). The field focuses on investors' behavioural patterns, including emotions and their impacts on investment decision-making (Virigineni & Rao, 2017). Therefore, it becomes necessary to interrogate decision-making in SMEs in Nairobi from a behavioural finance perspective.

Overconfidence as a behavior factor relates to a person's faith in their cognition and intuition while engaging in decision making. It is one of the behavioral factors that affect personal judgment or intuitive ability in decision making (Hassan, Khalid & Habib, 2014). Chernoff (2010) argues that people tend to undervalue their potential and overvalue their inability. Consequently, overconfident people misinterpret their own knowledge and do not heed to other people's opinions leading to under investing or over investing. Most scholars have found strong correlations between investment decisions and overconfidence (Ahmad Sabir, Mohammad& Kadir Shahar, 2019; Lambert, Bessière & N'Goala, 2012; Pikulina, Renneboog, & Tobler, 2017).

Therefore overconfidence was perceived as a behavioural factor with potential to impact SME proprietors' investment decisions.

Anchoring is a behavioural factor coined from the term "anchor" which implies to refer to or point of reference (Meir, 2010). Ishfaq and Anjum (2015) define anchors as cognitive factors that happen when individuals give emphasis to one aspect at the expense of other equally important aspects. Investors who lean towards anchoring tend to focus their investment decision on the basis of the original source of information, and pursue that mode of thinking throughout the process of decision making. Ishfaq and Anjum. (2015) contend that the needed information and knowledge is dependent upon available information and standards set. In view of the central role anchors play in decision making, this study postulated that anchors were probable behavioural factors to inform investment decision making among SME proprietors.

Velumoni (2017) identifies prospect factors as other behavioural factors that impact decision-making, and argues that prospecting relates to the behaviour through which individuals engage in the evaluation of losses and gains. Investors who elicit prospect factors rely on investment value systems to engage in subjective decision-making (Waweru et al., 2018). Waweru posits that the state of mind inherent in an individual's decision-making is explained by prospect theory, which highlights mental accounting, loss aversion, and regret aversion. Meanwhile, Luonget et al. (2011) concur with the influence of prospect theory on the decision making process by citing scenarios where mental accounting, regret aversion, and loss aversion have been employed in the process of investment decision making on one hand, and individual's investment performance, on the other. In retrospect, this study perceived prospect

factors as another set of behavioural factors that impact on SME proprietors' investment decision making.

The final set of factors that potentially impact the decision-making process is the herding factor set. The herding effect is described as imitative behaviour where investors would follow other opinions or trends to make decisions that however often lead to inefficient outcomes (Shekhar & Prasad, 2015). It is common in situations where there is limited information or knowledge that promote individual decision making. In most cases, herding decisions affect investment decision leading to poor decision. Most investors follow the market trend, patterns creating unconscious herding behaviours (Shekhar & Prasad, 2015). According to Cristian (2015), although herding behavior result in financial benefits, it occasionally leads to decisions that cause financial instability. Therefore this study examined SME proprietor investment decision-making from the herding factor pedestal.

Choice of the four behavioural factors in this study as independent constructs was anchored on existing scholarly evidence of their potential impacts on decision making. Research done globally, shows mixed reaction in different business environments. For example, a study in Colombo stated that behavioral factors including herding and prospect affect investment decisions(Kengatharan & Kengatharan, 2014). Most of the behavioral factors were found to have moderate effects on the investment decision of small and medium traders while anchoring factors had a higher effect than other heuristic factors in decision making. In India it was found that behavioral factors brought about by overconfidence, cognitive dissonance and disposition had negative effect in decision making (Kanojia, Singh, & Goswami, 2018). Another study in India showed that overconfidence and herding

positively influenced decision making (Lad & Tailor, 2018).A study in Dhaka on behavioural factor and investment decision making showed that investors in Bangladesh were significantly affected in their decision making by behavioral factors which directly impacted their personal characteristics and investment decision (Hossain, 2018).

Moreover, Babajide and Adetiloye (2012) asserted that Behavioural factors such as prospecting and anchoring improved investments decisions among investors in Nigeria, and that investors needed to know the effect of behavioural inclinations on basic investment decision-making process. Meanwhile, Mahina, Muturi and Memba (2017) demonstrated that investors tended to be very regretful for keeping losing stocks fora long period instead of disposing off winning ones early enough. Investment decisions were consequently affected by behavioural factors elicited by such investors; in most cases, investors who found themselves in this situation suffered depression brought about by the failure to meet their desired investment objectives and outcomes. Mahina et al. (2017) further established that overconfidence significantly affected investment decisions among investors.

Several studies in Kenya have focused on the impacts of behavioural factors in investment decisions including Lourrine (2017) who focused on emotional behavioural factors such as herding behavior, mental accounting, regret aversion, loss aversion and endowment and how they influence investors' decision making. Lourrine (2017) investigated how cognitive factors such as overconfidence, hindsight biases and gamble fallacies influenced investors in engaging in investment decisions. On the other hand, Wamae (2013) established that risk averse financial specialists were prospect oriented, and based their investment decisions on anticipated gains

from the venture. Nevertheless, a majority of investors preferred to use investment banks due to their low cost investment to the existing resources and portfolios. Wamae further revealed that anchoring was another behavioural factor that impacted investment decisions among investors. It is prudent to point out that despite the telling information gathered from such previous studies undertaken in the Kenyan context, most of these studies were conducted in larger firms leaving a gap to exploit in decision-making in the SME context.

In addition, the reported studies only examined direct effects of behavioural factors on investment decision making without taking note of other investor-specific factors that could either mediate or moderate such direct effects. One such factor which has extensively been shown to impact potential decisions undertaken by investors is financial literacy (Abdeldayem, 2016; Awais et al., 2016; Gupta, 2021; Kumari, 2020; Oteng, 2019).

Financial literacy involves having the awareness, knowledge and experience for handling investment decisions undertaken in the finance discipline (Oteng, 2019). It provides understanding of money and finance products that individuals utilize when faced with an array of financial choices that require formal investment decisions (Cude, 2010). Financial Literacy also enables investors to engage in conducting rational decisions that are bound to minimize failure in organizations by leveraging sound investment decisions (Awais et al., 2016). An individual's level of financial literacy is therefore recognized as the lynchpin of good investment decision-making (Johnson, Soderberg & Willielm, 2016). Johnson et al. (2016) point out that leveraging financial literacy is likely to open up an avenue for controlling, adapting, or moderating biases and heuristics experienced in investment decision-making. They

contend that financial literacy relates to the prudent use of requisite knowledge regarding investment opportunities, financial instruments, and market environment to make investment decisions that are well informed.

Financial literacy has been recognized as a game-changer that guarantees quality and efficient economic service in competitive financial markets (World Bank, 2008). The World Bank contends that efficient and quality service is the precursor to increased well-being for governments, financial institutions, individuals, and society. It has been associated with better approaches to timing of markets (Guiso & Viviano, 2015), in ensuring a reduction in operational costs in the energy sector (Brent & Ward, 2018); enhancement of participation is stock markets (Jappelli & Padula, 2015).

Therefore, this study analyzed contributions made by overconfidence, anchoring, prospect, and herding as antecedents of behavioural finance on decision making among proprietors in the context of SMEs in Nairobi County. In addition, the study sought to establish the capacity of financial literacy to moderate the conceptualized link between behavioural factors and investment decision making. The expectation was that this study would yield findings that would anchor sound investment decision-making among the respective proprietors. Such results were expected to shield investors from being victims of irrational decision-making undertaken by proprietors. Parties targeted in this shielding included fund managers, investors, investment analysts, fund advisors, investment planners, policymakers, researchers, and private businesses.

1.1.1 Small and Micro Enterprises in Kenya

Kenya's SME Act 2012 perceives SMEs as entities with a capital ceiling of less than Kshs. 5million annual turnovers, and employs a workforce of more than fifty (50) people. The Act further specifies micro-enterprises as entities whose annual turnover does not surpass Kshs 500,000 while employees do not exceed ten people. Meanwhile, the Act defines small enterprises as entities with a yearly turnover in the range of kshs 500,000 to kshs 5million and a workforce in the interval of 10-50 people inclusive (Kenya's Micro and Small Enterprise Act, 2012).

In Kenya, SMEs are perceived as the engine of the macroeconomics. SMEs remain significant employers and account for over 55% of all people employed. Besides, SMEs make significant contributions to the Kenya's GDP, accounting for up to 22%. However, evidence shows that most SMEs in Kenya struggle to remain afloat. According to the Kenya National Bureau of Statistics (KNBS), for every 5 SMEs, 3 SMEs fold up their businesses after only a few months in operation (KNBS, 2007). Several contextual and logistical factors are associated with the instability of SMEs. According to Ouma (2002), lack of infrastructural development, tax regimes, unfriendly legal systems, corruption, and small markets locally are some of the main factors that inhibit the growth of SMEs. For instance, these factors in Kenya have contributed to adverse business environments that have encouraged businesses to remain informal and avoid contributing to the GDP (Ouma, 2002).

SMES create about 85% of Kenya's Employment (Nduta, 2016). However, they only contribute about 20% of the total GDP which implies a dismal performance of the sub sector. The current constitutional framework and the new MSMES Act 2012 provide an opportunity through which SMES revolution can be realized through the

devolution framework (Republic of Kenya, 2012). An increase in the sector's contribution to GDP from 13.8% in 1993 to 40% in 2008 is a clear indication that the sector will continue growing. The 2012 Economic survey indicated that the informal sector comprised of 80.8% of the total employment.

SME proprietors seemed to have the required education considering that most of them had cleared their secondary education. Besides, the data indicated that the nature of the business was related to the level of education achievement that business owners had attained. Most proprietors with post-secondary education opted for technical businesses, including ICT, education, administration and support, insurance and financial activities, social work activities, and human health orientation. Meanwhile, the micro-small and medium Establishment Report (2016) indicates that proprietors of businesses in the energy sector such as electricity, air conditioning, steaming, and gas supply had attained, at the least, some secondary education.

The 1972 ILO report on employment, equity, and income in Kenya revolutionized Kenya's SMEs' perception. The report highlighted the importance of the SME sector towards the country's economic development (GoK, 1986). The report spurred strategies for the SME sector culminating in the sessional paper No. 1 of 1986, themed "Economic Management for Renewed Growth" (GoK, 1986).

This sessional paper outlined mechanisms and strategies for the creation of a favourable environment that supports SME activities. The Government's commitments as contained in the sessional paper were underscored through the government's 1989 report dubbed "The strategy for small enterprises." This report

focused on enhancing the development and growth of the SME sector in Kenya and sought to discern strategies to address existing constraints for SME growth.

Much empirical research on SMEs in Kenya focuses on factors inhibiting SME growth and development. It delineates inflation and credit access as the critical inhabitants to SME development in the country. This study departed from existing studies and sought to add to existing knowledge by exploring behavioural factors' contributions to investment decision-making in SMEs in Nairobi under the moderating influence of financial literacy.

1.2 Statement of the Problem

Investment decision in Small and Micro Enterprises is crucial in creation of employment, source of goods and services, revenue as well as market for local goods. It is argued that investment decisions remain central to SME management such that wrong investment decisions are likely to result in bankruptcy (Zhao & Zhang, 2019). A large body of research underscores the importance of investment decisions to SMEs efficiency, competitiveness and sustainability (Appiah et al., 2019; Hendiarto et al., 2021; Idehen, 2021; Taiwo, 2019; Zhao & Zhang, 2019). Meanwhile, it has been demonstrated that with prudent investment decisions, SMEs play a critical role in economic development and growth of most nations (Bonito et al., 2017; Cravo, Gourlay & Becker, 2012; Gonzalez-Loureiro & Pita-Castelo, 2012; Memili et al., 2015; Surya et al, 2021; Taiwo & Falohun, 2016). The government of Kenya recognizes the economic growth potential inherent in SMEs and has put in place a raft of measures aimed at stimulating growth in the SME sector.

For instance in the year 2020, the government through parliament revised the public finance management Act. No. 18 of 2012 to provide guarantees for loans advanced to micro, small and medium enterprises (MSMEs) (Republic of Kenya, 2020). Moreover, in the wake of the COVID-19 pandemic, the government reduced the turnover tax for all MSMEs from 3 per cent to 1 per cent (Ogaya & Ngatia, 2020). Meanwhile the government of Kenya through the Ministry of Trade and Industrialization, has shown the willingness to do business with SMEs by allowing SMEs owned by women, youth and persons living with disabilities to supply goods that had hitherto been imported (Ogaya & Ngatia, 2020). It is also noted that the government of Kenya has taken cognizance of the emerging importance of financial literacy in investment decisions (Agyei, 2018; Kulathunga et al., 2020; Ripain, Amirul & Mail, 2017; Toth et al., 2021; Ye & Kulathunga, 2019), and has invested in financial literacy to empower businesses to make informed decisions that positions them strategically in the competitive market (Mutegi & Phelister, 2015, Mwaniki, 2019).

Despite, the high contribution that SMEs make to the growth of Kenya's economy, various challenges they face leads to their market exit even before attaining third anniversary. (Fatoki, 2014; Oluoch, 2014; UNDESA, 2018). According to a report by the United Nations Department of Economic and Social Affairs (UNDESA), for every five businesses that begin, only two survives up to the third anniversary (UNDESA, 2018). It is argued that the economic redundancy makes SMEs to be highly vulnerable and rely on managers financial skills and owners behavioural factors when making decisions (Mwaniki, 2018). Yet, a large body of research has shown that SMEs whose owners have skills in financial literacy tend to come up with sound fiscal decisions

(Dahmen & Rodríguez, 2014; Eniola & Entebang, 2016; Fitria, & Rahman, 2018; Hussain, Salia & Karim, 2018; Ripain et al., 2017).

Although substantial efforts have been made in Kenya to unravel the relationship between behavioural factors and investment decisions in SMEs (Barno, Cheboi & Muganda, 2021; Barno & Tuwei, 2020; Lumumba, Migwi & Magutu, 2010; Naomi, Kiprop & Tanui, 2018; Okwachi, Gakure & Ragui, 2013), very little attention has been given to the potential impacts of the interaction between behavioural factors and financial literacy. If SMEs in Nairobi County have to see an improvement in investment decisions, and their performance and longevity in the market has to improve, then more knowledge should be gained regarding the conditional effect of financial literacy on the link between behavioural factors and investment decisions made by proprietors.

1.3 Objectives of the Study

This study was guided by one general objectives and three specific objectives. The first and third specific objectives were each subdivided into four sub-objectives respectively

1.3.1 General Objective

The general objective of this study was to investigate the effect of behavioral factors on investment decisions as moderated by financial literacy among proprietors of small and micro enterprises in Nairobi County.

1.3.2 Specific Objectives

1. To establish the effect of behavioral factors on investment decision among proprietors of SMEs in Nairobi County.

a) Determine the effect of overconfidence on investment decision among proprietors of SMEs in Nairobi County.
b) Examine the effect of anchoring on investment decision among proprietors of SMEs in Nairobi County.
c) Establish effect of prospecting on investment decision making proprietors of SMEs in Nairobi County.
d) Assess the effect of herding on investment decision making among proprietors of SMEs in Nairobi County.

2. To investigate the effect of financial literacy on investment decision among proprietors of SMEs in Nairobi County.
3. To determine the moderating effect of financial literacy on the relationship between behavioral factors and investment decision.

a) Investigate the moderating effect of financial literacy on relationship between overconfidence and investment decision proprietors of SMEs in Nairobi County.
b) Assess the moderating effect of financial literacy on relationship between anchoring and investment decision among proprietors of SMEs in Nairobi County.
c) Determine the moderating effect of financial literacy on relationship between prospecting and investment decision among proprietors of SMEs in Nairobi County.
d) Examine the moderating effect of financial literacy on relationship between herding and investment decisions among proprietors of SMEs in Nairobi County.

1.4 Hypotheses of the Study

The following hypotheses were tested;

H_{01}: Behavioural factors have no significant effect on investment decisions among proprietors of SMEs in Nairobi County.

- **H_{01a}:** Overconfidence has no significant effect on investment decision among proprietors of SMEs in Nairobi County.
- **H_{01b}:** Anchoring has no significant effect on investment decision among proprietors of SMEs in Nairobi County.
- **H_{01c}:** Prospecting has no significant effect on investment decision making among proprietors of SMEs in Nairobi County.
- **H_{01d}:** Herding has no significant effect on investment decision among proprietors of SMEs in Nairobi County.

H_{02}: Financial Literacy has no significant effect on Investment Decision among proprietors of SMEs in Nairobi County.

H_{03}: Financial literacy does not moderate the relationship between behavioural factors and investment decision among proprietors of SMEs in Nairobi County

- **H_{03a}:** Financial literacy does not moderate the relationship between overconfidence and investment decision among proprietors of SMEs in Nairobi County.
- **H_{03b}:** Financial literacy does not moderate the relationship between anchoring and investment decision among proprietors of SMEs in Nairobi County.

H_{03c}: Financial literacy does not moderate the relationship between prospecting and investment decision among proprietors of SMEs in Nairobi County.

H_{03d}: Financial literacy does not moderate the relationship between herding and investment decision among proprietors of SMEs in Nairobi County.

1.5 Significance of the Study

The findings of this study are significant in a number of ways. Firstly, the finding showing that pooling behavioural factors has a greater chance of impacting investment decisions bodes well for SME proprietors and stakeholders. It allows them to make informed decisions, rather than relying on one factor such as overconfidence which may lead to regrettable decisions that culminate in inability to control the financial outcome. Secondly, in showing that behavioural factors impact positively and significantly on investment decisions among SME proprietors, this study adds to the growing discourse on SME growth.

The finding showing that financial literacy moderates the relationship between behavioural factors and investment decisions is particularly significant since it not only enriches the literature regarding the potential contributions of interactions on investment decisions, but it is also critical to SME owners, stakeholders, and also to policy makers. This finding raises awareness among proprietors of SMEs on how financial literacy can boost the investment decisions that they make. Moreover, this finding provides a basis upon which SME stakeholders and owners in particular, can argue for crafting of friendly policies that provide room for the provision of more financial literacy learning alternatives. Since the government seeks to stimulate

growth in SMEs by amending the Public Finance Management Act, 2012 to allow for credit guarantees to them, this finding provides the motivation for it to invest in financial literacy for SME proprietors to ensure that such credit guarantees are put to proper use.

1.6 Scope of the Study

The study focused on moderating effect of financial literacy on the relationship between behavioral factors and investment decision among Small and Micro Enterprises in Nairobi County. The study was limited to four behavioral factors which included; overconfidence, anchoring, prospecting and herding and their direct effect on investment decisions as indicators. Financial literacy was also investigated in the study where it established moderating effect of financial literacy in relation to behavioral factors and investment decision making.

The study adopted explanatory research design. Data was collected from SMEs from Nairobi County. Nairobi County was suitable based on being one of the first growing cities in Africa and holds most of SMEs within Kenya. Therefore, Nairobi County offers various industries owing to the diversity of business within the area. The study period was from May to August 2019 where primary data were collected within the same period. This was to provide a snapshot of the problems faced by SMEs. These challenges have led to collapse and failure in numerous SMEs within Nairobi County.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter presents a review of the existing scholarly literature on; concept of investment decisions, concept of behavioral factors, empirical review; overconfidence, anchoring, and regrets aversion, Concept of financial literacy, theoretical review and conceptual framework.

2.1 Concept of Investment Decision

Schwab (2017) explains investment decision as the steps taken in settling for options entailing capital endowment for future cash flows for the continued development of an enterprise. Based on Manikowski and Tarapata (2001) there are two typical investment strategies: the tangible approach explained as the transfer of commodities and the financial approach explored as the transfer of funds. Prior to the late the 1980s, economic publications defined investments as organized economic activity aimed at generating or expanding available tangible assets, or as a transformation of these assets prompting effective use thence. During the 1990s, this idea was improved to comprise financial investments. They were therefore explained as staking free financial wherewithal on the capital and money market with the aim of raising own capital (equity) (Ostrowska, 2002).

To this extent, components of investments can be categorized as follows: tangible (fixed assets, equipment and appliances), financial (buying of securities or shares) as well as intangible assets. (Michalak, 2007). A common explanation provided by publications is one advanced by Hirshleifer (1965) where the scholar suggests that an investment is, inherently, a foregoing the present for future benefits, the current is

comparably not subtle, while the future is undetermined. It's for this reason that an investment is regarded a forfeiture of something that is guaranteed for a speculative benefit. This explanation contains an aspect of purpose and essence of investing. Furthermore, the scholar includes an essential component that comes with investing, that is, risk.

Nonetheless, Rogowski (2011) challenges delineations of investment which stress on the need to transiently relinquish expenditure for the purpose of future benefits, highlighting the alternative of funding investments with external capital. Conversely, Rówinska (2012) opines those investments forms the fundamental ways of raising capital. Economic overheads are designed to expand or substitute assets that will generate positive outcomes in the long haul. The research also reported that expenditures generate new production ability by establishing new facilities, augmenting the prevalent ones and staking free cash in a manner that will result in future income rise.

Rózanski (2006 asserts that "an investment is many a time comprehended as cash outflow, which denotes making revenue from investment or a process in which cash is transformed into alternative commodities" therefore providing an explanation of an investment in both its tangible ad financial elements. According to Kamerschen *et al*. (1991) investments save for the income category, setting apart solely the tangible aspect as "acquisition of capital goods, machinery, production plants, residential buildings including adjustments in inventories that can be employed in the production of other commodities and services." In line with Reilly and Brown (2011), an investment is regarded a dedication of a particular sum of money for a certain duration guaranteeing stakeholders future benefits, bearing in mind the time for which

they put in their money, the inflation rate, and the investment risk. From the perspective of staking in material investments, texts on this matter usually illustrated: exchange, modernization, strategic, development, innovative, social and socially efficient investments (Sierpinska & Jachna, 2009).

Rogowski (2011) further goes on to question investment decisions which stress on the need to transiently relinquish expenditure for the purpose of future benefits, highlighting the alternative of funding investments with external capital. On the contrary, Rówinska (2012) was also of the opinion that investments formed the fundamental avenues enhancing business capital. Yet still, economic overheads are designed to expand or substitute assets that will generate positive outcomes in the long haul. The research also reported that expenditures generate new production ability by establishing new facilities, augmenting the prevalent ones and staking free cash in a manner that will result in future income rise.

It is essentially on grounds of generating conditions to carry out and further advance an economic activity that capital investment is imperative, for mostly plowing into tangible and intangible assets including financial investments. Based on Zurek (2003), plowing into a business need not be a periodic, transient undertaking, instead, it should be perceived as a continual procedure. The outcome of investment undertaking is to attain benefits intended by an establishment and, from the perspective of an investment's goal. They ought to play a role in raising an economic entity's competitive edge or avert loss of the present position in the market. Rogowski (2011) contends that in respect to executed investments, an establishment benefits I economic, organizational as well as social areas. Investment merits pertaining to the economic dimension can be perceived through: high profits in sales, downsized

operating expenses of an establishment, higher quality in commodities and services provided including risk reduction of the implemented economic activity.

In the organizational dimension, an enterprise benefits in terms of better quality of completed process, higher levels of flexibility towards environmental shifts, and prompt reactions to present and future enterprise needs. Last but not least, Rebilas (2014) notes that social dimension gains are perceived in terms of organizational culture formulated within an enterprise via capacity development of workers, setting up and nurturing the motivation system, as well as improved alliance between the staff and their employer. Investment undertakings ought to be built on the planning and execution of projects that can play key roles on the sustained advancement of the enterprise. However, Piatkowski (2010a) claims that firms with the capacity to easily respond to external and internal environmental shifts are better placed to foster their competitive standing.

According to Rosłon and Ciupinski (2014) business owners ought to arrive at investment decisions in regard to the outcome of the economic equilibrium, as well as an assessment of distinct economic environment. Economic success and equilibrium of an investment comprises the enterprise embarking on profitability evaluation as well as assessment of risk that comes with the implementation and steps taken in making an investment decision out of the possible alternatives (Rogowski and Michalczewski, 2005; Lesáková *et al.* 2019). According to Mendes *et al*. (2014), availability of funds to sponsor the investment requirements of the enterprise along with the source of investment funding constitute the elements establishing the direction and magnitude of an investment.

Investment decisions also seek to exploit social dimensions which are recognized as vital cogs in the culture within organizations. According to Rebilas (2014) when exploring organizational culture across divergent sectors, social dimensions deserve informed decisions owing to the required social capital within organizations. Consequently, one cannot wish away attributes such as the development of social capital in terms of capacity development, reward systems for motivation and improving intra-staff alliances as well as alliances with management. Investment undertakings ought to be built on the planning and execution of projects that can play key roles on the sustained advancement of the enterprise. As a matter of fact, claims by Piatkowski (2010) regarding the better placement of businesses to compete owing to their capacity to respond promptly justify the need for prudence in making decisions.

Therefore, the essence of undertaking investment decisions is to ascertain that the intended benefits are realized by the establishment and, duly satisfy the investor's ambitions. They ought to play a role in raising an economic entity's competitive edge or avert loss of the present position in the market. According to Rogowski (2011), by executing the identified investment decisions, an establishment is able to leverage economic benefits for the organization, and also satisfy his/her social interests. The merits of investment pertaining to the economic dimension are in essence measure via accruals of sales profits, minimized organizational operational costs, and the ascertainment of quality commodities and services provided including risk reduction of the implemented economic activity.

According to Firlej (2018), many enterprises struggle with generating adequate capital resources for executing investment decision. The enterprise in which the investment is

intended may fund them independently, depending on funds entailed in equity, acquired by the firm itself or offered by outside institutions or funded on grounds of debt instruments by taking on loans from exclusive organizations. Based on Spoz (2014), this is an indication that besides being is an imperative condition for systematic running of the organization in the market, investment process is also a significant financial and organizational impediment for its proprietors. In light of the category of sources of funding investment activity of business provided in texts, the most essential pertains to the source of funds: grouped into internal and external.

Myers and Majluf (1984), embody the notion that there is a link between the process of investing in an enterprise and the employment of particular funding sources through the establishment. All in all, enterprises that fail to invest in risks, bankruptcy or insolvency, liquidation or inefficacious development. This results in recession in lie with enterprise advancement and deterioration with respect to the growing environment. As such, for the ultimate operation of an enterprise, capital outlays and reflecting on development is fundamental.

Investment decision is clouded with a lot of uncertainty especially while starting a business. Organization investment decision is based on ideologies of investors and most of the time they are long term. Investment Due to high risk and uncertainty is most small and medium enterprises startup fail at its inception (Wamae, 2013). Investment decision has numerous in all level of production from choosing investment, financial market, purchasing decision, access acquisition, plants, market segment or cash investment. According to Viviers, Venter and Solomon, (2012) most proprietorship process has been attributed by unemployement and limited

earning. There need for entreprenuers to gain investment decision for high performance and sustainabilities.

Investment objective includes reduction of risk as well as looking for investment with high return. Investment decisions are affected by financial literacy and behavioral factors (Ishfaq & Anjum, 2015). Approaches to investment entail value investing, buy and hold, technical analysis as well as growth investing. Consequently, decision regarding investment that may be uncertain may deter potential investors to open up enterprises. Indeed, the notion of investment decision is premised to be a product of investor ideologies which seek for long lasting enterprises. However most start up enterprises have failed in early years due to relying on high risk ventures shrouded in uncertainty (Wamae, 2013). The argument postulated here is that investment decisions in any kind of business are bound to lead to success or failure at any stage of the business. Proprietors enter into investment decisions in various transactions including but not limited to identifying ideal financial markets, making purchasing decision, access acquisition, plants, market segment or cash investment. According to Viviers, Venter and Solomon, (2012) most proprietorship process has been attributed by unemployement and limited earning. There need for entreprenuers to gain investment decision for high performance and sustainabilities.

Investment decisions pertaining to the diverse types of capital input have also been positively associated with financial performance; the uncertain result of an organization's own investments in elements like human capital, physical capital, along with research and development expenditure raises the organization's production ability therefore strengthening its financial performance (Levasseur, 2002). Tangible or otherwise real investments comprise dedication of funds for the purpose of

developing or substituting tangible assets of an entity, quoted in balance sheets as fixed assets, for instance, procurement of appliances and equipment, transportation means, land, buildings, including spending on design and cost estimation certificate. This investment form according to Czerwonka (2015) is the foundation for internal development of the entity that entails enhancing its production capacity via tangible investments. This surge is can be achieved by expansion of the magnitude or level of this enterprise's undertaking or enhancement of its competitive standing, profitability.

Investment decision was conceptualized using investment decision making behaviour in Gill, Kashif and Ali (2018) study that examined the mediating role of information searches on factors affecting investment decision. However, Luong and Ha (2011) used return rate and satisfaction of investment decision as indicators of investment decision making in relation with performance of an investment.

Across organizations, various dimensions occur that are leveraged to spur entrepreneurial growth which brings benefits in terms of better quality in processes, higher levels of flexibility towards environmental shifts, and prompt reactions to present and future enterprise needs. Other scholars such as Rebilas (2014) observe that social dimension gains are perceived in terms of organizational culture formulated within an enterprise via capacity development of workers, setting up and nurturing the motivation system, as well as improved alliance between the staff and their employer. Investment undertakings ought to be built on the planning and execution of projects that can play key roles on the sustained advancement of the enterprise. However, Piatkowski (2010a) claims that firms with the capacity to easily respond to external and internal environmental shifts are better placed to foster their competitive standing.

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Investment decisions also seek to exploit social dimensions which are recognized as vital cogs in the culture within organizations. According to Rebilas (2014) when exploring organizational culture across divergent sectors, social dimensions deserve informed decisions owing to the required social capital within organizations. Consequently, one cannot wish away attributes such as the development of social capital in terms of capacity development, reward systems for motivation and improving intra-staff alliances as well as alliances with management. Investment undertakings ought to be built on the planning and execution of projects that can play key roles on the sustained advancement of the enterprise. As a matter of fact, claims by Piatkowski (2010) regarding the better placement of businesses to compete owing to their capacity to respond promptly justify the need for prudence in making decisions.

2.2 Concept of Behavioral Factors

Behavioral factors in finance behavioral are an up-and–coming field that embodies a pool of diverse strategies to ameliorate the classical finance meaning of economic rationality. Phung (2010) opines that behavioral element especially stand on the texts related to psychology and cognitive science to evaluate the reasons as to why personal decision-making many a time drifts from logical decisions in methodical ways. Behavioral Finances makes an attempt at expounding and broadening comprehension with regards to investors thought process, not to mention the emotional process included as well as the extent to which they impact the process of arriving at decisions. Ricciardi & Simon, (2000) contend that Behavioral Finance basically tries to expound on the what, why and how related to fiancé and investing from a human outlook.

Therefore, behavioral finance augmented the conventional financial theories by providing behavioral rationales for the illogical tendencies of the stakeholders and accordingly raising the scale of financial knowledge. In line with Olsen (1998), Behavioral Finance is a new framework which bridged the disparity of lack of behavioral elements in standard finance. Behavioral Finance tried to expound on the market relevance of the psychological market decisions along with enhanced financial decision making by the execution of economic as well as psychological fundamentals. Barberis & Thaler, (2003), cited that Behavioral Finance was founded on two key blocks: psychology and limits to arbitrage. Arbitrage prospects generated by illogical noise traders may prove challenging to modify by logical equivalents owing to varying impediments such as risk, cost, etc.

As such, limitations to arbitrage were present. Behavioral economists employed psychology to understand how stakeholders were susceptible to prejudice which was due to their beliefs and dispositions (Barberis & Thaler, 2003). Nonetheless, Statman (1999) advanced a varying dimension, “Certain people are convinced that Behavioral Finance initiated psychology into finance, however psychology was never without finance. As much as models of behavior differ, all behaviorism based on psychology” (Statman, 1999).

Rational and irrational decisions made by individuals depend on personality traits, cognitive bias and heuristics. Personality construct that risk taking, self-awareness, locus of control and self-awareness will significantly influence investment decisions. According to Athur (2014) individual investment decisions are correlated with the behavioral biases such as overconfidence, representativeness, herding, anchoring, regret aversion and mental accounting. Raveendra, Jyothi, Padmalini, and Santhosh (2018) conducted a study on behavioral finance and its impact on poor financial performance of SMEs in India. The objectives of the study were to identify the behavioral biases that influence the financial decision making of SMEs and identify the reasons for poor financial performance of SMEs. The study shows that behavioral biases problem involved in decision making is one of the major constraints in SMEs investment decision making. SMEs should then make decision based on tangible concepts rather than personal behaviours.

A gap between newly gathered information and the preceding knowledge is also referred to as an imbalance when cognitive contradiction takes place. Cognitive dissonance could result in investors holding onto shares with losses that ought to be disposed of as a way of evading the anguish related to the realization that they have

already settled on a poor choice. Cognitive dissonance can result in continued investment in securities owned by stakeholders regardless of the plummeting prices (average down) and could result in herding behaviors (behaving ducks) by investors.

Several psychological stereotyping and prejudice influence personal investor tendencies. Behavioral factors arise as a result of psychological pressure that affect investors' capability of decision making. This pressure is termed by behavioral finance as behavioral factor which cause biasness in decision making (Ojwang, 2015). To start with, investors arrive at investment decisions centered on intuition; they make decisions based on price and are presumptuous in their conclusions. What's more their investment behavior is greatly based on representativeness and they perform a lot of psychological accounting related with classifying their profits and losses during the decision-making process. Thirdly, despite investors going by principles, they are more inclined to compute information at first sight; they have a disposition for information that is easily adaptable into their investment decision-making. Lastly, Statman, Steve & Keith (2006) contend that there is an imbalance in dissemination and usage of information among independent investors which significantly impact their investment tendencies. There are many common behavioral biases humans exhibit.

Therefore, behavioral finance augmented the conventional financial theories by providing behavioral rationales for the illogical tendencies of the stakeholders and accordingly raising the scale of financial knowledge. In line with Olsen (1998), Behavioral Finance is a new framework which bridged the disparity of lack of behavioral elements in standard finance. Behavioral Finance tried to expound on the market relevance of the psychological market decisions along with enhanced financial

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This study addresses the following four: anchoring, overconfidence, herding and prospect that contribute to decision making in investment. Ritter (2003) provides that behavior finance draws on psychology, which implies that steps taken by humans in making decisions are contingent on various mental misconceptions. These misconceptions according to Waweru *et al*., (2008), fall into two categories: illusions attributable to anchoring decision process and illusions that arise from the application of cognitive frames classified in the prospect theory. The two aforementioned classifications along with the herding and overconfidence as well as market elements are also summarized as the following.

Behavioural factors according to Kengatharan & Kengatharan (2014) was measured using heuristic variable which used overconfidence, anchoring, availability and

representation as indicators, prospect theory where loss aversion, mental accounting and regret aversion were indicators, market with price changes, market information, past trend of stocks, customer preference and over-reaction to price change. Finally, heading effect considered the impact of investors' decision as indicator. Therefore, from the study overconfidence, anchoring, prospect and herding effect were utilized to measure behavioural factors. However, overconfidence, herding, representations and frame dependence are some other behavioural factors that are also considered (Obong'o, Atambo, & Mogwambo, 2016). The current research used overconfidence, anchoring, herding and prospect factors as behavioural factor on the investment decision. The factors are commonly associated with proprietors and business decision making process.

2.2.1 The Concept of Overconfidence

Overconfidence is defined as an illogical conviction held by a person in their mind, intuitions as well as decisions. This, based on Siddiqui & Singh (2009), emanates from the fact that individuals believe that they are more astute than they actually are or are of the opinion that they carry advanced knowledge. According to Dobelli (2014), overconfidence is the degree of disparity between actual knowledge carried by a person and the knowledge they believe to have. Overconfidence could significantly impact investment decisions; besides making wrong decisions such investors also significantly affect the overall market.

Overconfident investors are more inclined to trade beyond the available capital owing to the notion that they carry advanced knowledge as opposed to the rest. Investors' overconfidence owing to passiveness, ignorance and poor comprehension of the performance of the investment firm might influence them to undermine the history

against the risks producing a portfolio that fails to speculate a bad performance. Based on Jannah and Ady (2017), studies carried out on young investors in Indonesia demonstrates an overconfidence that has an impact on investment decision making. The overconfidence factors that are associated with self-attribution prejudice is the inclination to guide their success to their individual talent and capacities while shifting blame to 'bad luck' for their failure, consequently exaggerating their abilities.

According to Hvide (2002) when people misconstrue the reliability of their knowledge and expertise, it is an illustration of overconfidence. Yang & Zhang (2013) contend that various reviews cite excessive trading as one of the outcomes by investors. Findings reveal that financial experts modify their evaluation of an organization progressively, even when there is a clear suggestion that their evaluation is not accurate. Evans (2006) claims that investors and analysts are many a time overconfident in subjects which they believe they are qualified in.

Overconfidence is thought to enhance persistence and determination, risk tolerance as well as mental facility. That is to say, overconfidence can be instrumental in boosting professional performance. Furthermore, Oberlechner & Osier (2004) assert that overconfidence can improve other people's notions regarding one's capacity, which is essential in the attainment of prompt promotion as well as a more considerable investment timespan. Meanwhile, Gervais and Odean (2001) examined the aspect of overconfidence among traders by modeling the process of ability awareness among traders; and the impact of such awareness on overconfidence among them. It has been argued that overconfidence in a trader is a function of the career stage such that, those in the early stage have increased levels of overconfidence than those in later stages.

Those in later stages gain more experience and become more aware of their ability, thereby toning down overconfidence (Gervais & Odean, 2001).

Fairchild (2007) established that overconfidence brings about higher debt in United Kingom. The study demonstrated that the overconfident manager picks higher amount of debt to focus on high effort. The study additionally discovered that overconfidence may increase after some time and experience. This way, the debt sensitivity effects on the lifecycle may increase after some time. In other words, debt should start at a low level, and increased over the firms' life cycle. In Germany, Glaser and Weber (2013) in their study on overconfidence and magnitude of trading volumes found that investors who possessed reasonable level of investment skills and those who had experienced fortunes traded more.

Huisman *et al*., (2012) present an alternative measurement method of investor overconfidence. According to the model, Overconfidence refers to exaggeration of capacities, expertise, accuracy of knowledge and information along with the capacity to influence future occurrences. According to Malmendier, Tate & Yan (2011), a superintendent operating with such prejudice misconstrues their organizational performance and is greatly positive regarding the results of financial decisions under their influence. Since they are of the opinion that it can generate more value for their organization, they are inclined to invest beyond their means by exaggerating the cash flow to the projects they individually settled on. The current study considered optimism in terms of over estimation, overlooking and over reliance on credit over loan in decision process.

Karolis and Vytautas (2011) carried out research on behavioral prejudices of the disposition effect and overconfidence and their influence of the Estonian Stock Market. The study used secondary data obtained from Estonian Stock Market. The researcher employed the methodology proposed by (Odean 1998a) to measure disposition effect of an investor while Odean (1999) method was used to measure overconfidence of the investor and correlation of investors trading, Barber, Odean, and Zhu (2009) method was employed. The results indicated that investors exhibited behavioral bias. They are more inclined to accrue benefits as opposed to losses. Additionally, investors are overconfident and therefore overtrade.

Consequently, debt should start at a low level, and increased over the firms' life cycle. In Germany, Glaser and Weber (2013) in their study on overconfidence and magnitude of trading volumes found that investors who possessed reasonable level of investment skills and those who had experienced fortunes traded more. According to Huisman and colleagues, alternative measurement methods exist which can be harnessed by investor in the realm of overconfidence. Existing models also signify overconfidence as exaggerations of capacities, expertise, accuracy of knowledge and information along with the capacity to influence future occurrences. Malmendier, Tate & Yan (2011 aver that superintendents who tend to operate while being prejudiced are bound to misconstrue the operational potentials within their businesses.

2.2.2 The Concept of Anchoring

Anchoring aspects are apparent in a context where there is an improvement in the opportunity to access information by individuals. Lehrer (2009) provides that it is very challenging to make decisions in a context where there is an overflow of information from the investor. Lack of the capacity to make diligent investment

decisions results in choosing poor anchors shrouded in ignorance and ambiguity (Tacer, 2007).

It explains the usual human behavior to greatly rely on a single characteristic or piece of information when making decision. Moreover, evidence shows that investors ought to shy away from novel investment decisions (Del Missier, 2007). The argument postulated is that such novel decisions are bound to take long to sink and end up delaying the entire decision-making process. Moreover, a delay in decision-making has the dangers of wasting more appropriate anchors that could have been exploited. Anchoring on ideas impact when new ideas are implemented. Cognitive anchoring for instance would require immediate utilization given the mental schemas involved in cognition.

According to Waweru *et al*., (2008), anchoring is linked with representativeness since it also implies that people are usually fixated on the latest encounters and fluctuations. Consequently, when markets rise such anchors elicit optimism among investors, but the reverse is true in times of plummeting markets.

Lamptey& Marsidi (2020) measured anchoring using price list, customer trust, sales trends and market. Sale trend, market share trend and price trend have been used mostly by majority of personality with anchoring. It is therefore important to consider the anchoring based on prices, market and sales trend. Therefore, proprietors tend to use collected information, prejudge base on prices and utilize past trend in sales and market trend.

2.2.3 The Concept of Prospect

Prospecting as a behavioural factor is often build on the premise of bias. According to Filbeck, Hatfield and Horvath (2005) a certain investor value system encourages biased decisions usually taken at the expense of rational thought. Some investors have an enormous appetite for risk taking and often employ the Bayesian thinking that encourages prospecting. On the contrary, one would have imagined that investors would be rational in which case investment decisions would lean towards expected utility theory. Under utility theory threats such as underestimating or over estimating one's capacity to make informed decisions are eradicated. The bottom-line then is that although prospecting offers an avenue for making investment decisions, such decisions should be taken in the full knowledge of potential risks, and should seek to avoid regret, loss aversion and cognitive accounting (Waweru *et al*., 2003).

Ritter (2003) perceives prospect theory as a theory that seeks to offer some description on uncertainty. Johnson *et al*. (2002) notes that prospect theory is mathematically generated with the principle aim of substituting the expected utility maximization theory. The prospect theory is a brain child of Amos Tversky and Professor Daniel Kahneman (1979). According to Ritter, (2003), these scholars advanced this theory to try and provide a platform through which transformations regarding wealth could be explained. This was in contrast to the expected utility theory which focused on level of wealth held among investors. The theory explains the manner in which investors frame and circumvent through available options and choices donned in uncertainty to opt for rational choices that optimize gains or losses basing on the most suitable point of reference. For most investors, buying price has featured as the ideal reference point. According to Kahneman and Tversky (1979),

losses or gains receive valued interest among investors based on an S-shaped utility function. Each individual establishes the reference point as a contrast point. Regarding health levels under the reference point are risk takers, this means that they readily make risky gambles so as to maintain a higher position above their desired target wealth

Whereas for Wealth levels higher than this reference point, the value function assumes a downward slope with respect to traditional theories, in addition to this, investors here are afraid to take risks. It is argued that people are by nature either risk seeking or risk averse. With those who seek risk hoping to reap heavily when their prospecting come to fruition (Johnson *et al*. 2002). Therefore, the curvature in the utility function is used to predict gains or losses. When curved inwards, the suggestion is that there is elation for potential of making gains. Curving outwards is however, an indication expected losses. Therefore, when the utility function is curved outward for loss, this implies that people experience anguish when they encounter losses, however double the loss does not translate to double the pain.

Kengatharan & Kengatharan (2014) conceptulized prospect factors as part of behavioural factors. Loss aversion, mental accounting and regret aversion were used as indicators. Regret is a feeling which is experienced in the event due to oversight by people. Investors steer clear of regret by holding on to plummeting shares and readily disposing of those that are increasing in value. Furthermore, investors are more inclined to bear huge regret regarding losses than disposing of winning ones prematurely (Forgel & Berry, 2006 and Lehenkari & Perttunen, 2004). According to Barberis &d Jduang (2001), loss aversion defines the various levels of psychological retribution that people experience arising from a similar magnitude loss or gain. There

is proof demonstrating that people experience higher stress levels at the idea of losses as opposed to when they are thrilled by similar gains. Barberis & Thaler, 2003). What's more, a loss encountered following a similar gain is found to be less anguishing as compared to a loss experienced after another (Barberis and Huang, 2001). Hence, decision based on high returns, ideas from success stories and proven concepts are high associated with prospect theory. Proprietors do not like failure and therefore try as much as possible to evade losses.

According to Velumoni (2017), prospect theory desires to bring to light endeavors which people and more particularly investors use to evaluate gains &losses. Investor value systems in prospect theory are regret aversion, mental accounting and loss aversion. Regret aversion is a cognitive event in investment decision where investors hold onto losing positions too long in order to avoid admitting error and realizing losses. On the other hand, loss aversion is the tendency where investors dislike loss more than gain. Mental accounting as aspect of prospect describes behavior to translate, classify and analyze results by dividing their assets into any number of non-interchangeable cognitive accounts. The three component explains who prospect factors affect the investment decision making.

2.2.4 The Concept of Herding

Herd behavior is a kind of stereotyping behavior where individuals are led to adhere to the large number of individuals present in the decision-making setting, by following suit. Nonetheless, herd behavior like other heuristics may mislead the public when they conform to it, for instance a general trend in the market. A significant perception regarding the human community is that people who interact very often tend to share similar school of thought (Johnson *et al*., 2002).

Herd effect is essentially a number of investors making similar trades for a period. According to Nofsinger & Sias (1999) in the herd effect, individuals who are uninformed, uneducated and emotional are listed in similar groups. Emotional aspects may instigate herding within financial markets when moving in a group alleviated a fear reaction but has the inadvertent effect of forming suppositional bubbles. Lin (2012) asserts that it is a known truth that individual personalities influence their inclinations of demonstrating herd behavior. Investors showing a propensity towards herd behavior typically have low sense of self- assuredness. Lin (2012) adds that these people take into account the indications in the market ad merit from the decisions made by competent investors so as to enhance professional expertise in their investment decisions. Luong & Thu Ha (2011) contend that the herding individual will center their investment decision on the group operations of purchasing and disposing of, forming suppositional bubbles phenomenon therefore resulting in an inefficient stock market. Nonetheless, herd is more often than not inaccurate, which promotes exuberant instability in the market

In financial market, herding effect is described as a propensity of investor's behavior to move in the direction made by the rest. Experts keenly take into account the presence of herding, owing to the reality that investors highly depend on general information available to the public in contrast to private knowledge; consequently, causing a price shift of the securities from fundamental value. As such, several ideal opportunities for current investment can be affected. Academic scholars also observe herding behavior due to its influence on stock price shifts that can affect the characteristics of risk and returns models. Therefore, based on Tan, Chiang, Mason & Nelling (2008), it has a significant effect on the outlooks of asset pricing theories.

Cutting through contexts and cultures, psychologists have discovered that humans use such forms of social contrasts to guide their values and decisions even when it goes against known truths and their better discernment. (Gounaris & Prout, 2009). People are generally coerced by their social contexts and they often feel pressed to adhere. Based on Gounaris & Prout (2009) humans are social beings to the core and rely on each other for the sake of survival. When arriving at decisions more so in cases where they are uncertain or afraid, they observe what others do and thereafter ebb their behavior.

In the perspective of behavior, herding can result in emotional prejudices, not to mention adherence, cognitive dissonance, congruity, home bias as well as gossip. This emotion will contribute to the development of mental prejudice: in explaining the effect fear and greed bear on financial decision-making. Based on Shefrin (2002) that frame dependence, which is when choices are influenced by the setting in which they are made, represents an association between psychological and emotional elements. Emotion and cognition also interact relative to ambiguity aversion, which Shefrin explains as the fear of the unknown. Investors may lean towards herding if they consider herding to be instrumental in obtaining essential and accurate information. While the performance of financial experts, for instance, financial analysts or managers, are typically assessed by subjectively periodic assessment on a relative base and in contrast to their peers. In this situation, Kallinterakis, Munir & Markovic (2010) provide that herding can play a key role in the assessment of professional performance since low-capacity ones may ebb the tendency of the high-performing peers do as to advance their professional high standing.

According to Hirt and Block (2012), herding is more common among institutional investors as compared to personal investors. Wamae (2013) established that herding has a positive and significant correlation with investment decision making. Further, Kengatharan (2014) have discovered that herding behavior is positively correlated with investor's decision making; on the other hand Lim (2012) realized that herding bears no strong consequence on investor's decision making.

Kengatharan & Kengatharan (2014) conceptulized herding effect using impacts of other investors' decision where choice, selling and buying of trading stocks, volume of trading stocks and speed of herding. Reliance on other investors were used by Obong'o, Atambo and Mogwambo (2016) to measure herding factors where investment was examined if it was due to friends, good returns, certainity or market trends. Herding considers price changes, past investment decision and investment in similar line with enterprise.

2.3 Concept of Financial Literacy

Financial literacy is based on individual ability of possessing skills, knowledge and training in accounting and other related fields. It is the capacity to study, manage and discuss the financial components that influence material well-being (Huston, 2010).Emmons(2005) defined it as the capacity to oversee cash contexts as well as payments, information regarding starting up a savings account along with getting credit, general insight on health and life insurance, along with the capacity to contrast offers and make effective plans for needs to come; in addition to this it denotes the skill involved in using information and stay on top of financial resources for a healthy financial status throughout one's entire lifetime. Financial literacy, based on Remund (2010), is the estimate of the extent to which an individual comprehends critical

financial ideologies and has the essential capacity and self-assuredness to oversee individual finances through transient decisions as well as sustainable planning, taking into account the economic occurrences and fluctuating situations

The concept of financial literacy is made up of a number of elements: personal finance knowledge and use personal finance application (Huston, 2010). Further, OECD (2014) grouped financial literacy into five dimensions: an understanding of financial concepts and goods, communication skills regarding financial concepts, capacity to employ knowledge to inform essential financial decisions, actual use of various financial tools, people's conviction in their past financial choices and undertakings. The first two dimensions fall in the category pertaining to comprehension or understanding of financial concepts, the three that follow belong to the classification of real usage in exercising past knowledge. These five financial literacy dimensions ought to be put to work, so as to be evaluated; according to Zait & Bertea (2015) the operationalization process changes conceptual meanings into functional or measurable ones.

According to Huston (2010) five groups of dimensions of financial literacy includes: knowledge on financial ideologies and commodities, communication skills regarding financial ideologies, capacity to employ knowledge to guide the essential financial choices, actual use of various financial tools, people's conviction in their past financial choices and undertakings (Huston, 2010). The first two dimensions fall in the category pertaining to comprehension or understanding of financial concepts, the three that follow belong to the classification of real usage in exercising past knowledge. These five financial literacy dimensions ought to be put to work, so as to

be evaluated; the operationalization process changes conceptual meanings into functional or measurable ones.

Remund (2010) categorized financial literacy into 5 dimensions: credits and money borrowing, various insurance types personal savings, personal finance budgeting, financial risk management strategies, personal investing; money basics, money value, spending power, resources protection, personal financial accounting, stocks and bonds investing resources transfers by borrowing, mutual funds, savings account, (Huston, 2010); according to Kershaw & Webber(2008), day to day financial discernments and choices, resources support, debt management, property and estate management; savings, debt management, banking services, budgeting along with banking services(Microfinance Opportunities, 2005).

Lusardi and Mitchell (2014) advance that asking study respondents for a self-assessment of their financial abilities is another way of prompting financial literacy levels, they add that it is common in publications. The respective item is ordinarily put forth in the following way. Thus, this study sued self-assessment scale for measuring financial literacy. Van Rooij *et al*. (2011b) discovers that both the self-assessed and impartially evaluated financial literacy speculate the tendency by individuals to hold stocks. Bannier and Neubert (2016) contributed to the study by demonstrating that self-assessed financial knowledge relates to more risky investments, for instance hedge funds or in discount certificates, while impartially measured financial literacy corresponds financial literacy is crucial for an proprietor which has associated highly with financial performance. This assists the proprietors to gain financial knowledge, conversant with finance, confident in decision, set financial planning and goals which improve decision making process.

Some of indicator includes financial awareness, attitude and knowledge. Financial awareness concept entails the informational ideas that help to open up one's mind to think about possibility of a way out of any given situation (Amos, 2014). Financial attitude involves the preference of one investment opportunity or project over the other. Pankow, (2012) defines financial attitude as the state of mind or perception and discernment regarding one's finances indicating one's standing'. Based on Gina, Akoto and Despard (2012), financial knowledge refers to the comprehension of vital financial concepts for instance inflations, calculation of interest rates along with risk diversification in portfolio. An individual's behavior is likely to be evaluated based on how well the investor's attributes methodically impact personal investment decisions and market outcomes (Mandell & Klein, 2009).

The archetypical instrument ought to have main dimensions for key financial concerns or topics for the outcomes to be contrasted and the appropriate informed decisions made. The previous toolkit proposed at OECD level, in 2013, struggles with such kind of heterogeneity, conceding that it is very challenging to conduct surveys that are equivalent. For the successful analysis of the five financial literacy dimensions, the review picked out relevant financial sectors or topics for each dimension (OECD, 2017). If the concept of four fundamental financial fields, savings, credits, personal budgeting and investments is approved then for each dimension (confidence, knowledge, capacities and communication) there is need for items for every one of the four financial fields.

Mugo (2016) identified four fundamental elements that play a part in financial literacy. This idea comprises financial attitude, financial knowledge, financial awareness as well as financial behavior. Despite the fact that Mugo's (2016) study

focused on investment decision. The four-concept indicated that it had significant positive influence to investment decision except financial behavior and financial which were not significant on investment decision.

2.4 Theoretical Framework

The theoretical framework is the presentation of a theory(s) that illustrates a specific subject matter. It epitomizes theories related to a certain issue that is formulated through an analysis of past tested knowledge regarding the variables in question. It highlights a plan for the evaluation and discussion of the study results. Ontology based on concepts, model and theories from different theorist have circumnavigated on behavioural factors which influence investment decision. There is no specific theory highlighting on behavioural factors. To support these factors four theories were investigated which include; Behavioural Portfolio Theory, Regret theory, Prospect theory and Competency theory.

2.4.1 Behavioural Portfolio Theory

The study was guided by behavioural portfolio theory by Shefrin and Statman (2000; Statman 1999b, 2004). The theory implies that investors develop their portfolios drawing on their individual notions, behaviour ad inclinations of the market performance. It argues that the ultimate motivation for any investor is to maximize the value of investment. In any investment the investor aims to create investment portfolios to meet diverse range of organizational goals. It is based on pyramid distinct layers. They argue that behavioural portfolios are formed as layered pyramids in which each layer is aligned with an objective. The foundational layer of low-risk assets may be epitomized as “protection from poverty” while a higher layer of risky assets portrays “hopes for riches.” Behavioural investors fail to take into account the

joint variability between the layers in the manner that the aforementioned theory would imply they should. The layered strategy can expound on perceived characteristics, for instance, unvarying stock portfolios (hopes for riches), and the hesitance to invest in external stocks regardless of the apparent diversification of gains.

Shefrin and Statman (2000) advanced BPT and this is a goal-oriented theory. The theory illustrated how investors group their funds into various MAL. They separate finds in account layers of a portfolio pyramid based on their objectives such as building wealth, retirement plans, and children.

The results epitomized in their behavioral Portfolio Theory (BPT) by Hersh Shefrin and Meir Statman (2000) is congruent with the more typical psychological theory regarding the hierarchy of needs advanced by Abraham H. Maslow (1943), this has already been advanced by Philippe De Brouwer, 2006). Maslow's review demonstrates that the hierarchy of needs theory is sufficient enough to provide a model of behavioral portfolio theory and a number of experts can implement it, in his review, the scholar employed the utilized behavioral portfolio theory to expound on people needs as well as their emotional and mental shortcuts. The behavioral finance theory suggests that people are normal, as indicated in the Behavioral Portfolio Theory, they formulate a portfolio of personal wants to surpass high expected returns and reduced risk, for instance social responsibility as well as status. Meir Statman (2017) opines that people save and expend as expounded in the behavior life cycle theory, where setbacks like flimsy self-control prove difficult to realize and undertake proper savings and spending habits

Relying on behavioral portfolio theory, behavior finance as a notion attempts to fuse some cognitive psychological aspects drawing on investor ad manager behavioral perception and analysis, with the help of arithmetical and measurable models of contemporary corporate finance. According to Todorovic (2011) this review has been employed in the comprehension of psychological and mental thoughts of individuals when undertaking an investment and settling on a portfolio drawing on consistent assessment and investigation of the latter party.

Behavioural portfolio theory explains the concepts on how behaviours affect the investment portfolio which uses different principles form capital asset pricing model, arbitrage pricing theory including modern portfolio theory It tries to concentrate on the behavioural based on risk where base layer are portfolios that assist to avert financial crisis which is less risky and most people of who are risk averse would focus on. The top portfolios are fewer than their counterpart has high risk and fewer portfolios that try to increase wealth or maximize returns (Bank, 2011).

2.4.2 Prospect Theory

Kahneman and Tversky in 1979 in Fulfer & Maille, (2018) advanced the prospect theory. The essential element in prospect theory is an S-shaped value function which is curved inwards (risk averse) in the benefits domain and convex (risk loving) losses domain. These points are both comparably ranked to a standard. Thaler (2008) highlights that cognitive accounting provides a foundation for the manner in which decision makers set standards for the statements that establish benefits and losses. Based on Marchand (2012), the key basis is that decision makers categorize various kinds of gambles into several accounts and then employ the prospect theory to each one by discounting potential interactions. Prospect theory, based on Ritter (2003) is a

descriptive theory under ambiguity. It is an arithmetically generated option to the theory of expected utility maximization (Johnson *et al*. 2002). Ritter (2003) adds that this theory is centered on wealth, whilst expected utility theory concentrates on wealth level. The theory explains how people conceive and appreciate decisions regarding ambiguity by viewing choices as potential benefits or losses in line with a particular reference point which is many a time the buying price

The argument is that individuals are bound to choose between losses or gains depending on some reference point, such as purchase price. Based on Jagullice (2013) prospect theory takes up a consequential list outlook to make decisions, implying that during this process people are speculated to pay heed to the possible consequences of their deeds. Based on the prospect theory, a critical operation in the process of choosing is the translation of results into benefits or losses, this embodies one of the most fundamental features of the decision maker that results are recognized in relation to gains and losses based on a specific reference point, which might be the normalcy, or the conception of the issue as well as the expectations or history of the decision maker.

The prospect theory postulates that individuals conceive ambiguity differently and are bound to use a specific point to reference rational decision-making regarding potential losses or gains (Wang et al., 2016). In most cases, the reference point is the buying price. According to Wang et al. (2016), the prospect theory lays bare prospects that economic agents ought to have in mind in decision making. They posit that the anticipated gains to be received give direction to the agents on undertaken transactions. The notion of framing and utility of economic theory has been found

helpful in contexts that are not consistent with standard economic objectivity (Wang et al., 2016).

According to Kahneman and Tversky (1979) investors appreciate gains/losses with regards to an S-shaped utility function. Each person establishes the reference point as a point of contrast. For health levels under the reference point, investors appear to be risk takers, this means that they are open to make riskier gambles for the purpose of maintaining a standard position above the desired target wealth level. While for wealth levels higher than the reference points, the value function is slanting downwards with respect to traditional theories and investors are afraid of taking risks/ Kahneman and Tversiky contended that people are risk takers for losses (Johnson *et al*. 2002). The utility function is curved inwards for gains suggesting that people enjoy acquiring gains, nonetheless the feeling is not doubled by twice the gain. The utility function related to loss is curved outwards, this implies that people hate loss, however their anguish is not increased with double the loss.

The success with which the prospect theory has underpinned financing decisions made it suitable for this study, whose focus was investment decisions. This study used the theory to anchor the covariates: anchoring, prospect, herding, and overconfidence bias. Specifically, the theory was significant in the attempt to model investment decisions based on prospects of losses and gains on SME's financial management behaviours. The expectation was that some managers would choose to be regret averse, in which case, expected gains would dictate investment decisions. On the contrary, other managers were expected to take the conservative position and base their investment decisions on gains or losses experienced in previous investments.

2.4.3 Theory of Regret

The theory was proposed by Bell (1982) in his paper entitled “Regret in decision making under uncertainty”, the theory expounds on choice of uncertainty taking into account the influence of expected regret. Studies have realized that individuals have an inclination towards alternatives that shield them from realizing the outcomes of forgone decisions. The expected pain of regret is removed if individuals have no knowledge of the outcomes of forgone choices, as such; the choice of not making a bet is more appealing where the condition provided does not know if one would have made a gain or a loss (Humphrey, 2004). This theory suggests that people are able to foresee regret in making a wrong decision, and use this knowledge to inform their decisions; this theory has been applied in expounding on anchoring and regret aversion prejudices.

In investing, investors can be made risk takers or risk averse by the fear of regret, this theory therefore delves into the emotional reaction that investors undergo upon coming to the knowledge that they have made a miscalculation in their assessment and therefore their decision, when faced with the opportunity of disposing of a stock, they are influenced emotionally by the buying price of the stock (Forgel& Berry, 2006). Hence, according to Pompian, (2006) they do not dispose it off as a technique of \ averting the regret of making a poor investment choice, not to mention the shame related with reporting loss. Additionally, regret theory is relatable to investors who seeing a stock that they previously thought of purchasing but fail to, rise in value. Jagongo and Mutswenje, 2014) claim that certain investors steer clear of such feelings of regret by sticking to the traditional principles and only purchasing stocks that is

commonly bought by the larger public, justifying their choice with the notion "everyone else is doing it"

The theory is associated to the research as it makes an attempt in expounding on how a particular erred decision made by an administrator can impact prospective decision-making processes. The manager in SMEs will hold on to the financial crises they have previously undergone and as such will not readily take risks. Consequently, raising stress levels, making them disregard values and obligation in the process as they tend to be too risk and loss averse. Based on Loomes & Sugden,(1987), the theory sheds light on and speculates non compliance with regards to expected utiltiy theory. The theory is adopted in relation to behavioral elements givent hat regret is one of the impeding factors in the decision making process. A huge numebr of SMEs will take into account the risk elements , however, if the risk cannot be evaluated leading to uncertainity in decisonmaking, majority of maagement sciece experts would opt for regret cnetered techniques in making decisions. Prospect as behavioral factor is affected by theory of regret while making sound investment decision. Regret theory is more of regret aversion-based concept where it moderates overconfidence and anchoring behaviors.

Loomes & Sugden (1982) postulate that te thoery of regret discusses rational behaviour where there is uncertainity, Major characteristics and behavior may infringe this rational reasonig and influrnce the process of maling decision. Expecially the overconfidence or optimist behaviour would try not to be considerate on the regret but concentrate on investment with the highest return. Another behavior that would influence the rational acknowledgement of regret in uncertain decion making times is Anchoring. Ordinarily, firms or individuals who use anticipation would adopt the

regret theory in their rational conclusions. This will be benefictial in making informed decisions with the exception of the prior knowledge basis of decision making .People who do herding would not utilize the concept in this theory.

2.4.4 Competency Theory

The study adopts competency theory by (Prahalad and Mamel, 1990), this theory speculates that financial managers with advanced knowledge and expertise are more inclined to call into question their capacity to make informed financial choices, on the other hand, those lacking expertise are more inclined to misconstrue their judgment with regards to investments. Managers readily arrive at decisions with their independent conviction when they feel qualified or competent; finance managers who feel competent make investment decisions wisely. This theory links the level of one's competence to ranking of investment decisions.

According to Kawshala (2017) capabilities, resources and compentencies can be enhance to create core competencies. The concept generated from competency theory shows that this core competencies enable competitive advantage and growth. Hence competency theory supports training and development, performance management and section of human capital. It explains why financial literacy can affect the relationship between the behavioral factors and decision made. Organization strives to have core, technical, behavioral, function and management competency to reduce the impact of behavioral factors in decision making. Competence theory only explains the need of financial literacy to attain competitive advantage but does not explain about the behavioral factors in investment decision making process.

Kallay (2012) argued that competence is considered as a crucial resource in a business. It enable the firm to explit all portential capabilities, resources and expand production. Finacial literacy is then crucial since it has capability to remove behavoural factors which interfere with decision making but allow knowledge to bring rationality. Not that behavioural factors bring bad decision based on competency theory deployed in financial literacy but better investment can be made by SMEs. Kallay (2012) alluded that SMEs which bare added knowledge at a particular period may seem to be more suprior than there counterpart. Financial literacy can then separate the firm or individual from another based on its ability to make better decision expecially at corporate level.

Behavoural portfolio theory is the main theory that sought to establish the influenc of investment decision on portfolio in SMEs. The theory is supported by prospect theory that is associated overconfidence bias, prospect, anchoring and herding which are crucial in investment decision. It is also supported by regret which supports overconfident, anchoring and prospect as well as contingency theory that explain the need of setting a plan to solve problems that are encountered in Small and Medium Enterprise.

2.5 Empirical Review of Literature

Empirical literature review entails various studies previously done in an area describing particular phenomena based on experience. They highlight statistical associations between variables under review and thus helps in establishing general principles by which variables can be explained and predicted in research (Yin, 2013). Thus, in this proposal; relevant studies by different scholars were reviewed in exploring the behavioral factor, financial literacy and investment decision. Scholarly

review of different empirical literature is discussed on overconfidence, anchoring factor, prospect factor, herding factors and financial literacy.

2.5.1 Overconfidence and Investment Decision Making

Acuto (2013) carried out research whose findings confirmed that overconfidence among business owners was a positive determinant of investments decisions made. Similarly, Hassan,Khalid & Habib (2014)assessed effect of overconfidence and loss aversion on investment decisions. Questionnaires were used as primary tool of data collection which was administered to a sample of 391 respondents. The research adopted correlation analysis; OLS and Chi-square analysis were utilized to come up with findings. Results indicated overconfidence positively affects investment decisions.

Javed, Bagh, and Razzaq (2017) investigated effect of overconfidence on perceived investment performance using empirical data obtained from Pakistan Stock Exchange (PSX). Five Likert scale questionnaires from previous study based on identical setting as PSX were analysed using regression analysis. The study used qualitative cross-sectional research design. Their findings overconfidence had positive significant effect on the perceived investment performance. The current study used explanatory research design where it used financial literacy as moderator.

In their review, Kudryavtsev, Cohen, & Hon-Snir (2013) provided that active investors exhibit more overconfidence prejudice as opposed to passive investors. As such, the idea of investor groups ought to be entailed in evaluating the investment decision-making process. Overconfidence bias transforms the investor behavior during the decision-making process. Investors exaggerate their expertise, knowledge

and underestimate the risk while misconstruing their capacity to influence events (Prosad, Kapoor, & Sengupta, 2012). The current study considered overestimation, overlooking and consideration of credit over loan.

Malik *et al*., (2019) conducted a study on the effect of overconfidence bias on investment decisions and how risk tolerance intervenes their relationship. The review used a survey form ad validated it via pilot data ($\alpha = .911$). To pick out the investors from Islamabad and Lahore stock exchanges, convenience sampling was employed. A total of 400 survey forms were issued, 283 of these were returned with 70% response rate. A simple regression analysis was conducted to test the relationship between the involved variable using SPSS 23.00. The finding of the review demonstrate that overconfidence bias has is positively linked to investment decisions. In addition, the review established that risk tolerance intervenes their relationship. However, the study was less advanced analytical tool and less generalizability. The current study did investigation in SMEs in Kenya rather than stock exchange which represent established firms.

Ngoc (2013) performed an investigation to determine the behavioral elements affecting the personal choices made by investors at the Securities Companies in Ho Chi Minh City, Vietnam. The study used data gathered from 188 participants. The results provided that investors exhibit overconfidence in their individual skills, further, experts and investors are especially overconfident in fields where they have some knowledge. Current study considered Kenya setting which had different external environment with Vietnam.

Tahira, Wajiha and Abirah (2014) carried out a study on effect of overconfidence and on investment decisions in Pakistan. The study used questionnaires on 391 respondents. Chi square and correlation analysis was used to test the effect. The results showed that mean and older investors exhibit a higher degree of overconfidence while women and younger investors are more risk avoidant. In the same breath, the findings show that those with a disposition towards risk are more inclined to demonstrate overconfidence. There exists methodological gap since the current study utilized hierarchical multiple regression in testing hypothesis rather than Chi Square.

Samina, Muhammad, Shahid and Arfan (2018) investigated the factors affecting the investment decision making behaviour through the intervening role of information searches. Two elements namely, overconfidence bias and economic expectations are used as the control variable whereas investment decision making behaviour represents the response variable. Information search serves as intervening variable. For this reason, a survey form was employed to test the hypotheses. The target group in the study was investors of Lahore Stock Exchange of Pakistan and Faisalabad Trading Floor. Overall, 270 survey forms were issued, out of these 245 of them were returned while 11 were removed from the study since they were incomplete. As such 229 survey forms were used in the review. The research employed simple and multiple regression analysis as statistical tools. Based on the findings it was revealed that there is a positive and significant correlation between economic expectations and investment decisions behavior. However, upon introducing information search as a moderator the relationship emerged insignificant and negative. This implies complete intervening with respect to economic expectations. Overconfidence bias was

additionally discovered to positively influence investment decision making behavior which maintained significance when information search was introduced as an intervening variable, therefore implying an incomplete mediation with regards to overconfidence.

Inaishi, Toya, Zhai, and Kita (2010) investigated the overconfident investor behavior in the stock market by replication. They arrived at the decision that there was an increasing trend, the investors emerged overconfident. Alquraan, Alqisie, and Shorafa (2016) evaluated the association between investment decisions and behavioral elements. They realized that overconfidence and investment decision behavior exhibited a significant relationship.

Mahina, Muturi, and Memba (2017) assessed the influence of over-optimism bias on investments at Rwandese Stock Exchange. The study employed a cross-sectional descriptive study design. 13,543 individual investors at the Rwandese Stock made up the target demography. The sampling technique used was random sampling, obtaining a sample size of 374 respondents. Primary data collection was done using survey forms. The findings attested that there was a significant positive linear relation between overconfidence prejudice and investment Rwandese stock market.

Chuang & Lee (2006) realized that overconfidence results in investors superseding their personal information to the detriment of overlooking publicly accessible information, and they rationalized their study by conducting a review of other scholarly publications and studies to ascertain that overoptimistic investor erroneously associate market gains to their independent capacity to choose winning sticks. The perspective presented by Phung (2004) was that overconfident individuals

misconstrue or overplay their capacity to effectively execute a specific activity. Several analysts investigated overconfidence and assessed the adverse consequences if investors' overconfidence; those reviews demonstrated that investors were overconfident in their investing capacities and this will lead to making investment errors. Hence in line with past scholars, the overconfidence element is among the most negative prejudices exhibited by investors, and this is owing to investors' behavior that inherently undermines downside risk, overtrading and owning a portfolio that is not diversified.

2.5.2 Anchoring and Investment Decision Making

Murithi (2014)conducted an evaluation on the effect of anchoring on investment decision making by individual investors in Kenya. Murithi (2014) focalized on how anchoring is used in investment decision. The study used descriptive survey research design where it targeted 22 licenced brokerage firms operating in Kenya. A random sampling technique was used to obtain data from 120 investors from the 22 brokerage firms. Correlation analysis and regression was utilized in this study. The results showed that anchoring behaviour affected the process of decision making by an investor with respect to previous performance trends. Anchoring was strongly and positively correlated with investment decision making. The research proposed employing computation techniques in order to streamline the decision-making process instead of stereotyping behaviour.

Ishfaq and Anjum (2015) performed a review on the effect of anchoring bias on risky investment decision. The study was conducted in Pakistan Equity Market (PEM) to explore the influence psychology had on market inadequacy. Factors that affect investor's decisions included feelings and cognitive error, as well as emotions. The

research established that there is a positive link between risky investment decision and anchoring.

Jetter and Walker (2016) examined the influence anchoring has on financial decision-making sourcing evidence from the field. 12,596 betting choices of 6,064 competitors in US game show Jeopardy were keenly assessed. Based on the findings, over half of wagers were within $500 of initial dollar value despite the highest possible wagering amounting to$5,914. The findings added that anchoring demonstrated statistical significance according to factors such as player-fixed effects, time trends, clue category and controlling scores. It was also observed that preference and individual behavior outlook acted as anchoring aspects. Therefore, anchoring was discovered to significantly affect investment decision making.

Kremer, Lee, Robinson, and Rostapshova (2013) scrutinized behavioral prejudice and firm behavior in Kenyan retail shops. The review provided that loss aversion significantly influenced investment decisions with respect to Kenyan retail shop owners.

Kung'u (2016) carried out a review on the effect of cognitive biases on individual investment decisions at the Nairobi Securities Exchange. The aim of the study was to determine the cognitive biases affecting investment decisions made by investors at the Nairobi securities exchange. Descriptive research design was used. A sample of 69 individual investors was used. Primary data was collected using self-administered questionnaires. It was analyzed to generate frequencies, mean scores, percentages, and multiple regression analysis. Key study outcomes showed that the outcomes of individual investment decisions were strongly linked to a variety of cognitive biases

for instance, excessive optimism, accounting information and random walk anchoring. The research deduced that cognitive biases contribute considerably to individual investment decisions, It shows that cognitive biasness entails stereotyping tendencies, where anchoring is considered one of such.

Ishaya, (2018) analyzed the impact cognitive biases had on investment decision making processes in property market in plateau state in Nigeria. The study adopted a descriptive study design. The review contrasted 1650 registered property investors in property market in plateau state. The study employed multistage sampling methods to pick out 312 participants. Regression analysis was used as an inferential statistical tool. Based on the results, representative bias, anchoring bias, overconfidence as well as narrow framing influenced decision making. Positive coefficient on the variable demonstrated that knowledgeable investors carry out at least annual modification of portfolios, establish fitting asset location strategy, and determines their risk tolerance levels and sustained investment are ideal for investment decision.

Andersson and Johansson, (2013) in a study on anchoring bias in strategic business decisions focused on biasness in line with anchoring for instance framing and priming, group mentality, availability bias and confirmation bias. The survey used a sample of 42 students. Regression model was employed I the data analysis process. The findings reveled no statistical significance on the respondent's choice of supplier recommendation despite the usage of a small sample

Nyakundi, (2017) attempted to determine the effect of behavioral biases on ranking of financial decisions by financial managers of organizations listed in the Nairobi Securities Exchange. The objectives of the study established the effect of managerial

overconfidence; managerial over optimism, regret aversion, anchoring, mental accounting and conservatism on ranking of financing decisions by financial managers of firms listed in NSE. The intervening variable examined was the level of individual skills and competence. A descriptive correlational study design was adopted in this review, with the sample group being top level and middle level financial managers of 64 organizations cited in the NSE. The sampling method used was two-tier sampling; a census at the organizational level and purposive sampling at financial manager level, resulting in a total of 192 participants. Survey forms were distributed as a tool to obtain primary data. Data analysis was performed using descriptive statistics, multinomial logit regression as well as Analysis of Variance (ANOVA). The results demonstrated that managers susceptible to overconfidence, anchoring along with cognitive accounting biases preferred debt and equity rather than internal capital, with equity being most desired after which debt followed the internal capital sources rated debt highest followed by equity and internal capital ranking the least. Conversely, managers susceptible to regret aversion and conservatism behavioral rated internal capital highly, the same went for debt in contrast to equity.

2.5.3 Prospect and Investment Decision Making

Velumoni (2017) used the equity investment context to analyze the impact of prospect theory on decision-making. Leaning towards regret aversion, loss aversion, and mental accounting as components of prospect theory, Velumoni used the primary data approach to collect data from 303 investors trading in equity shares. Data were analyzed using various inferential techniques, including the t-test, ANOVA, and linear regression. Velumoni (2017) determined that behavioural factors were not statistically significantly different from socio-demographic factors. In addition, the

study revealed that behavioural factors measured through the prospect theory significantly influenced investment decision-making among equity investors.

Duclos (2015) conducted a study on investment behaviour from a psychological perspective. The essence of the study was to use graphical displays by taking one at a time to understand biasing financial decisions. Duclos specifically sought to determine managers' behavior in developing graphic displays regarding the requisite financial information to forecast future investment trends. Duclos (2015) selected a sample of five investors and determined that information for end anchoring was readily available on the final day of stock. Consequently, upward stock closure corresponded with upward forecasts in investment trajectories. Similarly, the downward closure of stock was an indicator of down forecasts in investment trajectories (Duclos, 2015). Meanwhile, investment asymmetries were an indicator of random production of stock price distributions and were not suitable as a basis of future forecasts in investment trajectories. The argument postulated is that such randomness in stock price leads to hesitation since no real downward or upward trends could be projected.

Chentakumar and Hiral (2018) used the South Gujarat context in India to explore investment decision-making from the prospect theory perspective. They demonstrated that behavioral factors were significant determinants of investment decision-making by employing the theory's mental accounting, loss aversion, and regret aversion components. Considering that the Indian context is different from the Kenyan one, this study used the herding, prospect, overconfidence, and anchoring factors to try and replicate such findings. In a similar study, Sochi (2018) employed the Dhaka stock exchange context to explore the effect of behavioural factors on investment decision-

making. Sochi 92018) replicated the findings showing that prospect factors had positive and significant effects on investment decisions.

Luu (2014), on the other hand, used the Vietnamese securities markets to investigate behaviorual factors that impacted investors' decision-making. Luu (2014) used five behavioural factors: anchoring, market, herding, overconfidence, and prospect, and a randomly selected sample of 300 individual investors drawn from the listed companies. Self-reported questionnaires were used to collect data from 188 investors who complied. Using descriptive approaches to data analysis, Luu (2014) demonstrated that behavioral factors had positive and significant effects on individual investors' investment decision-making. Taking cognizance that the Vietnamese context differed from the Kenyan one, this study used the Kenyan context and the prospect theory's anchoring, prospect, herding, and overconfidence factors to try and replicate similar findings in investors' decision-making. The study employed a descriptive design that relied on questionnaires to collect data.

Kengatharan (2014) looked into behavioural factors influencing affecting individual investors ‘decision and investment performance at the Colombo Stock Exchange. Based on the findings, it was revealed that four behavioural factors namely, Prospect, Herding, Market and Heuristics influence investment decision, out of these anchoring ranked high in influence while choice of stock reported low influence. Grover and Singh (2015) attempted to examine how emotions and mental mistakes affect the behaviour of investors when making investment decisions and revealed that they intentionally hold on to shares whose value have plummeted and are more willing to dispose of those with a rising value

Dervishaj (2018) researched on psychological biases, main factor of financial behaviour based on literature review. In reference to the complexity of financial relationship, risk, investment choices and financial crises globally, the research focused on behavioural finance. The researched did a desk review of past literature to ascertain the effect of behavioural biases. The research found that investors are not aware of behavioural biases and suggested that cognitive awareness can assist to evade biases in decision making process. This will be able to improve decision making process on investment. Individual errors may affect macro level hence affecting economic viability of an investment. Nonetheless, prospecting is criticized for failing to explain why people are attracted to both insurance and gambling.

Kengatharan and Kengatharan(2014) made an inference that investment decision is affected by behavioural elements drawing on a study performed in Sri Lanka. Factors such as heuristics, prospect, herding and market were proven to significantly impact anchoring resulting in an investment decision, therefore, as with overconfidence, stock decisions was negatively impacted by herding. Investment performance was positively influenced by anchoring. The above findings revealed that certain behavioural factors may bear negative while others positive consequences.

Garang (2016) carried out an evaluation in South Sudan that demonstrates investment decision is made up of financial decisions that can be allocated to particular assets for the purpose of generating wealth. Garang (2016) postulated that investment decision can be impacted by availability of investment analysis, cost of money and the organization’s level of advancement. He arrived at the conclusion that knowledge on retirement and saving influenced investment decision along with debt management; financial literacy therefore positively impacted investment decision.

Research done in Nigeria looking into the effect of investment decision was built on theoretical view point with respect to financial literacy. Upon analysing the decision theory, prospect theory and theory of cognitive accounting, it was established that financial literacy was correlated with investment decision making (Akims & Jagongo, 2017).it was deduced that, theoretical aspect on financial literacy of an investor or manager positively affected their decision.

Mugo (2016) performed a review in investment decision that shed a light on financial literacy being a component impacted by both financial awareness as well as financial behaviour. The study suggested that SACCO ought to develop financial management attitude and expertise in order to improve investment decision. As such, financial awareness and behaviour has no significant impact on the investment decision.

In a review carried out in Kisumu Kenya, behavioural factors like risk aversion, anchoring bias, cognitive accounting, representative bias , overconfidence including herd behaviour can influence investment decision (Ojwang, 2015). Ojwang (2015) contends that behavioural biasness could be enhanced through training and therefore bolster investment decision making process.

2.5.4 Herding and Investment Decision Making

Kumar and Sharma (2018) studied on a test of herding decision. The research was done on Indian Stock Exchange empirical data. Kumar and Sharma (2018) argued that herding is common to risky market condition. Pre- and Post-crisis evidence was used in this research. According to results there was weak evidence of herding reported from the daily and monthly investment pattern during the movement in market. In extreme condition there was no strong evidence of herding which reinforce the issue

of asymmetric nature of herding. Rationality in investment decision weakens herding behaviour in financial decisions.

Shekhar & Prasad (2015)researched the on impact of herd behaviour on investment decision of investors and stock market price volatility based on empirical study. The study was inspecting the herding behaviour among Indian retail as well as profession investors. In India 2008 mild financial crisis investor behaviour affected the market supporting entities, regulation bodies and investing organization; Psychological and imperfection of human mind shows that errors done by professional and individual investors.

Ghalandari & Ghahremanpour (2013) investigated on the effect of market variable and herding effect on investment decision as factor influencing investment performance in Iran. A sample of 300 consisting investors from Tehran Stock Exchange (TSE) was studied where 275 questionnaires were analysed. A structured equation model was utilized where market variable was found to be positively affecting investment decision. Herding influence investment decisions positively. Investment decision made also affected positively on performance of investment in Tehran Stock Exchange. The findings shade light on the effect of behavioural approach on portfolio theory.

Omery (2014) conducted a study on the effect of behavioral factors on individual investor choices at the Nairobi Securities Exchange. The study adopted descriptive survey design. The sample was 63 individual investors in NSE. Data was collected using questionnaires. The study established that herding, loss aversion, regret aversion, price changes, market information, past trends of stocks, overconfidence and

anchoring highly affected investment decisions while Mental Accounting was the least significant factor in investment decision.

Werah (2006) conducted a review on the effect of behavioral biases on investor activities at the NSE. The study target group was made up of both individual and institutional investors at the NSE. Survey forms were used to obtain data. Analysis was also conducted to establish the impact of behavior like overconfidence, loss and regret aversion, over reaction cognitive accounting, confirmation bias, herding, anchoring and under reaction. Had on investor activities at the NSE. The results revealed that over confidence, herd behavior, anchoring along with regret aversion had a significant influence on investment decision.

A study by Lin (2011) investigated how rational decision making and behavioral biases contrasts in varying demographic characteristics. A sample size of 450 personal investors from the Taiwan Stock Market was surveyed. The study employed the use of questionnaires to obtain primary data. Structural equation model was used in the data analysis. The findings revealed that variation in behavioral biases is well elaborated by factors such as gender. Further it was demonstrated that women were most likely to be partial as opposed to men, while men showed higher overconfidence levels as compared to women. In addition, women were mist impacted by herding bias while younger investors proved more susceptible to herding, contrary to older investors, last but not least the review established no significant evidence between the level of income and behavioral biases.

2.6 Financial Literacy, Behavioral Factors and Investment Decisions

Many researchers across the globe have studied the level of financial literacy. Andoh and Nunoo (2011) studied financial literacy in relation to financial services rather than investment decision, where financial literacy affected significantly on financial services. Janor, Yakob, Hashim, Aniza and Wel (2016) revealed that financial literacy, risk tolerance and type of investment affected the investment decision. However, the result does not reflect behavioral factors in relation to investment decision. Awais, Laber, Rasheed and Khursheed (2016) also studied financial literacy on investment decision and found that investment decisions are based on certainty, uncertainty or risk. However, study did not identify any behavioral factor but rather explain decision theory for better decisions making process. Bhushan (2014) connected the link between financial literacy and investment behaviour.

LAl-Tamimi and Kalli (2009) looked into the financial literacy of the UAE individual investors staking in UAE's financial market. They discovered that financial literacy of UAE investors is lower than what is really required. Their findings also demonstrate that investment decisions and financial literacy are strongly correlated. Lusardi and Mitchell (2007) performed an investigation for the National Council on Economic and discovered that students in high schools along with working class adults reported low levels of financial literacy. The study participants found it challenging to tackle questions associated with inflation, personal finance and interest rates

Beal and Delpachitra (2003) evaluated financial literacy in Australia. The findings implied that financial literacy was significantly low among the students and this was attributed to a dearth of financial education at the school level. The ANZ study (2003) conducted in support of ANZBank made discoveries that if there was general

financial literacy among Australians, there would be particular groups experiencing certain setbacks. Those groups will be categorized as those with bottom tier education levels, unemployed or in unskilled jobs, with lower earnings, with lower levels of savings single people and people at both extremes of the age profile.

Nga *et al*., (2010) through their review assessed the level of general financial ad product knowledge among youth groups attending schools in a private institution of higher education in Malaysia. Their review tried to investigate how demographic aspects affect financial awareness among young people and if taking up a business course influences financial and product awareness among youth groups or not. The results indicate that compared to females, males reported higher levels of financial awareness. In addition to this, they discovered that level of education along with taking a business course has an impact on overall and financial product awareness.

Buchanan Medury (2013) delved into levels of financial literacy with regards to wage-earning individuals in India. They discovered that factors such as gender, income levels, nature of employment and workstations as well as education influence financial literacy, whereas age and geographic region have no significant impact. For the longest while, experts have investigated the demographic elements that impact an individual's investment decision. Concentration has majorly been on essential elements like gender, marital status, income, age, education, financial knowledge and professions. Various reviews have been conducted in India and oversee to establish the investment behavior demonstrated by retail investors as well as households.

Geetha and Ramesh (2011) evaluated the Indian's behavior pertaining to investment decisions. Based on the findings it was reviewed that people lacked insight on all the

investment choices at their disposal, not to mention a dearth of knowledge in securities. Samudra and Burghate (2012) looked into the investment behavior of the middle-class households in Nagpur. Bank deposits were discovered to be the most prevalent investment channel closely followed by insurance. Small savings scheme like Post office savings deposits, PPF ranked as the third preferred investment option. Among the elements that affects the choice to invest in a particular organization, return from investments is number one.

Akims and Jagongo (2017) examined financial literacy on investment decision in Nigeria. Financial literacy is an essential concept mainly in success of the SMEs. The study explored theoretical perspective of financial literacy in relation to the investment decisions. The study adopted theory of mental accounting, prospect theory and decision theory. Based on the review of literature the theories had theoretical implication to financial literacy and investment decisions. The results further indicated that financial literacy had positive significant impact on investment decision. Hence, investor should improve their investment through gaining financial literacy.

Chaturvedi and Khare (2012) examined the investment propensity and awareness of the Indian investors regarding various investment tools. The findings advanced the notion that education, individual income levels, age as well as professions impacts investment behavior. Awareness levels by the study participants I line with conventional investment alternatives is much higher as opposed to that relating to mutual funds, equity and preference shares, including corporate securities. They also determined the elements responsible for raising investor awareness levels. They

discovered that education, levels of earnings and professions influence level of awareness among investors with respect to different investment avenues.

Nasrullah and Imtiaz (2019) did a study on financial literacy and investment decision. The study also examined the mediating effect of personality traits based on the big-five model on financial literacy and investment decision. A sample of 235 responses from Karachi were obtained through convenience sampling method. Survey forms were distributed as a data collection tool. The findings imply that financial literacy did not have a consequential impact on investment decisions through extraversion, agreeableness as well as conscientiousness. Nonetheless, financial literacy bears a significant negative effect on investment decisions through openness to experience and a significant and positive effect neuroticism. The review is essential in broadening our comprehension of investor behaviour by taking into account the intervening role played by the big five personality traits on the association between investment decisions and financial literacy. A proposal is advanced that financial institutions ought to offer investment advisory services to potential investors using the consumer profile approach. There is need to evaluate the intervening effect of financial literacy on the link between behavioural factors and investment.

Sood and Medury (2012) examined the investment preferences of working adults within Delhi, Gurgaon and Noida. The findings of their review demonstrated that investment inclinations are not impacted by factors like income, age, marital status, and gender as well as employment status. Bashir *et al* (2013) evaluated the investment inclinations and risk level of indemnified individuals in Pakistani provinces of Gujrat and Sialkot. The findings of the review imply that when it comes to taking risks males top females while young and knowledgeable people are more drawn towards risky

investment prospects and seek to stake funds into such instruments but they rethink their choices owing to limited resources in addition to a dearth of opportunities of investing including a dearth of investment trends.

Volpe and Chen (2006) scrutinized 212 benefit administrators overseeing individual finance programs in the US-based organizations for the purpose of establishing critical individual finance concerns held by working adults, the study also aimed at evaluating their level of knowledge. The findings showed that the least significant areas will be investment and estate planning. The least significant subjects in particular will carry insights regarding mutual fund prospects, expense ratios as well as mutual fund expenses. The respondents also revealed that working adults will be in reality least aware on the same subjects that they considered insignificant. Basically, the benefit administrators demonstrated that working adults had quite low levels of knowledge.

Tamimi (2006) explored the most ad well as least impacting elements on the UAE investor's behavior by scrutinizing 343 individual investors. The factors with the most impact, in order of significance: The most influencing factors will be, in order of importance: corporate earnings get rich quickly, stock marketability, past performance of the firm's stock, government holdings, and the formulation of the organized financial markets. Furthermore, two elements had uniquely the least impact, they are family member opinions and religious reasons. Nonetheless, the scholar failed to take into account the link between investment decision and financial literacy, which will be tackled in the present study.

Arianti (2018) examined the impact of financial literacy, financial behavior and income on investment decision. The study adopted a quantitative, descriptive study design. Forms and sources of data employed are primary data obtained and processed by the scholar. The study population was made up of 29,231 students and sampled using random sampling technique via the slovin formula. 100 students were issued with questionnaires and the data obtained was taken through descriptive statistical analysis tools namely multiple linear regression, classical assumption test, t test, data quality test, F test and coefficient of determination with the aid of software program SPSS version 22. The findings of this study revealed that financial literacy had no significant impact on investment decisions. On the other hand financial and income behavior significantly influenced investment decisions. The present review nonetheless looked into the intervening effect of financial literacy on investment decision.

Maditinos *et al*. (2007) evaluated the approaches and strategies employed by six distinct groups of Greek investors: official members of the Athens Stock Exchange, individual investors, mutual fund management companies, listed firms, brokers as well as portfolio investment companies. The finding demonstrated that in general, the respondents rated their instinct or experience as the most critical factor to be adhered to by fundamental analysis and the trends in foreign financial markets. Noise in the market and portfolio evaluation will be regarded of least significant. Amisi (2012) looked into the impact financial literacy has on investment decision making by pension fund managers in Kenya. The sample size was made up of 16 fund managers. The review established that financial literacy and investment decisions are correlated.

It was therefore deduced that financial literacy and positively impacts investment decision making.

Tyrimai (2013) in partnership with Bank of Lithuania investigated the financial behavior of Lithuania households with respect to the borrowing and saving culture of individuals in the households as well as reasons for doing so. An overall of 1011 households were scrutinized. It was discovered that saving and borrowing financial behavior significantly influenced the stability of the financial systems of Lithuania. Most of the households actively saved owing to the fear of unprecedented factors for instance safeguarding themselves against a drop in earnings or emergency spending demonstrated by the option of non-risky saving and investment tool. The households sampled revealed that financial behavior should tackle the concern that is financial literacy as most of the survey participants relied on previous personal encounters or that experienced by friends.

Bhushan (2014) did an analysis on the relationship between financial literacy and investment behavior of salaried individuals employed in both government and non-governmental institutions in Himachal Pradesh, India. The survey distributed 516 questionnaires to obtain data from the sample size, a mix of purposive and multi-stage methods were used as sampling techniques due to the large size of the target group. Financial literacy was analyzed in three dimensions of knowledge, awareness and behavior where a 5-likert attitude scale was implemented. Bhushan came to the realization that high financial literacy levels resulted in improved financial awareness of the financial commodities consequently bringing about more informed investment decisions as opposed to their equivalent with low financial literacy face restrictions or limitations with regard to alternatives on where to stake funds and consequently settle

on investing in limited conventional commodities. While conventional products provide more secure and guarantee of higher returns, they carry more risks. According to Bhushan, it is imperative to have at least a specific degree of financial literacy to comprehend risk and return along with making informed choices when settling on financial products.

A study carried out in Pakistan revealed that investment decision is closely linked with financial literacy(Awais, Laber, Rasheed, & Khursheed, 2016). Based on the decision theory, investment decision can bear seen or unforeseen risks. Awais *et al* (2016) provided that risk intensity can either be moderate at its highest or lowest depending on the approach taken when making decision. Drawing on existing texts and publications Await *et al* (2016) highlighted that risky investors were more adept in investing that builds on risk tolerance. An experienced investor makes use of their risk tolerance given the experience they gather from the past investment decisions.

In Malaysia and the United Kingdom, investment decision implies that an enterprise is greatly influenced by factors such as risk tolerance, financial literacy along with the type of investment(Janor, Yakob, Hashim, Aniza, & Wel, 2016). It was discovered that financial literacy levels were relatively low in Malaysia and the government needed to improve on financial awareness. Financial literacy was discovered to impact the investor's behaviour when making decisions. A discrepancy with respect to financial literacy was found to be prevalent in Malaysia in contrast to United Kingdom.

Asila, (2015) carried out a study on SMEs' investment decisions which was examined on technology investments by SMEs in Nairobi, Kenya. The objective was to

establish the effect of cost of acquiring technology, risk and uncertainty associated with technology investments and appraisal methods used in investment decision. The study descriptive study was adopted. The target population comprised of 107 SMEs based in Nairobi. A sample size of 53 firms was used. Structured questionnaires and interviews were used to collect data. The data was analyzed using frequencies, percentages and Pearson correlation. There was a significant relationship between the buy or lease option, access to financial services and high preference for the discounted methods. However, the current study concentrated on financial literacy on investment decision.

2.7 Control Variables

Investor level of education, business experience, and country of origin were conceptualized as the control variables in this study. Choice of these variables was based on the many studies that have associated them with investment decisions and financial literacy. For instance, Nguyen and Schuessler (2012) examined socio-demographics that impacted investment decisions in Germany. They reported that education as a socio-demographic factor significantly and positively predicted investment decisions. They argued that when investors have a high level of education, they were bound to enjoy reduced bias, self-attrition, representativeness, and anchoring.

Meanwhile, Nwibo and Alimba (2013), used the Nigerian context to examine factors that informed investment decisions among investors in the agribusiness sector. They determined that level of education and business experience were critical factors in investment decisions. From the Indonesian context, Fachrudin and Fachrudin (2016), analysed the influence of business experience and investor education on investment

decisions. They concluded that experience and level of education impacted investment decisions positively under the moderation of financial literacy.

Although not much literature was found regarding the influence of country of origin and investment decisions, Amiram (2012) determined that international accounting standards were attractive to foreign investors and often informed their investment decisions. Moreover, Amiram (2012), implicitly reported that foreign investors made investment decisions based on better investment protection and lower levels of corruption. Meanwhile, Ledyaeva, Karhunen, and Kosonen (2013) concluded that common political culture was an antecedent of location and origin of foreign investment albeit, in the Russian context.

From such a backdrop, it was necessary to conceptualize these socio-cultural factors as control variables since their influence on the study variables could influence findings in some way. Besides, country of origin as a factor though not explicitly stated, impacts investment decisions, and as has been stated (Amiram, 2012; Ledyaeva et al., 2013) is sensitive to corruption.

2.8 Research Gaps

Review on literature indicated that mental accounting, regret aversion, anchoring, herding, representativeness and overconfidence are associated with behavioural factors (Raveendra *et al*, 2018; Luu, 2014; Mahina *et al*, 2017; Nyakundi, 2017). Raveendra *et al* (2018) investigate on SMEs in India without mediating variable financial literacy. Luu (2014) did a similar study but in Vietnam with sample of 300 based on Vietnamese Securities exchange creating a gap in his findings. The current research will concentrate on SMEs in Nairobi County, Kenya. Mahina *et al* (2017) did

his research in Rwandese Stock Exchange that targeted on 13,543 individual investors. It deployed cross-section descriptive survey research design. It also concentrates on over-optimism bias creating a research gaps. Ndugu (2012) investigate in similar field which is investment decisions and financial performance but failed to target behavioural factors. Nyakundi (2017) conducted a research on behavioural factors in financial decision but in Nairobi Security Exchange. This is similar to Omery (2014) and Werah (2006) but did not bridge the effect of financial literacy in investment decision process.

Studies relating to investment decisions have been done based on anchoring or prospect or herding or overconfident in Nairobi Security Exchange according to Shoni (2017).For instance Javed, Bagh & Razzaq, (2017), Dessi & Zhao (2014) and Tahira, Wajiha &Abirah, (2014) investigated the relationship between overconfidence and investment decision. Murithi (2014), Ishfaq & Anjum (2015), Jetter & Walker (2016), Andersson & Johansson (2013) and Ishaya (2018) on the other hand, did a study to determine the relationship between anchoring and investment decision however other behavioural factors were not examined. Murithi (2014) found that decision making process is affected by past information and hence anchoring was a significant factor in investment decision. Velumoni (2017), Duclos (2015) and Dervishaj (2018) studied prospect in relation to investment decision. Velumoni (2017) found that prospect factors had significant relationship with investment decision. Kumar & Sharma (2018), Shekhar & Prasad (2015), Ghalandari & Ghahremanpour (2013) and Lin (2011) investigated the relationship between herding and investment decision. Where Lin (2011) found that women and younger investors were affected by herding effect those men and older since it affects their decision making process. This study does not

reflect the interaction effect of financial literacy on the relationship between behavioural factors and investment decision.

Numerous philosophies of investment decisions can be positively (Hossain, 2018; Kanojia, Singh, & Goswami, 2018; Kengatharan & Kengatharan, 2014) or negatively (Lad & Tailor, 2018; Babajide and Adetiloye, 2012) related to financial performance or business success depending on whether these decisions are made with or without biasness. These literatures reveal a large gap existing between financial literacy and behavioral factors. However, financial literacy provides an individual knowledge hence increase the scope of making rational investment decision. Given the significant role played by SMEs in Kenya, it is important to understand behavioral factors that influence investment decision as well as ascertain the interactive effect of financial literacy on this relationship.

In addition, investment decisions have been shown to be controlled by behavioural factors and financial literacy (Singh & Sharma, 2016). A study indicated that financial literacy does not moderate the relationship between behavioral factors and investment decision (Raveendra *et al.,* 2018). Study indicated mixed results where different behavioural factors have different outcome on investment decision however financial literacy has a positive impact on investment decision (Awais, Laber, Rasheed and Khursheed, 2016).

Acuto (2013) used gender as the controlled variable in anchoring behaviour using experimental design. This research will use firm size and enterprise duration as control variable and would focus on explanatory research design. Overconfidence as variable has been researched on investment decision (Hassan, Khalid & Habib, 2014;

Javed, Bagh & Razzaq, 2017; Dessi & Zhao, 2014; Tahira, Wajiha &Abirah, 2014). Anchoring on investment decision making as variable has been done by Murithi (2014), Ishfaq & Anjum (2015), Jetter & Walker (2016), Andersson & Johansson (2013) and Ishaya (2018). Little research has concentrated on prospect and investment decision making (Velumoni, 2017; Duclos, 2015; Dervishaj, 2018). Herding and investment decision making were investigated by Kumar & Sharma (2018), Shekhar & Prasad (2015), Ghalandari & Ghahremanpour (2013) and Lin (2011).

2.9 Conceptual Framework

Many psychologists believe that human beings are not perfectly rational and human behavior is less ruled by rationality than biased emotions (Pompain, 2006). In 1980's a new field has emerged known as behavioral Finance that combines the psychological and behavioral theories with traditional financial theories to provide the explanations of why people make irrational decisions (Phung, 2008). The field of behavioral finance put forward behavioral factors influencing investment decision making. This study selected four of these behavioral factors as the independent variables; overconfidence factors, Anchor factors, prospect and herding while the dependent variable will be investment decision making. The relationship between the independent variables and the dependent variables was moderated by financial literacy. Size and age of the firm acted as a controlling variable.

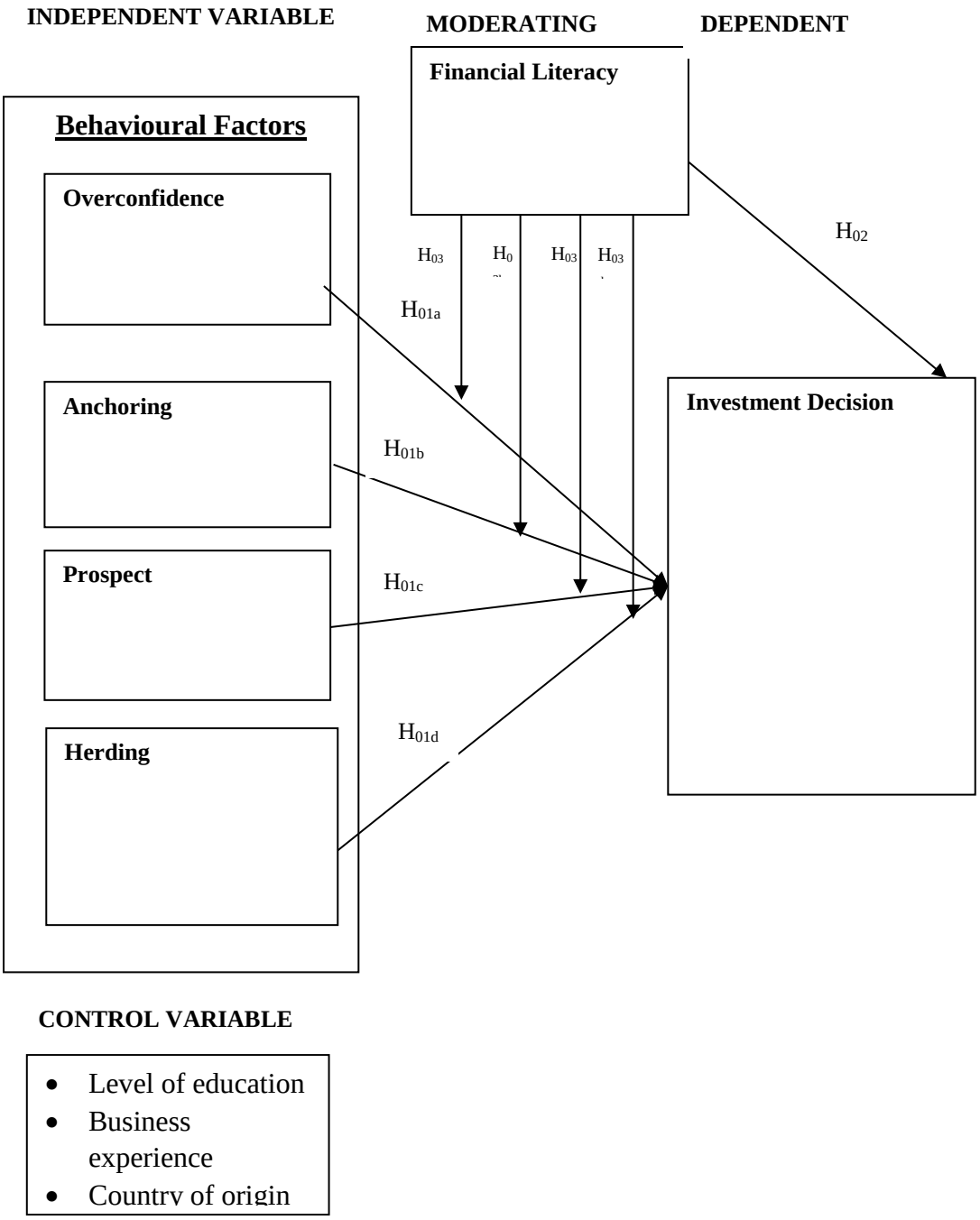


Figure 2.1: Conceptual Framework of the effect on Financial Literacy, Behavioural factors and Investment Decision.

Source: Researcher (2021)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter reports elaborately on the methodology used in this study. In retrospect, the chapter describes the research philosophy that informed the research design; the specific design that was used, the population that was targeted, the sampling design in terms of sample size and sampling methods, the procedures used in data collection, data analysis procedures and the ethical principles and rules that governed this study.

3.1 Research Philosophy

A philosophical worldview describes an individual's perception of reality as constructed socially (Patton, 2002). Through philosophical worldviews, researchers seek answers on suitable methodology to create knowledge. Various philosophical world views have been identified and usually determine the approaches to seeking knowledge (Rossman & Rallis, 2012). For instance, the post–positivist world view advocates manipulating contexts to extract knowledge in cause-effect relationships. Consequently, post-positivism drives research towards quantitative approaches (Rossman & Rallis, 2017).

On the contrary, interpretivist world views argue that knowledge is constructed from subjective interpretation of social phenomena and an individual's actions (Fowler, Cohen& Jarvis, 2013). Interpretivism drives research towards qualitative approaches that seek to gather incisive views. Creswell (2014) identifies pragmatic world views that posit that any approach is ideal depending on the research question. Consequently, pragmatists lean towards mixing qualitative and quantitative methods.

This study adopted the post-positivist philosophy. The essence was to use quantitative approaches to manipulate behavioural factors and financial literacy and establish the causal relationships with investment decision-making. Thus, the approach enabled information collection from people's views of behavioural factors, financial literacy, and decision-making. Post-positivism postulates that general data from a broad scope of social phenomena is the way to go instead of focusing on the researcher alone. Therefore, this philosophy was suitable in this study due to the shortage of secondary data on the conceptualized variables.

Consequently, the study used information collected from a large sample to facilitate generalization of findings. In this way, the researcher's perceptions were secondary to the study outcomes. Therefore, the view of the belief on social aspects associated with behavioural factors, decision-making, and financial literacy is affirmed. The quantitative lineage of post-positivism has also been found ideal for leveraging surveys (Easter-by-Smith et al., 2016). Consequently, this study relied on structured surveys to collect data from a large number of potential respondents. Moreover, the structured survey was deemed ideal in collecting individuals' views on aspects of behavioural factors, financial literacy, and investment decisions

3.2 Research Design

Based on the post-positivist philosophical assumptions, this study used the explanatory research design. Orodho (2013) perceives a research design as a framework or plan that outlines a series of techniques that have to be employed at various stages of the research process. By using the explanatory design, the study took cognizance of the need to manipulate the quantitative behavioural factors and financial literacy for potential causal effects on decision making. The explanatory

design was deemed suitable for this study due to its quasi-experimental nature that does not require randomization but instead uses already existing groups. Suffice to say that state corporations in Uasin Gishu County already existed as groups. Besides, the study sought to explain relationships between the variables in question, thereby justifying the use of the explanatory design. The explanatory design was also selected for its appropriateness in research problems without a clear view or not well researched on to general better research model as in the case of this study.

The researcher developed the research from a general idea and knowledge and used research tools to narrow the concept (Given, 2008). Its endeavour further strengthened choice of the explanatory design for this study to investigate causality between variables. Saunders et al. (2012) contend that explanatory designs are also known as causal-comparative studies that seek to explore causality between two or more variables. Consequently, the choice of this design allowed the study to employ quantitative analysis methods that were inclusive of descriptive and inferential statistics. Therefore, the explanatory approach had the potential to establish the causal influence of behavioral factors on investment decisions and the moderating effect of financial literacy.

3.3 Study Area

The study was carried out in SMEs operating in Nairobi County. Choice of Nairobi County for this study was because Nairobi County hosts some of the most growing SMEs in Africa and is home to major businesses in Kenya. As result, the big number of SMEs is such that there is immense competition among themselves. This essentially underscores the importance of investment decisions that would enhance choice of best and viable investment options selected following thorough research.

Moreover, Nairobi County holds both international as well as local based enterpriseswith, and has up to102,821 registered SMEs. It is also found to host 9,354,580 people who are responsible for producing up to 60% of country's GDP (Kenya Bureau of Statistic, 2019). Therefore, on this basis of hosting a large number of SMEs dealing in a diversity of business interests, Nairobi County was found suitable for a study of such magnitude.

3.4 Target Population

This study targeted proprietors of registered SMEs operating within Nairobi County. Barnsbee et al. (2014) define a target population as a group of individuals or entities upon which an intervention seeks to conduct research and draw conclusions. Consequently, SMEs in Nairobi County were the entities to which generalizations of the study findings were made. A reconnaissance study of Nairobi County's Ministry of trade records revealed that 102 821 SMEs across various sectors had been registered as of 2018, as distributed in Table 3.1. Consequently, the target population comprised 102 821 proprietors.

Table 3.1: Target Population

Strata	No. of Proprietors
Manufacturing	31,392
Hospitality	18,759
Consulting	9,267
Information technology	13,157
General shops	13,627
Tours & travel	16,619
Total	102,821

Source: (Nairobi County, Ministry of Trade, 2018)

3.5 Sample Design and Sampling Techniques

Sampling is a strategy that seeks to identify and utilize a representative portion of the entire population to deduce, make inferences and come up with general impressions

about the entire population (Zikmund *et al*., 2010). Consequently, this adopted the stratified sampling strategy as the technique used in selecting the SME proprietors to participate in the study. In this case, the SMEs were the sampling units from which proprietors who were units of study were drawn. Choice of the stratified sampling strategy was based on the understanding that natural business sector categories existed and therefore formed distinct clusters. From the County Government of Nairobi's ministry of trade, the SMEs are stratified based on the type of business. There are 6 strata levels including manufacturing, hospitality, consulting, information technology, general shops, tours and travel. Having stratified SMEs across different sectors depending on type of business, the simple random sampling approach was next used to select the respective SME proprietors from each of the six strata levels to eventually participate in the study.

Stratified random sampling is recognized as a random approach that accurately reflects the population under study (Huang, North & Zewotir, 2016). Huang et al. (2016) argue that stratified sampling approach ensures that interests of all parties are taken care of meaning, that the various sectors from which the SMEs were drawn from were represented in the final sample of proprietors. In retrospect, the researcher ensured that stratification was conducted with the various sectors in mind to cater for the entire population prior to conducting the simple random sampling. Stratification was therefore a stage through which the researcher ensured that each sector within the population of businesses received proper representation in the sample of proprietors. The bottom line is that through stratified random sampling wide latitude of businesses was covered to provide the necessary external validity required for proper generalization of the study findings.

Prior to carrying out stratified and simple random sampling, an appropriate size for the sample was determined. Considering that the population of SME proprietors was significantly large, the formula for sample size of large populations was used to determine the ideal sample size. Consequently, the normal approximation to the hyper-geometric distribution was employed to determine the sample size. This is an approach that has successfully been used to determine the sample size in studies similar to this study targeting samples from large populations ((Morris, 2014)).

Under this approach, the sample size is estimated using the formula given in equation 1

$$n = {NZ^2pq}\Big/{\{E^2(N-1) + z^2pq\}} \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\text{Equation (1)}$$

Where;

n represents the sample size to be determined

N represents the total population which for this study was 102,821 proprietors

Z represents the statistic for the confidence level selected. In this study, the confidence level was pegged at 95% two-tailed yielding a Z-score of 1.96.

p represents the proportion of success while q represents the proportion of failure set at fifty-fifty in this study (p=q= 0.5).

E represents the accuracy level (set at 0.05).

Therefore;

$$n = 102821 \times 1.96^2 \times 0.5 \times 0.5 / \{0.05^2(102821 - 1) + 1.96^2 \times 0.5 \times 0.5\} = \frac{98749}{258.01} = 383$$

Hence, 383 SME proprietors were deemed to represent a suitable sample size for the population of 102,821 proprietors identified using the hyper-geometric distribution formula by Morris (2014) in SMEs in Nairobi County. The number of businesses that participated in the study was selected proportionately based on the population in each strata using simple random sampling as indicated in table 3.2.

Table 3.2: Sample Size

Strata	No of SMEs	Proportion	Sample Size
Manufacturing	31,392	=31392/102821*383	117
Hospitality	18,759	=18759/102821*383	70
Consulting	9,267	=9267/102821*383	35
Information technology	13,157	=13157/102821*383	49
General shops	13,627	=13627/102821*383	51
Tours & travel	16,619	=16619/102821*383	62
Total	**102,821**		**383**

Source: Researchers Computation (2021)

3.6 Data Collection Procedures

This section describes the types and sources of data that were employed in the study. The study used questionnaires to collect primary data. Questionnaires were appropriate based on its ability to collect large amount of data that has no manipulation or control hence being objective to the study. According to Franker (2006), questionnaires are suitable instruments for data collection due to their ability to be objective. Franker argues that besides being structured, making it easy to respond to items, questionnaires leave no room for manipulation of respondents.

Participants are able to go through the items and respond in the manner they choose. Franker (2006) further argues that questionnaires come with the advantage of being cost and time-effective and can be used to cover a broad scope of participants.

3.6.1 Sources of Data

The only type of data for this study was primary data sourced directly from the proprietors of the SMEs under investigation. According to Douglas (2015), primary data is novel data that the researcher collects first hand. Therefore, this study used questionnaires to collect data from proprietors of the SMEs under investigation.

3.6.2 Data Collection Methods and Instrument

Data were collected using a self-administered questionnaire. Questionnaires have been found ideal in cases where the sample size is large (Zikmund et al., 2010). The researcher recruited research assistants on the criteria that they held a bachelor's degree in finance to administer questionnaires to the sampled proprietors. The questionnaire was developed to have Likert-like items with options ranging from 1 denoting strong disagreement to 5 which denoted strong agreement. A score of 3 was deemed a neutral position held by the respondent (Chung, 2008). Respondents were asked to indicate the degree to which they agreed or disagreed with the statements in the various scales. The use of the Likert-type items was supported by previous studies that have found them ideal in studies with many constructs and targeting many respondents (Zikmund et al., 2010). These previous studies have reported highly reliable scales and high levels of external validity.

The proprietor’s questionnaire was developed with the study purpose in mind. Literature related to the constructs under study was reviewed for purposes of

identifying potential scales to use and corresponding items. Experts in behavioural finance were also consulted for their expert advice on the appropriateness of constructs. Besides, the researcher held brainstorming sessions with peers to tighten loose ends. Having satisfactorily ascertained the potential constructs and possible extraneous variables, the questionnaire was developed.

The proprietor's questionnaire had four sections, each with closed-ended items. Section A focused on general information of the SME collected to control for their potential effect on the conceptualized relationships. Section B collected information related to the four behavioral finance factors, which were construed as independent variables in this study. Section C focused on information about financial literature, which was conceptualized as the moderator in the study. Section D collected data regarding investment decisions, which was postulated as the dependent variable.

3.7 Measurement of Variables

The questionnaire was divided into three parts; behavioural factors, financial literacy, and investment decision. The measurement scales were in the form of Likert scales. According to Fisher (2010), Likert scales, as rating scales, have been used widely to capture individual’s attitudes and opinions. Consequently, Likert scales were used in this study to elicit agreements and disagreements of individual respondents regarding the various items measuring the three scales in the study. The scales adopted the 5-point Likert scale with responses ranging from strongly disagree, denoted as 1 to strongly agree, denoted as 5

3.7.1 Dependent variable

The investment decision was conceptualized as the dependent variable in this study. The investment decision was measured through a proxy consisting of 1 Likert type item. The scale was an ordinal scale that has previously been used by other scholars (Awais et al. 2016; Garang, 2016; Kengatharaan & Kengatharaan, 2014; Luu, 2014; Nyakundi, 2017, Ojwang, 2015, Omery, 2014).

3.7.2 Independent variable

Overconfidence was conceptualized as the first independent variable and measured using an ordinal Likert-type scale consisting of 5 items that other scholars had employed previously (Acuto, 2013; Raveendra et al., 2018; Tahira, Wajira & Abirah, 2014).

Anchoring factors, on the other hand, was conceptualized as the second independent variable. The anchoring scale consisted of 5 Likert type items adapted from previous studies (Anderson & Johansson, 2013; Ishafaq & Anjuru, 2015; Murithi, 2014). The third variable construed as an independent variable was prospect factors. Prospect factor measure included proxy consisting of 5 Likert type items previously used in other studies (Dervishaj, 2018; Velumoni, 2017). Herding factors represented the last independent variable in this study. A 7 item Likert scale previously used by other scholars was used to measure herding factors (Ghalandari & Ghahremanpour, 2013; Lin, 2011).

3.7.3 Moderating variable

Financial literacy was conceptualized as the moderator in this study. A proxy ordinal scale consisting of 8 Likert type items was used to measure financial literacy as

previously used by other scholars (Chaturvedi & Khare, 2012; Garang, 2016; Sood & Medury, 2012).

Questionnaire used consisted of the general information section which provided the control variable level of Education, Business Experience and Country of origin of the business as well as demographic information of Firm size, Age and origin of the business. This was represented as section A. Independent variable was measured in section B where the behavioral factors were measured. The overconfidence consisted of five questions under a 5 point Likert scale. Anchoring was covered used five question in a 5 point Likert scales. Prospect factors were investigated using five questions using a 5 point Likert scale, and finally herding utilized eight questions has a 5 point Likert scale.

Table 3.3: Measurement of Study Variables

Variables		Number of items	Measurements	Sources
Investment Decision **(Dependent variable)**		**10**	Questionnaire items on five point Likert scale (ordinal level)	Luu, 2014; Nyakundi (2017); Omery, 2014; Awais, Laber, Rasheed & Khursheed 2016; Kengatharaan and Kengatharaan (2014); Garang (2016); Ojwang (2015).
Competitive Strategy **(Independent Variable)**	*Overconfidence*	**5**	Questionnaire items on five point Likert scale (ordinal level)	Acuto (2013); Raveendra, Jyothi, Padmalini& Santhosh (2018); Tahira, Wajira and Abirah (2014)
	Anchoring Factors	**5**	Questionnaire items on five point Likert scale (ordinal level)	Murithi (2014); Ishfaq and Anjum (2015); Andersson & Johansson (2013)
	Prospect Factors	**5**	Questionnaire items on five point Likert scale (ordinal level)	Dervishaj (2018); Velumoni (2017)
	Herding Factors	**7**	Questionnaire items on five point Likert scale (ordinal level)	Lin (2011); Ghalandari & Ghahremanpour (2013).
Financial Literacy **(Moderating Variable)**		**8**	Questionnaire items on five point Likert scale (ordinal level)	Garang (2016); Chaturvedi & Khare (2012); Sood &Medury (2012)

Source: Researcher (2021)

3.8 Pilot Testing

The questionnaire was piloted where 38 questionnaires representing 10% of the sample size were given to select SMEs within Uasin Gishu. The choice of a sample of 10% for piloting was informed by recommendations indicating that a 10% pilot sample is adequate to report the reliability of the instruments (Connelly, 2008). The firms used in the pilot study were selected carefully to mirror the characteristics of the firms to be included in the actual study. Similarly, the pilot sample was excluded in the actual study to eliminate internal validity issues such as maturation.

3.8.1 Reliability

Data were coded and tested for reliability. Cronbach's alpha was examined for the constructs under investigation and found to be 0.834. According to Hair et al. (2009), 0.6 – 0.7 is the lower limit for which Cronbach's alpha should be accepted. However, a sufficient value must be equal to or above 0.7 (Hair et al., 1998), With the Cronbach's alpha value of 0.834 indicated that the scale was reliable. The analyst was therefore given the power to discard redundant items (Greener, 2008). Hair et al., (1998) contends that coefficients should be more than 0.7 for data to be reliable. Sekaran and Bongie (2010) point out that internal consistency reliability improves with increasing Cronbach's alpha, and becomes higher as Cronbach's alpha approaches. Basically, the variable in the question was measured with all qualifying the decent internal consistency over 0.7(Hair *et al*., 2010). The researcher ensured that ambiguous information was eliminated while deficiencies and weaknesses were noted and corrected in the final instruments. Open ended questions were reviewed in relation to the clarity of the answers provided. Question that showed consistency in answering were retained but others were reviewed.

3.8.2 Validity of the instruments

Validity is perceived as an indicator of an instrument measuring what it ought to measure (Zikmund et al., 2010). In retrospect, Zikmund et al. (2010) delineated four validity types: content validity, face validity, construct validity, and criterion validity. Face validity was perceived as a simple validity that required judgment at face value. According to Zikmund et al. (2010), face validity involves validating the structure and appearance of the instrument through observation. On the contrary, construct validity is exemplified by the nature of factor loadings. According to Zikmund (2010), construct validity captures the extent to which the given constructs or variables interact theoretically to explain a speculated phenomenon that may be fundamental in research. Zikmund (2000) asserts that construct validity relates to the degree to which the instrument gains grounding in existing theory. The essence then is that an instrument only meets construct validity based on some conceptual or theoretical underpinning.

Therefore, construct validity was ascertained by underpinning investment behaviour on relevant theories. To achieve this, a thorough review of potential theories was undertaken. The questionnaire was developed to reflect the research objectives. In addition, relevant modifications were made to the questionnaire according to the findings of the pilot study. Furthermore, the study employed a large sample to increase the accuracy of findings.

Further, to obtain construct validity, discriminant and convergent validity were organized in the format suggested by Straub et al. (2004). For discriminant validity, the connection between constructs and the relationship grid were examined. According to Hair et al. (2006), convergent validity is a product of reality relation

among ideas that ought to be associated. Meanwhile, discriminant validity is an indicator of the uniqueness of the measurement scale. Moreover, Hair et al. (2006) posit that factor analysis can be leveraged in the validation process. They delineate the four-factor analysis steps: The first stage, perceived as the preparation stage, involves coming up with the communality correlation matrix representing the main distance.

The second stage involves factor extraction, which is often based on Eigenvalue but can also be fixed. Factor extraction is done in various ways, including least squares, maximum likelihood, Principal Component Analysis (PCA), and Principal Axis factoring. The third stage is the rotation stage, often done through Varimax (Variance maximization) and Kaizer normalization. The rotated matrix is used to determine factor loadings which show whether the structure is simple or complex. The interpretation of the rotated matrix is made easier considering that component extraction is based on Eigenvalues above 1. Having extracted components, they are then segregated into various factors under study as recommended by Hair et al. (2010).

Low and Chen (2011) posit that content validity relates to the scope of content coverage that the instrument achieves concerning the topic under study. To ascertain the content validity of the proprietor questionnaires, the researcher asked experts in the field and supervisors from Moi University to assess whether the content covered the research problem's scope and whether it was justified in the existing literature. Their feedback was subsequently used to moderate the questionnaires to meet the needs of the study.

Criterion validity is the other validation technique used in this study. According to Sekaran (2003), criterion validity predicts current or future performance by correlating present results with another criterion's. It builds upon the strength of separating people in line with the expected criterion to be predicted. Zikmund (2010) contends that criterion validity corresponds with standard measures used in set up criteria or comparative constructs. Criterion validity in this study was ascertained by ensuring that the findings were generalized to the entire population of interest, the respective firms drawn from Nairobi County.

3.9 Data Processing, Analysis and Presentation

The collected data were first classified, coded, edited, and entered into SPSS before analyses. Descriptive statistics and in particular percentages and frequencies were used to analyze demographic data. Percentages, frequencies, means, and standard deviations were used to probe general levels of the study variables in the study context. The reliabilities and validity of the scales measuring the respective variables were computed using Cronbach’s alpha coefficients and factor analysis.

The main inferential statistics included; Pearson Product Moment Correlation (PPMCC) and multiple regressions. Vander Stoep et al. (2007) state that PPMCC is a suitable measure of linearity between independent and dependent variables and acts as a precursor to regression analysis. Therefore, in this study, PPMCC was used to examine whether there were significant correlations between behavioural factors and investment decisions and assess chances of multicollinearity. Multiple regressions were used to test the extent to which behavioural factors predicted investment decisions, while correlations were used to show potential linearity paving the way for regressions. Prior to running regression analyses, diagnostic tests were conducted to

evaluate the model assumptions and investigate whether or not there were observations with a large, undue influence on the analysis.

3.9.1 Diagnostic Tests

Multiple regressions belong to a group of multivariate analysis that is sensitive to missing values and extreme values. Besides, it is governed by several assumptions which if violated are likely to lead to inconsistent, biased and inefficient parameters. According to Baron & Kenny (1986), a regression analysis seeks to fit a mathematical model to two sets of data. Diagnostic tests were therefore conducted to first screen and clean for missing values and outliers, and to test for robustness of data.

3.9.1.1 Data screening and cleaning

Data were screened and cleaned for missing values and outliers. Missing values were examined using patterns. It has been argued that the presence of missing values could affect generalization of results (Tabachnick & Fidell, 2013). Under the patterns approach, the MCAR which relates to missing completely at random was employed. Cases with missing values in the excess of 5% were deleted. Otherwise, missing values were replaced using hot deck imputation.

Outliers are observations that deviate markedly from others, and whenever present may distort, results limiting external validity (Tabachnick & Fidell, 2013). The standardized scores were used to examine univariate outliers. Under this approach, Z-scores beyond ± 2.5were deemed to suggest existence of univariate outliers for smaller samples (≤ 80), and beyond ± 3.0 for larger samples (≥ 80). Meanwhile, Mahalanobis distance D^2 was used to test for multivariate outliers. All cases found to have outliers of any kind were subsequently deleted from further analysis.

3.9.1.2 Robustness Tests

Robustness tests were conducted to evaluate the model assumptions. Multiple regression analysis makes a number of assumptions as outlined below.

Normality: Residuals of variables representing the two sets of data are assumed to follow a normal distribution if a regression models is to be fitted to the data. Most multivariate analyses can only be performed if data is normally distributed. Normality is therefore fundamental to multivariate analysis. Normality assumption is examined both at the univariate level, where only one variable exists and at multivariate level where a combination of variables is considered. Mostly, testing of normality assumption is done from the multivariate perspective. This is so since evidence shows that non violation of multivariate normality implies that normality will also exists for the univariate analysis. However, the reverse is not always true (Hair et al., 2010). Normality is tested using the null hypotheses H_0: variable are not normally distributed. Several strategies are used to test for normality. The simplest approach is to examine the shape of the distribution using skewness and kurtosis. In this approach, normality is deduced for values in the interval -2 to 2 for skewness and -7 to +7 for kurtosis (Bryne, 2010; George & Mallery, 2010; Hair et al., 2010). Normality is also tested using Shapiro Wilk or Kolmogorov-Smirnov test. In these two tests, normality is assumed if the statistics are non-significant. Graphically, the normal P-P plots and Q-Q plots are used to deduce normality. Scatter plots that align to the diagonal indicates a normal distribution. In this study the Kolmogorov-Smirnov approach was used. It was expected that the Kolmogorov-Smirnov statistic would be less than the critical values D_n=0.092 at the 5% significance level. It is important for data to be normal to enable generalization of results.

Linearity: Linearity is a precursor to linear regression. Therefore, for linear regression to be run, the dependent variable ought to be linearly related to the independent variables. According to Hair et al. (2010) linearity results when an increase in the independent variable occasions an increase in the dependent variable and vice versa or an increase in the independent variable result in a decrease in the dependent variable and vice versa. In this study, linearity was tested using the ANOVA test of linearity.

Heteroscedasticity: for multiple regression analysis to be possible it is assumed that variances of each independent variable from the dependent variable are equal. In other words, regression residuals at each level of the independent variable share the same variance in which case they satisfy homoscedasticty. Thus, heteroscedasticity occurs when residuals at each predictor level are equal. In this study, homoscedasticity was synonymously measured as homogeneity of variables; consequently, the levene test was used to tests for homogeneity of variables. Under this approach non-significant levene statistics implied lack of heteroscedasticty (tested at the 5% significance level). Significant levene statistics implied heteroscedastic variances and not homoscedastic which is a key assumption of multiple regressions.

Autocorrelation: Autocorrelation which is also known as serial correlation occurs when regression residuals are correlated with one another. Multiple regressions runs under the assumption that regression residuals are independent. Consequently, in this study the Durbin-Watson (DW) test was used to test for serial correlation. Under this test, the closed interval [1.5, 2.5] was used to interpret the DW statistic. A value within this interval was deemed to show lack of autocorrelation.

Multi-collinearity: occasionally, covariate relate highly between themselves. When such a situation occurs, it is known as multi-collinearity which is decoded as many linearities (Willaims et al., 2013). Such situations occur in cases of near perfect correlation and often lead to misinterpretation of regression coefficients Variance Inflation Factors (VIF) were used to test for multi-collinearity. The threshold of multi-collinearity was a VIF value of 5 as recommended by James et al. (2013). A VIF value greater than 5 was therefore considered problematic and an indication of multi-collinearity.

Table 3.4: Summary of Diagnostic Test

Assumption	Test	Threshold	Comment
Normality	Kolmogorov-Smirnov	P>0.05	Normal Distribution
Linearity	ANOVA test	P<0.05	Linear relationship
Autocorrelation	Durbin-Watson test	1.5< d<2.5	No Autocorrelation
Multi-Collinearity	Variance Inflation Factor (VIF)	VIF<10	No Multi-collinearity
Homoscedasticity	Levene's Test	P>0.05	Homoscedastic

3.9.2 Multiple regressions

In most cases, inferential statistics indicate causal relationships multi variables. In this study, multiple regressions which involves two or more variables was used to determine the direct effects of behavioral factors on investment decisions. In particular, hierarchical multiple regressions were used to also determine the moderating influence of financial literacy. Zikmund et al. (2010) argue that in a situation where there are two or more variables, establishing causality and the degree of prediction requires use of multiple regressions. Moreover, to determine the

moderating influence, the hierarchical approach is used to find out whether the interaction term is significant and whether the change in R square is also significant. The study sought to determine the moderating influence of financial literacy on the behavioral to investment decisions link. Consequently, it was prudent to find out whether the change in R square after entering the interaction between behavioral factors and financial literacy into the model was significant. Behavioral factors were of course measured using overconfidence, anchoring prospect and herding factors and it was independently tested to determine if they were unique predictors of investment decision.

3.9.3 Model Specifications

The generated multiple regression models that is behavioral factors were predicted using the following hypothesis.

$ID=\beta_0+ \beta_1 PLE + \beta_2 PE + \beta_3 PO + \varepsilon$……Model 1 (control

Where;

ID = Investment decision

PLE = Proprietor level of education

PE =Proprietor experience

PO = Proprietor origin

β_0 = y-intercept

β_1, β_2, β_3 = regression coefficients

ε = regression residuals

$ID=b_o+b_1OF+b_2AF+b_3PF+b_4HF+\varepsilon$……Model 2 (direct effects)

Where ID = Investment decision

OF = Overconfidence factor

AF = Anchoring factor

PF = Prospect factor

HF = Herding factor

bi (i=0,….., 4) = Unstandardized regression coefficients

Ɛ = Regression residuals

3.9.4 Testing for Moderation

Hypothesis H_{03} was subdivided into four sub-hypotheses. These sub-hypotheses postulated lack of moderation of financial literacy on relationships involving overconfidence, anchoring prospect and herding factors. Consequently, the hierarchical approach to multiple regressions was used to test the four sub-hypotheses. The interaction between each of the four behavioral factors and financial literacy was computed and used in testing for the moderating effect. Choice of the interaction effects as the approach to test for the moderation effects was based on the recommendations by other scholars (Baron & Kenny, 1986; Hayes, 2012). Under the hierarchical approach, the behavioral factor of interest together with financial literacy was entered together in the first step. In the second step, the interaction between the two was entered. The R squared change was then examined to see if the change was significant. The F Change was also expected to be significant in the case of moderation. According to Baron & Kenny (1986) four steps variables X_i and investment decision must be related, this is, coefficient b_1, b_2, and b_3 in the subsequent moderation models must be different to zero in the expected direction. This condition is verified using a linear regression analysis of investment decision on X_i. The

interactions of financial literacy and each of the behavioural factors must be related to investment decision to yield the interaction effect represented by b_3 in each model.

$ID = b_0 + b_1 OF + b_2 FL + b_3 OF * FL + Ɛ$……Model 3 (Moderation on overconfidence)

Where, ID = investment decision

OF = Overconfidence factor

FL= Financial literacy

OF * FL= Interaction between overconfidence factor and financial literature

b_i's = Unstandardized estimates

Ɛ = regression residuals

$ID = b_0 + b_1 AF + b_2 FL + b_3 AF * FL + Ɛ$……Model 4 (Moderation on anchoring)

Where, ID = investment decision

AF = Anchoring factor

FL= Financial literacy

AF * FL= Interaction between anchoring factor and financial literature

b_i's = Unstandardized estimates

Ɛ = regression residuals

$ID = b_0 + b_1 PF + b_2 FL + b_3 PF * FL + Ɛ$……Model 5 (Moderation on prospecting)

Where, ID = investment decision

PF = Prospecting factor

FL= Financial literacy

PF * FL= Interaction between prospecting factor and financial literature

b_i's = Unstandardized estimates

Ɛ = regression residuals

$ID = b_0 + b_1 HF + b_2 FL + b_3 HF * FL + Ɛ$……Model 6 (Moderation for herding)

Where, ID = investment decision

HF = Herding factor

FL= Financial literacy

HF * FL= Interaction between herding factor and financial literature

b_i's = Unstandardized estimates

Ɛ = regression residuals

3.10 Ethical Consideration

The study was conducted in consideration of ethical issues that arise in Social Science inquiry. Data were collected, analyzed and interpreted in a manner that showed respect to participants. Before collecting data, a consent note giving details of the reasons for the study was prepared and used to seek consent from potential respondents for their participation in the study. Moreover, the right of anonymity and confidentiality were assured, the assurance was explicitly clear on the study being for academic purposes only and not for consumption by other parties. Anonymity was generated by hiding respondents' details and making sure that information gathered could not be traced to the respondents. The researcher took the responsibility of ensuring that that data collected were placed in safe custody.

In addition, the research was conducted with the full knowledge of the National Commission for Science, Technology and Innovation (NACOSTI) from whom the permit to conduct the research was solicited. Study findings were to be shared with stakeholders through publications.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introductions

In this chapter, a report of the various study procedures and findings is given. The report covers several sections including response rate, the approach to screening and cleaning of the data, the demographic profile of respondents, factor reduction, reliability and validation of instruments, descriptive analyses of study constructs, testing the multiple regression assumptions, tests of hypotheses, determining the moderating effects and discussion of the findings.

4.2 Response Rate

The response rate for this study was 97.9% determined by the 375 completely filled questionnaires received from a total of 383 questionnaires that had been distributed to selected SMEs drawn from Nairobi County. One of the 375 returned questionnaires was not clearly checked and was excluded from the study. The response rate of 97.9% was deemed suitable for the study basing on Mugenda and Mugenda's (1999) assertions. Mugenda and Mugenda's cites a threshold of 80% and above questionnaire response rate as ideal for a research study. Consequently the response rate of 97.9% was ideally beyond the 80% threshold.

Table 4.1: Response Rate of Questionnaires

Response rate	No	Percentage%
Administered questionnaires	383	100
Returned questionnaires	375	97.9
Usable questionnaires	366	95.6
Unusable questionnaires	009	2.3

Source: Research Data, 2021

4.3 Data Screening and Cleaning Before the Analysis

Data were collected from the respondents who were the proprietors of the SMEs. Data was then coded and entered into the Statistical Package for Social Science (SPSS) version 21.0. All the data were entered into the software which included the demographic data measured in terms of firm size, business age, and experience of the proprietor, level of education and origin of the business. Questions pertaining to overconfidence, anchoring factor, prospect factor, herding factor, financial literacy and investment were elicited on a Likert scale with options ranging from 1-strong disagreement to 5-strong agreement. Raw data were entered into the data view after coding. The screening was done for any incomplete data as well as unanswered questionnaire which were eliminated.

Data entry enabled the computation of data which included the utilization of factor analysis that assisted to identify which factors did not load highly on the proposed constructs allowing for data reduction. This enabled the selection of questions for overconfidence, anchoring factor, prospect factor, herding factor, financial literacy and investment decision that had similar factors and would measure the variable mentioned. The data also was checked for reliability which assisted to ensure that all the scales used in the study achieved the requisite reliability thresholds. The data obtained was then manipulated based on the loaded question in the factor analysis to obtain mean values for overconfidence, anchoring factor, prospect factor, herding factor, financial literacy and investment decision per question. The mean values for financial literacy were multiplied which each of the following variable overconfidence, anchoring factor, prospect factor and herding factor to provide the moderating effect. The z-score were also produced for each mean for overconfidence,

anchoring factor, prospect factor, herding factor, financial literacy and investment decision. The new variables that were introduced assisted in development of the models that would test the hypothesis.

4.3.1 Missing Data

One of the critical issues in multivariate analysis is that of missing values. Most statistical techniques used in multivariate analysis are known to be sensitive to missing data (Tabachneick & Fidell, 2013). The concern is normally on the pattern of missing values (Baraldi & Enders, 2010). Three patterns of missing values are often discussed in existing literature. According to Baraldi & Enders (2010), data may miss completely at random (MCAR) in which case data missing in only 5% of the cases can be replaced or imputed. Data may also be missing at random (MAR) for which such data can be ignored. The third pattern of missing data that features consistently is the missing data at random but not ignorable (MNAR) pattern. In this study, the MCAR approach was used to screen and clean missing values. In cases where missing values were above 5% the researcher deleted the cases. However, if missing values were below 5% the researcher used the hot-deck imputation to replace the missing value. One case was found with missing values above 5% and was subsequently deleted. A total of 374 cases were retained for further analysis.

4.3.2 Outliers

During data collection, some recording errors arise when recording numerical data. When such errors occur, they may result in extreme values in the data set. These extreme values are known as outliers (Aguinis, Gottfredson & Joo, 2013). Cases that consist of extreme values on one variable only are known as univariate outliers. On the contrary cases with extreme values on two or more variables are multivariate

outliers (Tabachnick & Fidell, 2013). Univariate outliers are examined by standardizing the variable scores. According to J.F Hair et al. (2010), a score is an outlier if its falls beyond ±2.5 for samples of size 80 and below or beyond ±3.0 for sample sizes above 80. Table 4.2 indicates that there were two cases with univariate outliers as determined by Z-scores below -3.0 in the herding factors and financial literacy constructs. The two cases were deleted from further analysis living 372 cases.

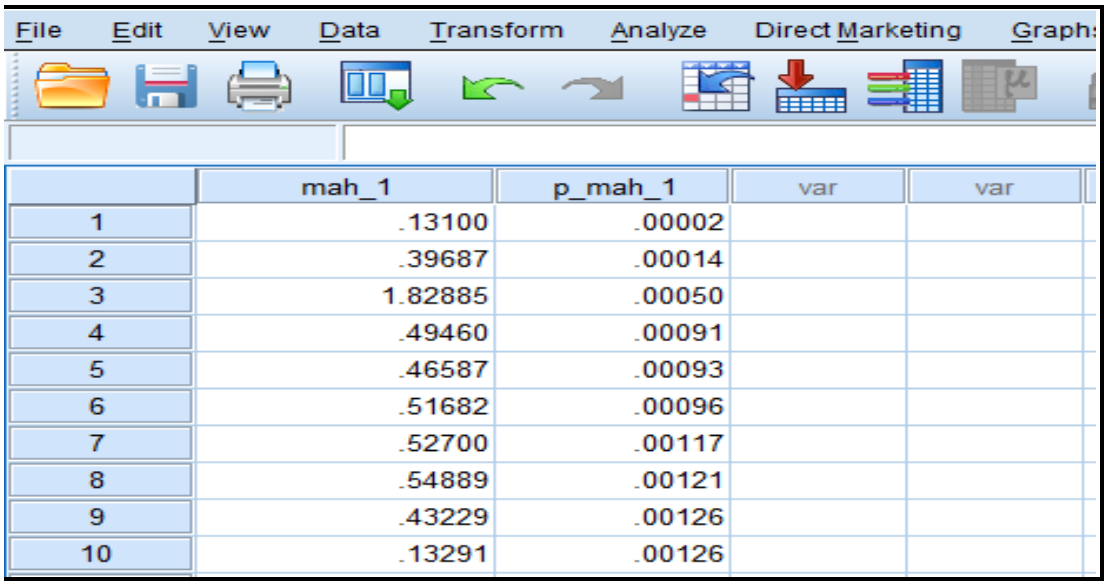
Table 4.2 Univariate Outlier Test Results

	N	Minimum	Maximum
Zscore(InvestmentDecision)	370	-2.99032	1.70537
Zscore(Overconfidence)	370	-2.93748	1.99156
Zscore(AnchoringFactors)	370	-2.55543	1.92764
Zscore(ProspectFactors)	370	-2.44152	1.63634
Zscore(HerdingFactors)	370	-3.01334	1.93753
Zscore(FinancialLiteracy)	370	-3.62660	1.50584

Source: Research Data, (2021)

For multivariate outliers, Mahalanobis distance was examined. Garson (2012) defines Mahalanobis distance denoted by D^2 as the distance between a single case and the centroid of the entire data set. To determine whether the chi square values generated for Mahalanobis distances reflected multivariate outliers, the probabilities of the chi square values were computed. The distances with odds of 0.001 were deemed to show presence of multivariate outliers. In this study, Mahalanobis D^2 was computed by using the linear regression save command followed with checking the Mahalanobis box to obtain the chi square values. All chi square value with probabilities below 0.001 were deemed to have multivariate outliers. As shown in Table 4.3 showing the print-out of the mahalanobis distance results, four cases had mahalanobis probabilities below 0.001. These cases were deemed to be multivariate outliers and were subsequently deleted from further analysis living 366 cases.

Table 4.3: Mahalanobis Distance Results Print-out



	mah_1	p_mah_1	var	var
1	.13100	.00002		
2	.39687	.00014		
3	1.82885	.00050		
4	.49460	.00091		
5	.46587	.00093		
6	.51682	.00096		
7	.52700	.00117		
8	.54889	.00121		
9	.43229	.00126		
10	.13291	.00126		

Source: Research Data, (2021)

4.4 Demographic Results

Demographic characteristic were captured from two perspectives. First and foremost, business-specific characteristics were measured through enterprise size. Next, the proprietors' characteristics were examined through education level, business experience, and country of origin. The results were as presented in Table 4.4.

From the results, the following information was discerned: a majority of the SMEs (85.8%) were micro enterprises. Only 14.2% of the SMEs were small enterprises. The ratio of micro enterprises to small enterprises was therefore 6 to 1 indicating a preference for micro enterprises among Kenyan proprietors. Most of the proprietors (56.6%) had an experience of 5-9 years in running businesses. However, 27% of the proprietors had an experience of below 4 years in the respective business ventures. The proportion of proprietors with 10-14 years running their current business ventures was 13.1%. These findings clearly indicated that poor decision making among proprietors could not be faulted for lack of business experience.

Education wise, most of the proprietors (52.2%) were diploma holders, followed by bachelor's holders (35.5%). Those with post-graduate level were 6.6% while secondary school level were 5.7%. Results showing that most proprietors were either diploma holders or university graduates indicated that they were in a position to maximize behavioral factors and financial literacy to boost their investment decision making acumen. Moreover, the results indicates that most SME proprietors (98.1%) were of Kenyan origin. Only a paltry 1.9% were foreigners.

Table 4.4: Demographic characteristics

		Frequency	Percent
Enterprise Size	Micro	314	85.8
	Small	52	14.2
	Total	**366**	**100**
Experience	Less than 4 yrs	99	27
	5-9 yrs	207	56.6
	10-14 yrs	48	13.1
	Above 15 yrs	12	3.3
	Total	**366**	**100**
Education	Secondary and below	21	5.7
	Diploma	191	52.2
	Undergraduate Degree	130	35.5
	Postgraduate	24	6.6
	Total	**366**	**100**
Origin of Business	Kenyan	359	98.1
	Foreign	7	1.9
	Total	**366**	**100**

Source: Research data (2021)

4.5 Differences in Independent and Moderator Variables across Demographic Characteristics

The study sought to establish whether there were significant differences in the independent and moderator variables across the business-specific and proprietor-specific characteristics. These differences were examined since they amounted to elements of decision making extraneous to the study constructs, and could induce differential expectations among them proprietors (Bassey & Omori, 2015; Ng, *et al*,

2002). One Way therefore, Analysis of Variance (ANOVA) was used to test for the existence of significant differences in overconfidence, anchoring factors, prospect and herding factors, as well as, in financial literacy across enterprise size, enterprise duration, and experience in business, proprietor education and proprietor origin respectively. Under this ANOVA test, Fishers F statistic was examined in each case to see if it was significant in which case a significant difference would be adduced. The ANOVA tests were conducted at the 5% significance level.

4.5.1 Differences in Independent and Moderator Variables across Enterprise Size

The study used ANOVA to show the statistical differences between the study variables and firm size among small and micro enterprises in Nairobi County.The results are presented in Table 4.5. From the results, overconfidence was exhibited more among small enterprises (mean = 3.925) compared to micro enterprises (mean = 3.701). As such, there was a significant difference between firm size and overconfidence ($F= 5.625$, $\rho=0.018<0.05$).

However, there was no significant difference between firm size and anchoring factors ($F= 0.376$, $\rho=0.540>0.05$). There was therefore no difference in anchoring among the small (mean = 3.921) and micro enterprises (mean = 3.867). Consequently, anchoring-wise, the category of the business was inconsequential to investment decision-making.In addition, there was a statistically significant difference between firm size and prospect factors ($F= 4.022$, $\rho=0.046<0.05$). Prospecting was more predominant in small enterprises (mean = 4.185) compared to the micro enterprises (mean = 4.088).

Moreover, there was a statistically significant difference between firm size and financial literacy (F= 6.595, ρ=0.011>0.05). Specifically, financial literacy was exhibited more among the small enterprises (mean = 4.311) when compared to micro enterprises (mean = 4.088). Finally, there was no significant difference between firm size and herding factors (F= 2.318, ρ=0.129>0.05). There was therefore no difference in herding among the small (mean = 3.979) and micro enterprises (mean = 3.846).

Table 4.5: Statistical Differences in Independent and Moderator Variables across Enterprise Size

		N	Mean	Std. Deviation	Std. Error	F	Sig.
Overconfidence	Micro	314	3.701	0.645	0.036	5.625	0.018
	Small	52	3.925	0.547	0.076		
	Total	366	3.733	0.636	0.033		
Anchoring Factors	Micro	314	3.867	0.591	0.033	0.376	0.540
	Small	52	3.921	0.543	0.075		
	Total	366	3.875	0.584	0.031		
Prospect Factors	Micro	314	4.008	0.601	0.034	4.022	0.046
	Small	52	4.185	0.506	0.070		
	Total	366	4.033	0.591	0.031		
Herding Factors	Micro	314	3.846	0.604	0.034	2.318	0.129
	Small	52	3.979	0.450	0.062		
	Total	366	3.865	0.586	0.031		
Financial Literacy	Micro	314	4.088	0.596	0.034	6.595	0.011
	Small	52	4.311	0.474	0.066		
	Total	366	4.120	0.585	0.031		

Source: Research data (2021)

4.5.2 Differences in Independent and Moderator Variables across Enterprise Duration

The study used ANOVA to show the statistical differences between enterprise durationand behavioural factors. The results are highlighted in table 4.6. From the results, overconfidence was exhibited more from enterprises that have been in operation for over 16 years (mean = 3.909) compared to those that have operated for

not more than 5 years (mean = 3.598). However, there was no significant difference between enterprise duration and overconfidence (F= 2.612, ρ=0.051>0.05).

In addition, there was a statistically significant difference between enterprise duration and anchoring factors (F= 3.761, ρ=0.011<0.05). Further on the same, there were higher levels of anchoring among enterprises that had been in operation for over 16 years (mean = 4.076) compared to those that had operated for less than five years (mean = 3.724). This suggests that old enterprises tended to rely on past events to make decisions while those that were new were inclined to new experiences.

Table 4.6: Statistical Differences in Independent and Moderator Variables across Enterprise duration

		Descriptive			ANOVA	
		N	Mean	Std. Deviation	F	Sig.
Overconfidence	0-5 yrs	71	3.598	0.791	2.612	0.051
	6-10 yrs	218	3.789	0.583		
	11- 15 yrs	59	3.633	0.599		
	Above 16	18	3.909	0.603		
	Total	366	3.733	0.636		
Anchoring Factors	0-5 yrs	71	3.724	0.753	3.761	0.011
	6-10 yrs	218	3.935	0.510		
	11- 15 yrs	59	3.773	0.555		
	Above 16	18	4.076	0.623		
	Total	366	3.875	0.584		
Prospect Factors	0-5 yrs	71	3.813	0.762	4.334	0.005
	6-10 yrs	218	4.083	0.506		
	11- 15 yrs	59	4.072	0.636		
	Above 16	18	4.176	0.444		
	Total	366	4.033	0.591		
Herding Factors	0-5 yrs	71	3.762	0.741	1.660	0.175
	6-10 yrs	218	3.885	0.564		
	11- 15 yrs	59	3.851	0.456		
	Above 16	18	4.082	0.480		
	Total	366	3.865	0.586		
Financial Literacy	0-5 yrs	71	3.990	0.762	2.515	0.058
	6-10 yrs	218	4.133	0.529		
	11- 15 yrs	59	4.144	0.543		
	Above 16	18	4.386	0.462		
	Total	366	4.120	0.585		

Source: Research data (2021)

Also, there is a statistically significant difference between enterprise duration and prospect factors (F= 4.334, ρ=0.005<0.05). Particularly, with an increase in enterprise duration, there is more prospecting among the enterprises. However, there was no statistically significant difference between enterprise duration and herding (F= 1.660, ρ=0.175>0.05). The implication is that enterprise duration has no significant difference with herding. Similarly, enterprise duration and financial literacy exhibited no significant difference (F= 2.515, ρ=0.058>0.05). As such, there is no difference in financial literacy with change in enterprise duration.

4.5.3 Differences in Independent and Moderator Variables across Proprietor Experience

A one-way analysis of variance (ANOVA) was performed to find out if there was a significant difference between proprietor experience and overconfidence. Table 4.7 highlights the findings. From the findings, there was no statistically significant difference between proprietor experience and overconfidence (F= 0.819, ρ=0.484>0.05). As such, there was no significant difference in overconfidence with increasing proprietor experience.

Similarly, there was no significant difference between proprietor experience and anchoring factors (F= 0.296, ρ=0.828>0.05). There was therefore no difference in anchoring factors with increasing proprietor experience. However, there was a statistically significant difference between proprietor experience and prospect factors (F= 3.444, ρ=0.017<0.05). Particularly, with an increase in proprietor experience, there was more emphasis on prospecting among the enterprises.

In addition, there was no statistically significant difference between proprietor experience and herding (F= 0.035, ρ=0.991>0.05). Consequently, there was no change in herding with an increase in proprietor experience. Finally, proprietor experience and financial literacy exhibited no significant difference (F= 1.167, ρ=0.322>0.05). As such, there was no difference in financial literacy with change in proprietor experience.

Table 4.7: Statistical Differences in Independent and Moderator Variables across Proprietor Experience

		N	Mean	Std. Deviation	F	Sig.
Overconfidence	Less than 4 yrs	99	3.711	0.751	0.819	0.484
	5-9 yrs	207	3.754	0.587		
	10-14 yrs	48	3.639	0.582		
	Above 15 yrs	12	3.922	0.647		
	Total	366	3.733	0.636		
Anchoring Factors	Less than 4 yrs	99	3.862	0.712	0.296	0.828
	5-9 yrs	207	3.896	0.516		
	10-14 yrs	48	3.811	0.568		
	Above 15 yrs	12	3.876	0.625		
	Total	366	3.875	0.584		
Prospect Factors	Less than 4 yrs	99	3.872	0.696	3.444	0.017
	5-9 yrs	207	4.088	0.514		
	10-14 yrs	48	4.103	0.631		
	Above 15 yrs	12	4.130	0.535		
	Total	366	4.033	0.591		
Herding Factors	Less than 4 yrs	99	3.861	0.701	0.035	0.991
	5-9 yrs	207	3.862	0.560		
	10-14 yrs	48	3.876	0.453		
	Above 15 yrs	12	3.913	0.511		
	Total	366	3.865	0.586		
Financial Literacy	Less than 4 yrs	99	4.057	0.696	1.167	0.322
	5-9 yrs	207	4.122	0.543		
	10-14 yrs	48	4.185	0.507		
	Above 15 yrs	12	4.342	0.528		
	Total	366	4.120	0.585		

Source: Research data (2021)

4.5.4 Differences in Independent and Moderator Variables across Proprietor Education

ANOVA was performed to find out if there was a significant difference between proprietor education and behavioral factors. The findings are illustrated in table 4.8. Basing on the findings in the table, there was no statistically significant difference between proprietor education and overconfidence ($F= 1.062$, $\rho=0.365>0.05$). The implication is that proprietor education has no influence on overconfidence.

In addition, there was no statistically significant difference between proprietor education and anchoring factors ($F= 0.989$, $\rho=0.398>0.05$). As such, proprietor education was not a factor in determining anchoring among the proprietors. Also, there is no statistically significant difference between proprietor education and prospecting ($F= 2.350$, $\rho=0.072>0.05$). Particularly, a change in proprietor education would have no influence on prospecting.

As well, there was no statistically significant difference between proprietor education and herding factors ($F= 1.445$, $\rho=0.229>0.05$). Consequently, there is no change in herding with an increase in proprietor education. However, there was a statistically significant difference between proprietor education and financial literacy ($F= 3.522$, $\rho=0.015<0.05$). Therefore, with higher education qualifications, there is an improvement in financial literacy.

Table 4.8: Statistical Differences in Independent and Moderator Variables across Proprietor Education

		N	Mean	Std. Deviation	F	Sig.
Overconfidence	Secondary and below	21	3.752	0.774	1.062	0.365
	Diploma	191	3.717	0.650		
	Undergraduate Degree	130	3.712	0.589		
	Postgraduate	24	3.954	0.643		
	Total	366	3.733	0.636		
Anchoring Factors	Secondary and below	21	3.723	0.715	0.989	0.398
	Diploma	191	3.885	0.595		
	Undergraduate Degree	130	3.859	0.520		
	Postgraduate	24	4.016	0.689		
	Total	366	3.875	0.584		
Prospect Factors	Secondary and below	21	3.822	0.800	2.350	0.072
	Diploma	191	3.988	0.585		
	Undergraduate Degree	130	4.117	0.558		
	Postgraduate	24	4.125	0.547		
	Total	366	4.033	0.591		
Herding Factors	Secondary and below	21	3.840	0.676	1.445	0.229
	Diploma	191	3.841	0.620		
	Undergraduate Degree	130	3.861	0.538		
	Postgraduate	24	4.103	0.435		
	Total	366	3.865	0.586		
Financial Literacy	Secondary and below	21	3.877	0.770	3.522	0.015
	Diploma	191	4.078	0.604		
	Undergraduate Degree	130	4.173	0.518		
	Postgraduate	24	4.377	0.480		
	Total	366	4.120	0.585		

Source: Research data (2021)

4.5.5 Differences in Independent and Moderator Variables across Proprietor Origin

To establish whether there is a difference between proprietor origin and behavioral factors, a one-way analysis of variance (ANOVA) was performed. Table 4.9 highlights the results. ANOVA yielded no statistically significant difference between proprietor origin and overconfidence ($F= 2.386$, $\rho=0.123>0.05$). Therefore, proprietor origin had no influence on overconfidence. As well, there was no statistically

significant difference between proprietor origin and anchoring factors (F= 0.676, ρ=0.411>0.05). The implication is that the proprietor origin had no influence on anchoring.

Also, there was no statistically significant difference between proprietor origin and prospect factors (F= 2.209, ρ=0.138>0.05). Similarly, there was no statistically significant difference between proprietor origin and herding (F= 0.605, ρ=0.437>0.05). Consequently, the proprietor origin would have no influence on herding. Finally, there was no statistically significant difference between proprietor origin and financial literacy (F= 2.187, ρ=0.14>0.05).

Table 4.9: Statistical Differences in Independent and Moderator Variables across Proprietor Origin

		N	Mean	Std. Deviation	F	Sig.
Overconfidence	Kenyan	359	3.7256	0.63254	2.386	0.123
	Foreign	7	4.1	0.77244		
	Total	366	3.7328	0.6363		
Anchoring Factors	Kenyan	359	3.8715	0.58237	0.676	0.411
	Foreign	7	4.0548	0.66741		
	Total	366	3.875	0.58361		
Prospect Factors	Kenyan	359	4.0269	0.5922	2.209	0.138
	Foreign	7	4.3614	0.42475		
	Total	366	4.0333	0.5908		
Herding Factors	Kenyan	359	3.8618	0.58683	0.605	0.437
	Foreign	7	4.0357	0.53907		
	Total	366	3.8651	0.58576		
Financial Literacy	Kenyan	359	4.1135	0.58291	2.187	0.14
	Foreign	7	4.4429	0.62144		
	Total	366	4.1198	0.58452		

Source: Research data (2021)

4.6 Factor Analysis

Factor analysis was conducted with the primal aim of establishing unidimensionality in items measuring specific constructs as well as in establishing the complexity of

factor structure accomplished through varimax rotation. Construct validity was also examined through the use of factor analysis. This assisted in testing interdependency of questionnaire items as per the indicators of variables in the conceptual framework. Factor analysis is often leveraged to capture variability within variables. In most cases, besides removing redundant items, factor analysis also segregates data into distinct factors. In addition, factor analysis aims to find independent latent variables. The study utilized factor analysis to not only test correlations between questionnaire items of same variable but also to test interdependence between questions to obtain correct results. This is a commonly used inter-dependency techniques to show how variables depend on each other internally. Such a process is usually taken to identify latent factors that form a communality.

Principal components analysis (PCA) was therefore the factor analysis approach employed in this study to confirm scale dimensionality in terms of factor structure, sampling adequacy and Bartlet's measure of Sphericity. PCA is noted to be quite effective in explaining scale dimensionality (Laerd Statistics, 2015). The Kaiser-Meyer-Olkin (KMO) framework was used to examine sampling adequacy and Bartlet's measure of Sphericity. Under this approach the KMO statistic was interpreted on Kaisers (1974) scale. On the scale KMO $\geq$0.9 was deemed to be marvelous, 0.8$\leq$ KMO < 0.9 was deemed meritorious, 0.7$\leq$ KM0 <0.8 was deemed middling, 0.6$\leq$ KMO <0.7 was deemed mediocre, 0.5 $\leq$KMO < 0.5 was deemed miserable and KMO< 0.5 was deemed unacceptable.

4.6.1 Factor Analysis for Investment Decision

Table 4.10 indicates that most factor loadings were greater than 0.5. Two items had factor loadings below 0.5 and were dropped from further analysis. The factor loadings

indicated a simple structure where each item loaded on a single component. However, two items had loading factor of less than 0.05 and were dropped from further analysis notably “Investors’ confidents about accuracy of investment decisions” and “The SME considers all possible factors while making investment decisions”. Thus, the study retained 8 items for further analysis. To sum up, the first factor accounted for 18.34% of the total variance, second factor accounted for 32.44% and the third factor 45.95% of the total variance. The Kaiser-Meyer-Olkin Measure value (0.616) was above 0.5 hence acceptable. Also, the Bartlett’s test was significant.

Table 4.10: Factor analysis for investment decision

	1	2	3
1.SME has increased the amount to be invested asset category	0.548		
2.SME has been able to open many branches in other part of the country	0.779		
3.SME has been able to diversify its business in other sectors	0.770		
4.The SME able to borrow more loans which have increased its business stock		0.585	
5.SME decision-making helps the enterprise to achieve its investment objectives		0.724	
6.In general, the SME satisfied with the way of making investment decisions			0.515
7.SME investments decisions can mostly earn higher than average return in the market			0.679
8.SME make all investment decisions on its own			0.637
9.Investors’ confidents about accuracy of investment decisions	dropped		
10.The SME considers all possible factors while making investment decisions	dropped		
KMO and Bartlett's Test			
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.616	
Bartlett's Test of Sphericity, Approx. Chi-Square		283.737	
Df		45	
Sig.		0.000	
Total Variance Explained: Rotation Sums of Squared Loadings			
Total	1.83	1.41	1.35
% of Variance	18.34	14.11	13.50
Cumulative %	18.34	32.44	45.95

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Source: Research data (2021)

4.6.2 Factor Analysis for Behavioral Factors

The study tested validation of data for 22 items behaviors factors (5 items for overconfidence, 5 for anchoring, 5 for prospect, and 7 for herding). Table 4.10 shows the PCA output for behavioural factors following a varimax rotation. Factor analysis was carried out on behavioral factors. In cases of loadings above 0.5 the respective items were retained for further analysis. From Table 4.11 all factor loading of overconfidence were above 0.5 and were retained. Similarly, all the five items measuring anchoring were retained. Items measuring prospect had a factor loading below 0.5 which was dropped. Such was the case for items measuring herding.

The KMO value of 0.792 and the significant Bartlett's measure of sphericity, 2169.25, $p < 0.001$ indicated that data measuring behavioral factors had attained sampling adequacy at a middling level, and was unidimesional. The extracted factors explained up to 52.9% of the total variance. Meanwhile, overconfidence accounted for 22.96% of the total variance explained, anchoring accounted for 12.04%, prospect 11.79% and herding 6.905%.

Table 4.11: Factor Analysis for Behavioral factors

	Overconfidence Factor	Anchoring Factor	Prospect Factor	Herding Factor
overconfidence item1	0.832			
overconfidence item2	0.809			
overconfidence item3	0.744			
overconfidence item4	0.749			
overconfidence item5	0.657			
Anchoring item1		0.684		
Anchoring item2		0.797		
Anchoring item3		0.771		
Anchoring item4		0.833		
Anchoring item5		0.839		
Prospect Item1			0.705	
Prospect Item2			0.744	
Prospect Item3			0.645	
Prospect Item4			0.663	
Prospect Item5			Dropped	
Herding item1				0.688
Herding item2				0.76
Herding item3				0.743
Herding item4				0.704
Herding item5				0.85
Herding item6				0.614
Herding item7				dropped
KMO and Bartlett's Test				
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.792		
Bartlett's Test of Sphericity, Approx. Chi-Square		2169.247		
Df		190		
Sig.		0.00		
Total Variance Explained: Rotation Sums of Squared Loadings				
Initial Eigenvalues	4.439	2.409	2.357	1.381
% of Variance	22.196	12.043	11.785	6.905
Cumulative %	22.196	34.24	46.024	52.929

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 6 iterations.

Source: Research data (2021)

4.6.3 Factor Analysis for Financial Literacy

Eight items were originally used to measure financial literacy. The KMO value of 0.708 was in the middling category of Kaiser Classification and indicated sampling

adequacy. The significant measure of sphericity, $\chi 2$ (28) =580.2, $p<0.001$ indicated that data measuring financial literacy was complete and suitable for PCA.

As shown in Table 4.12, all factor loadings for the items measuring financial literacy were above 0.5 indicating that all the items were retained. The structure was simple as determined by items loading on only one component. Two components were extracted and explained up to 52.85 of the total variance.

Table 4.12: Factor Analysis of Financial Literacy

	1	**2**
1.The SMEs gathers data and analyze current financial situation	0.762	
2.The proprietor execute plan with the help of experts	0.77	
3.The SMEs review financial plan periodically after implementation	0.744	
4.The proprietor has knowledge on financial management		0.627
5.Well conversant when it comes to matters relating to financial issues		0.728
6.There is confident in making financial or saving decisions		0.728
7.The proprietor understanding of financial planning		0.588
8.The SMEs sets financial goals and objectives for my business		0.521
KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.708	
Bartlett's Test of Sphericity,Approx. Chi-Square	580.215	
Df	28	
Sig.	0.000	
Total Variance Explained: Rotation Sums of Squared Loadings		
Initial Eigenvalues	2.144	2.081
% of Variance	26.801	26.018
Cumulative %	26.801	52.819

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 3 iterations.

Source: Research data (2021)

4.7 Reliability Test

Cronbach's alpha was used to test internal consistency of items measuring the six constructs under study. Results of this test as shown in Table 4.13 confirmed that all the six construct had met the reliability threshold of a Cronbach's alpha above 0.7. The anchoring construct had the lowest Cronbach's alpha value at 0.705. This was followed by herding with the second lowest at 0.707. Overconfidence with reliability coefficient of 0.818 had the highest Cronbach's alpha. This was followed with the prospect construct (α=0.717), financial literacy (α=0.716), and investment decision (α=0.711) respectively.

Table 4.2: Reliability Test

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Investment decision	0.711	0.723	8
Overconfidence	0.818	0.816	5
Anchoring Factors	0.705	0.71	5
Prospect Factors	0.717	0.719	4
Herding Factor	0.707	0.729	6
Financial literacy	0.716	0.715	8

Source: Research data (2021)

4.8 Descriptive Statistics

Mean and standard deviations were the main descriptive statistics used in this study. The mean scores depicted the typical response among the participating proprietors while standard deviations indicated variation in the mean scores as an indicator of consistency in response. Skewness and kurtosis were leveraged to give an indication of the distribution of data across variables.

4.8.1 Descriptive Statistics for Overconfidence

Pompian (2006) perceives overconfidence as an unrequired faith that permeates an individual's cognition, judgment and intuitive reasoning. It reflects the tendency among the proprietors to exaggerate their predictive abilities, precision in information, and knowledge during their business undertakings. Therefore the study deemed it important to examine the impact of over confidence among proprietors on investments decisions in the context of SMEs located in Nairobi County. Table 4.14 summarizes the findings made. Basing on the findings from Table 4.14, Debt finance decision are mostly based on credit rather than loans (mean = 4.06, SD = 0.78). This finding indicates that most proprietors were inclined towards credit pre-eminence over other forms of financing. It was also established that loss and risks were overlooked when making an investment deal (mean = 4.00, SD = 0.87). This finding provides evidence that the proprietors exuded overconfidence when making investment decisions, and were not threatened by losses. They had the preference of risk taking. Despite this, such a position remains precarious and may be an avenue for negative financial outcomes.

The study further demonstrated that personal ability and competences were overestimated when making decisions (mean = 3.87, SD = 0.84). It appears that the proprietors overestimate their abilities and skills when making investment decisions. Consequently, investment in the business is always overestimated (mean = 3.75, SD = 0.89). Also, overestimation affects the ability to control the financial outcome (mean = 3.51, SD = 0.90). The proprietors assume that they have full control over their portfolio but in the end, they tend to make impulsive decisions that affect their ability

to control the financial outcome. Overall, the items on overconfidence summed up to a mean of 3.73, standard deviation 0.64, skewness – 0.62 and kurtosis 0.24.

Table 4.4: Descriptive Statistics for Overconfidence

n=366	Mean	Std. Deviation	Skewness	Kurtosis
Over estimation affect the ability to control the financial outcome	3.51	0.90	-0.44	-0.05
Investment in the business is always overestimated	3.75	0.89	-0.31	-0.51
Personal ability and competences are overestimated in making decision	3.87	0.84	-0.64	0.63
Loss and risk are overlooked before making an investment deals	4.00	0.87	-0.89	1.01
Debt finance decision are mostly based on credit rather than loans.	4.06	0.78	-0.48	-0.24
Overconfidence	**3.73**	**0.64**	**-0.62**	**0.24**

Source: Research data (2021)

4.8.2 Descriptive Statistics for Anchoring Factor

Mangot (2008) defines anchoring as the tendency among proprietors to use a families reference position known as an anchor as the basis of decision and estimations. The essence is that business proprietors are sometimes bound to focus their decision on irrelevant aspects that may result in unrequired consequences. It was therefore necessary to use the Nairobi context to examine how anchoring among proprietors of SMEs affects their investment decisions.

Form the findings shown in \Table 4.15, use of collected information dictated the decision making process (mean=4.07, SD=0.56). Such a finding confirms that proprietors tend to rely on available information to make decisions on investment even though such information may not relate to investment decisions influenced by previous experiences in the business (Mean =4.05, SD=0.78). Moreover proprietors often dilly dallied with the purchase of new products (Mean =3.99, SD=0.78). It could

be that the proprietors rely on past prices that they deemed as fair and tend to be more conservative to the initial reference point. Meanwhile other key findings included; information in the market influencing decisions on investment (Mean =3.98, SD=0.66) and that prices that are prejudged often turn out to be less than original prices (Mean =3.90, SD=0.68). On the overall, the anchoring practice was common among the MSE as determined by an overall mean of 3.88 and standard deviation of 0.58.

Table 4.15: Descriptive Statistics for Anchoring Factor

	Mean	Std. Deviation	Skewness	Kurtosis
Most decision-making processes involves the use of information collected	4.07	0.56	-0.93	4.89
Prejudge prices are mostly found to be lower than the initial price.	3.90	0.68	-0.78	1.36
Decision making is sensitive to business information available as experience in the past.	3.98	0.66	-0.50	0.84
It takes time to purchase new products in the market	3.99	0.78	-0.51	0.35
Past experience with the business affect purchase decisions	4.05	0.78	-0.58	0.47
Anchoring Factors	**3.88**	**0.58**	**-0.78**	**0.78**

Source: Research data (2021)

4.8.3 Descriptive Statistics for Prospect Factor

Prospect is a situation whereby a business decision is made basing on the perceived facts about a given phenomenon.Waweru *et al,* (2003) described prospect as some state of mind affecting an individual's decision-making processes including regret aversion, loss aversion and mental accounting. The study therefore sought to establish the effect of prospecting on investment decision making among SMEs in Nairobi County. Table 4.16 highlights the results. Evidently, business ideas come from experienced business proprietors (mean = 4.37, SD = 0.771). This suggests that the

proprietors seek as much information as possible from experienced business proprietors to avoid poor investment choices. Furthermore, most business ventures are tried and proven concept with the locality (mean = 4.31, SD = 0.817). Consequently, the proprietors only invest when they are sure of success. Moreover, most business ideas are pouched from successful stories in business (mean = 4.24, SD = 0.735). In addition, making decision is based on high returns of an investment (mean = 4.09, SD = 0.617). Prospect factors summed up to a mean of 4.033, standard deviation of 0.5908, skewness -1.167 and kurtosis 1.393.

Table 4.16: Prospect Factors

n=366	Mean	Std. Deviation	Skewness	Kurtosis
Making decision is based on high returns of an investment	4.09	0.617	-1.045	3.902
Most business ideas are pouched from successful stories in business	4.24	0.735	-1.041	1.946
Business ideas comes from experienced business proprietors.	4.37	0.771	-1.276	1.893
Most business venture are tried and proven concept with the locality	4.31	0.817	-1.556	3.416
Prospect Factors	**4.0333**	**0.5908**	**-1.167**	**1.393**

Source: Research data (2021)

4.8.4 Descriptive Statistics for Herding Factors

Herding refers to the tendency of investors' behaviour to follow the others' actions. It is a situation whereby the investors rely on collective information more than privation. Table 4.17 illustrates the results. Basing on the results in the Table, expansion is based on profit in the present business size (mean = 3.85, SD = 0.82). Also, there is a higher likelihood of increasing investment in the same line of business in future (mean = 3.74, SD = 0.73). Moreover, whenever the prices of the goods are low, the enterprise reduces sales and sells at high prices (mean = 3.73, SD = 0.84).

Further, past investment affect what to invest in future (mean = 3.51, SD = 0.88). Nevertheless, there is doubt whether the price changes of securities are considered before investing (mean = 2.84, SD = 1.13). Overall, herding factors summed up to a mean of 3.87, standard deviation of 0.59, skewness -0.77 and kurtosis 0.16.

Table 4.17: Descriptive Statistics for Herding Factors

n=366	Mean	Std. Deviation	Skewness	Kurtosis
Price changes of securities are considered before investing	2.84	1.13	0.17	-1.24
Past investment affect what to invest in future	3.51	0.88	-0.06	-0.24
There is highly likelihood of increasing investment in the same line of business in future	3.74	0.73	-0.65	0.67
Expansion is based on profit in the present business size.	3.85	0.82	-0.75	0.64
Whenever the prices of goods/ services that the business is engaged in fluctuates affect buying pattern until the prices stabilize.	3.74	0.82	-0.91	1.22
Prices of the goods are affected sales low price the enterprise reduce sales and sell at high	3.73	0.84	-0.57	0.57
Herding Factors	**3.87**	**0.59**	**-0.77**	**0.16**

Source: Research data (2021)

4.8.5 Descriptive Statistics for Financial Literacy

Financial literacy is perceived as a measure of individual's understanding, confidence and ability in handling financial concepts for long-term or short term investment decisions (Nye & Cinnamon, 2013). It has been demonstrated that investment decisions arise from high financial knowledge and vice versa (Mahmoud, 2011). According to Mahmoud, informed investment decisions involving money are often made by proprietors with vast skills in financial literacy. Such skills enable businesses to optimize resource. As shown in table 4.18, the data analysis revealed the following;

proprietors were confident in making financial or saving decisions (Mean =4.31, SD=0.82); proprietors were conversant with financial issues (Mean =4.16, SD=0.72). Moreover, they have an understanding of financial planning (mean = 4.11, SD = 0.82) and knowledge on financial management (mean = 4.00, SD = 0.62). In addition, the SMEs review financial plan periodically after implementation (mean = 3.97, SD = 0.65).

Beside the SMEs set financial goals and objectives for their businesses. As well the SMEs based financial decisions on well gathered and analyzed data (Mean =3.66, SD=0.82). However, there was doubt whether proprietors exploited expert opinions when making decisions (Mean =3.04, SD=1.01). The overall mean score was 4.12 with a standard deviation of 0.58 being an indication that proprietors possessed financial literacy skills and their businesses had put in place measures such as financial planning, setting financial goals , collecting information and assaying the prevailing financial status before entering into financial decisions..

Table 4.18: Financial Literacy

n=366	Mean	Std. Deviation	Skewness	Kurtosis
The proprietor has knowledge on financial management	4.00	0.62	-1.50	5.77
Well conversant when it comes to matters relating to financial issues	4.16	0.75	-1.21	3.26
There is confident in making financial or saving decisions	4.31	0.82	-1.28	2.03
The proprietor understanding of financial planning	4.11	0.82	-0.99	1.50
The SMEs sets financial goals and objectives for my business	3.92	0.80	-0.97	1.90
The SMEs gathers data and analyze current financial situation before make a financial decision	3.66	0.82	-0.72	0.86
The proprietor execute plan with the help of experts i.e. financial planner, insurance advisor, etc.	3.04	1.01	-0.01	-0.22
The SMEs review financial plan periodically after implementation	3.97	0.65	-0.88	2.79
Financial Literacy	**4.12**	**0.58**	**-0.85**	**0.91**

Source: Research data (2021)

4.8.6 Investment Decision

Investment decision is recognized as the capability to identify an appropriate investment option that defines an outlay that maximizes cash flows for their future and guarantees business growth in the long run. Descriptive analysis of the investment decision construct revealed the following (Table 4.19): investment objectives were achieved through prudent decision making (Mean =4.39, SD=0.72). Strategies used in investment decision making appealed to MSEs (Mean =4.21, SD=0.76). Besides, they make their investment decisions on their own (mean = 4.19, SD = 0.77). In addition, their ability to borrow loans have increased their business stock (mean = 4.11, SD = 0.76). As well, the SMEs have been able to diversify their business in other sectors (mean = 3.89, SD = 1.06) and open branches in other parts of the country (mean = 3.88, SD = 1.05). Finally, the SMEs have increased the amount to be invested in the asset category (mean = 3.70, SD = 0.98). Generally, the findings on

investment decision summed up to a mean of 3.82, standard deviation of 0.69, skewness -0.58 and kurtosis 0.26.

Table 4.19: Investment Decision

n=366	Mean	Std. Deviation	Skewness	Kurtosis
In general, the SME satisfied with the way of making investment decisions	4.24	0.69	-0.96	1.69
SME decision-making helps the enterprise to achieve its investment objectives	4.39	0.72	-1.35	2.28
SME investments decisions can mostly earn higher than average return in the market	4.21	0.76	-0.82	0.53
SME make all investment decisions on its own	4.19	0.77	-0.85	0.65
SME has increased the amount to be invested asset category	3.70	0.98	-0.09	-1.05
SME has been able to open many branches in other part of the country	3.88	1.05	-0.44	-1.07
SME has been able to diversify its business in other sectors	3.89	1.06	-0.43	-1.11
The SME able to borrow more loans which have increased its business stock	4.11	0.76	-0.72	0.47
Investment Decision	**3.82**	**0.69**	**-0.58**	**0.26**

Source: Research data (2021)

4.9 Data Transformation

Data transformation was conducted by calculating descriptive statistics of all variables under study. In this way the computed statistics included minimum and maximum values for each construct; means and associated standard deviations; and normality measures of Skewness and Kurtosis. Table 4.20 illustrates the data transformation results. Financial literacy posted the largest mean score of 4.12. Prospect had a mean score of 4.03; overconfidence had a mean of 3.73. These mean scores imply that the SME proprietors in Nairobi County elicited high financial literacy skills. Moreover, they exuded lower overconfidence when making investment decisions. The variations

among the reported mean scores were quite low an indication of highly consistency in responses.

Table 4.20 Data Transformation

	N	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
Investment Decision	366	2.00	5.00	3.82	0.69	-0.58	0.26
Overconfidence	366	1.00	5.00	3.73	0.64	-0.62	0.24
Anchoring Factors	366	1.00	5.00	3.88	0.58	-0.78	0.78
Prospect Factors	366	2.00	5.00	4.03	0.59	-1.17	1.39
Herding Factors	366	2.00	5.00	3.87	0.59	-0.77	0.16
Financial Literacy	366	2.00	5.00	4.12	0.58	-0.85	0.91

Source: Research data (2021)

4.10 Robustness Tests

Prior to performing inferential analyses, robustness tests were conducted to evaluate the model assumptions. Multiple regression analysis makes several statistical assumptions that needed to be tested to establish if the data met the normality, linearity, heteroscedasticity, multicollinearity and autocorrelation assumptions. It was on the basis of these results, that the tests of associations and prediction were performed.

4.10.1 Test of Linearity

Hair et al. (2010) postulate that multivariate approaches such as multiple regression require linearity to be conducted. Consequently, linearity between the behavioral factors and investment decisions on one hand, and between financial literacy and investment decisions on the other was tested using ANOVAs measures of association. Table 4.21 indicates that linearity existed between investment decision and

overconfidence (F=231.663, p<0.001); investment decision and anchoring factors (F=339.79, p<0.001); investment decision and prospect factors (F=342.821, p<0.001); investment decision and herding factor (F=513.156, p<0.001); and between investment decision and financial literacy (F=453.612, p<0.001). The linearity assumption was upheld.

Table 4.21: Test of Linearity

		ANOVA Table		Measures of Association	
		F	Sig.	R Squared	Eta Squared
Investment Decision * Overconfidence	Linearity	231.663	0.000	0.358	0.526
Investment Decision * Anchoring Factors	Linearity	339.790	0.000	0.464	0.593
Investment Decision * Prospect Factors	Linearity	342.821	0.000	0.487	0.587
Investment Decision * Herding Factors	Linearity	513.156	0.000	0.566	0.674
Investment Decision * Financial Literacy	Linearity	453.612	0.000	0.508	0.649

Source: Research data (2021)

4.10.2 Normality

The Kolmogorov-Smirnov test was used to test the assumptions of normality. Under this test, the Kolmogorov-Smirnov statistics were generated and assessed for significance. As shown in table 4.22, the unstandardized residuals representing the three constructs were as follows; unstandardized residual (stat=0.022, p>0.05), standardized residual (stat=0.022, p>0.05), studentized residual (stat=0.021, p>0.05). The normality assumption was not violated.

Table 4.22: Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	0.022	366	.200*	0.999	366	0.991
Standardized Residual	0.022	366	.200*	0.999	366	0.991
Studentized Residual	0.021	366	.200*	0.998	366	0.988

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Normality assumption was confirmed for regression residuals by using the normal P-P plot of standardized residuals of expected cumulative probabilities plotted against observed cumulative frequencies. Consequently, under the P-P plot approach, residuals were deemed to be normally distributed if residual points were aligned along the diagonal line. The resulting normal P-P plot (Fig. 4.1) confirmed the assumption of normality had not been violated with residual plots being well aligned with the diagonal

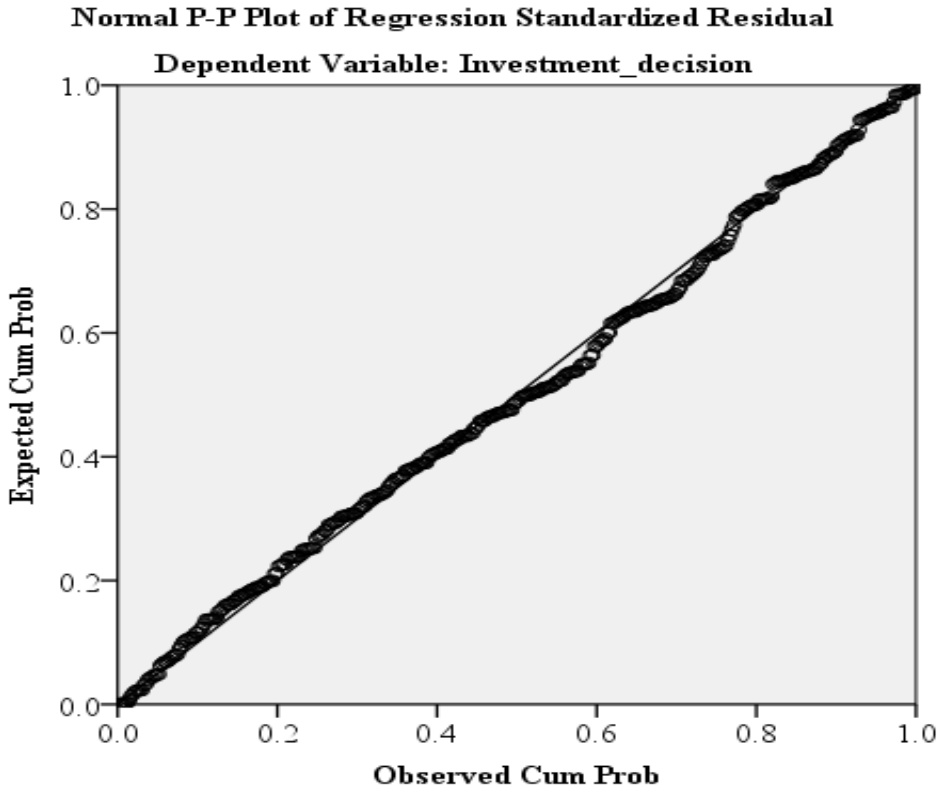


Figure 4.1 Results of normality of standardized regression residuals

4.10.3 Heteroscedasticity

Homogeneity of variances was used as synonymous to heteroscedasticity. Homogeneity of variances was therefore tested using the levene statistics. The test was conducted at 5% significance level. Significant levene statistics denoted violation of the assumption of homogeneity. Results in table 4.23 revealed that the assumption

of homogeneity of variances was not violated. The levene statistics for all the six constructs were non-significant

Table 4.23: Heteroscedasticity

Test of Homogeneity of Variances				
	Levene Statistic	**df1**	**df2**	**Sig.**
Investment Decision	1.133	1	364	0.288
Overconfidence	2.741	1	364	0.099
Anchoring Factors	0.528	1	364	0.468
Prospect Factors	1.744	1	364	0.187
Herding Factors	8.547	1	364	0.104
Financial Literacy	3.292	1	364	0.170

Source: Research data (2021)

4.10.4 Multicollinearity

Multiple regression analysis makes the assumption that covariates are not closely related amongst themselves. High correlations within the predictions leads to multicollinearity. Hair et al. (2014) argues that multicollinearity masks the contributions made by each independent variable to the overall proportion of variance explained. Both tolerance and VIF were used to test for the presence of multicollinearity.. The threshold used was VIF of 5 such that values below 5 indicated lack of multicollinearity. Results of the test shown in Table 4.24 produced tolerance values above 0.1 [0.34, 0.433] and VIF below 5 [2.311, 2935]. This indicated lack of multicollinearity.

Table 4.24: Multicollinearity

	Collinearity Statistics	
	Tolerance	**VIF**
Overconfidence	0.433	2.311
Anchoring Factors	0.341	2.935
Prospect Factors	0.371	2.699
Herding Factors	0.396	2.525
Financial Literacy	0.393	2.543

a Dependent Variable: Investment Decision

Source: Research data (2021)

4.10.5 Autocorrelation

The Durbin Watson statics tested the presence of autocorrelation. According to Hair et al. (2014), autocorrelation relates to independence of observation and reflects correlations in residuals of adjacent observations. Such correlations are bound to exaggerate or undervalue parameters. The threshold of $1.5 \leq d \leq 2.5$ was used to interpret the findings. The DW statistic shown in table 2.25 was valued 2.068 indicating lack of autocorrelation. The assumption was upheld.

Table 4.25: Autocorrelation

Model Summary b		
Model	**Std. Error of the Estimate**	**Durbin-Watson**
1	0.38854	2.068

a Predictors: (Constant), Financial Literacy, Overconfidence, Prospect Factors, Herding Factors, Anchoring Factors
b Dependent Variable: Investment Decision
Source: Research data (2021)

4.11 Correlation Results

To examine the degree of association experienced among variables, the Pearson's correlation approach was used. The degree of association was assessed between investment decision and each of the overconfidence, anchoring, prospects, herding, financial literacy, firm size, and enterprise duration variables. Results presented in Table 4.26 advanced the following: overconfidence correlated positively and significantly with investment decisions ($r=.598$ $p<.05$); anchoring correlated positively and significantly with investment decisions ($r=.631$, $p<.05$); prospect factors correlated positively and significantly with investment decision ($r=.698$ $p<.05$); herding factors correlated positively and significantly with investment decisions ($r=.752$ $p<.05$); financial literacy correlated positively and significantly with investment decisions ($r=.713$ $p<.05$); firm size correlated positively and significantly

with investment decisions ($r=.149$ $p<.05$); and enterprise duration correlated positively and significantly with investment decisions ($r=.115$ $p<.05$). The results confirmed existence of linear relationships between behavioral factors, financial literacy, and investment decision hence the need to run the multiple regression analysis

Table 4.26: Correlation Results

	1	2	3	4	5	6
Investment Decision (1)	1					
Overconfidence (2)	.598**	1				
Anchoring (3)	.681**	.723**	1			
Prospect (4)	.698**	.631**	.722**	1		
Herding (5)	.752**	.586**	.630**	.611**	1	
Financial literacy (6)	.713**	.490**	.587**	.670**	.720**	1

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

Source: Research data (2021)

4.12 Control Effect

The control variables used in the regression analysis were the proprietor-specific characteristics of level of education, business experience, and country of origin. First their potential effects on investment decision making were analyzed before being controlled for in subsequent analyses. A multiple regression analysis was run by regressing decision making on the three control variables. Equation 4.1 presents the conceptualized model for control variables.

$ID=\beta_0 + \beta_1 PLE + \beta_2 PE + \beta_3 PO + \varepsilon$………………………………………….... (4.1)

Where;

ID = Investment decision

PLE = Proprietor level of education

PE =Proprietor experience

PO = Proprietor origin

Results presented in Table 4.27 indicates the percentage of variation in decision making explained by the three control variables (R square), the viability of modelling the control variables on investment decision making (F-statistic), and the respective direct effects of each control variable on investment decision making. The results revealed that control variables (proprietor education, business experience, and country of origin) had an R^2 of .016 and an adjusted R^2 of .008 which implies 1.6% of the variation in investment decisions was explained by variations in proprietors level of education, business experience, and country of origin(R^2 = 0.016). Meanwhile the actual contribution of the three control variables on investment decision making was a paltry 0.8% as determined by the adjusted R^2 value of 0.008.

None of the three control variables had a significant direct influence on investment decisions made. Business experience had a non-significant effect on investment decisions (β= .053; ρ= .419), proprietor level of education had also non-significant effect on investment decisions (β= .086; ρ= .193); and so had country of origin (β= .101; ρ= .056). The very small contribution that the three variables made to investment decision making, coupled with the non-significant effects meant that any telling impacts in investment decisions were due to the behavioural factors. Subsequent analyses were therefore conducted using hierarchical regressions that allowed for controlling of the subtle effects of the controls.

Table 4.27: Control effect Results

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	3.194	.293		10.905	.000		
Experience	.051	.063	.053	.808	.419	.624	1.603
Education	.085	.065	.086	1.304	.193	.619	1.615
Proprietor origin	.507	.265	.101	1.914	.056	.986	1.014
Model Summary							
R		.128					
R square		.016					
Adjusted R Square		.008					
Std. Error of estimate		.68926					
Durbin-Watson		1.948					
ANOVA							
F		2.013					
Sig.		.112					

a. Dependent Variable: Investment Decision

The final model for the control variables is as shown in equation 4.2.
Source: Research data (2021)

ID=3.194+ 085PLE + 0.051PE + 0.507 PO + Ɛ……. (4.2)

The findings tallied with Rampini and Viswanathan (2011, 2013) and Rampini, Sufi and Viswanathan (2014) arguments that proprietor specific factors are some of the factors whose potential effects required being controlled. According to Haltiwamger *et al (*2013) although enterprises require prudent management, proprietor characteristics may not impact highly on investment decision making since such decisions are often dictated by many other factors. Some of the factors that are implicitly associated with investment decisions includes the enterprise size, and duration of operation. Indeed, Hurst and Pugsley, (2011) argued that Size of the SMEs affects the amount of loan security and hence financial ability. Hence smaller firms

negatively affect business ability; hence they are seen as riskier venture for financial investors than larger size firms.

4.13 Tests of Hypotheses

4.13.1 Overconfidence and investment decisions

Hypothesis **H_{01a}**postulated that overconfidence had no significant effect on investment decision among proprietors of SMEs in Nairobi County. To test the effect of overconfidence on investment decisions, a hierarchical model regressing investment decisions first on the control variables, and then entering the overconfidence variable was performed. The test was conducted at the 5% significance level.

The model summary (Table 4.28) indicated lack of serial correlation (DW = 2.078). Meanwhile, the R square change value of 0.347 suggested that overconfidence on its own accounted for up to34.7 % of the variation in investment decisions.

Table 4.28 Model Summary[c] for overconfidence on investment decisions

				Std.	Change Statistics					
Model	R	R Square	Adjusted R Square	Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.128[a]	.016	.008	.68926	.016	2.013	3	362	.112	
2	.603[b]	.363	.356	.55527	.347	196.793	1	361	.000	2.078

a. Predictors: (Constant), Proprietor origin, Experience, Education

b. Predictors: (Constant), Proprietor origin, Experience, Education, Overconfidence

c. Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.29) confirmed that a model relating overconfidence on investment decisions with demographic factors controlled was statistically suitable and was a good fit, $F_{4,361} = 15.886$, $p<0.001$).

Table 4.29: ANOVA[a] for Investment decision on overconfidence with demographic variables controlled

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.870	3	.957	2.013	.112[b]
	Residual	171.979	362	.475		
	Total	174.848	365			
2	Regression	63.545	4	15.886	51.525	.000[c]
	Residual	111.303	361	.308		
	Total	174.848	365			

a. Dependent Variable: Investment Decision

b. Predictors: (Constant), Proprietor origin, Experience, Education

c. Predictors: (Constant), Proprietor origin, Experience, Education, Overconfidence

Source: Research data (2021)

The hierarchical regression coefficients output (Table 4.30) indicated that overconfidence had a positive and significant effect on investment decisions ($\beta=0.592$, $p<0.001$). A unit increase in overconfidence occasioned an increase of 0.592 units in investment decision. Therefore, the hypothesis suggesting that overconfidence had no significant effect on investment decision was not supported and was subsequently rejected.

Table 4.30: Regression Coefficients[a] for Overconfidence on investment decision controlling for demographic characteristics

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.194	.293		10.905	.000		
	Experience	-.051	.063	-.053	-.808	.419	.624	1.603
	Education	.085	.065	.086	1.304	.193	.619	1.615
	Proprietor origin	.507	.265	.101	1.914	.056	.986	1.014
2	(Constant)	1.076	.280		3.843	.000		
	Experience	-.042	.051	-.044	-.823	.411	.624	1.604
	Education	.056	.053	.057	1.071	.285	.618	1.617
	Proprietor origin	.279	.214	.055	1.306	.192	.980	1.020
	Overconfidence	.643	.046	.592	14.028	.000	.992	1.008

a. Dependent Variable: Investment Decision

Source: Research data (2021)

4.13.2 Anchoring and investment decisions

Hypothesis **H_{01b}** presupposed that anchoring had no significant effect on investment decision among proprietors of SMEs in Nairobi County. To test the effect of anchoring on investment decisions, a hierarchical model regressing investment decisions first on the control variables, and then entering the anchoring variable was again performed. The test was conducted at the 5% significance level.

The model summary (Table 4.31) indicated lack of serial correlation (DW = 2.163). Meanwhile, the R square change value of 0.454 suggested that anchoring on its own accounted for up to 45.4 % of the variation in investment decisions.

Table 4.31 Model Summary[c] Anchoring on Investment Decision

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.128[a]	.016	.008	.68926	.016	2.013	3	362	.112	
2	.686[b]	.471	.465	.50634	.454	309.792	1	361	.000	2.163

a. Predictors: (Constant), Proprietor origin, Experience, Education
b. Predictors: (Constant), Proprietor origin, Experience, Education, Anchoring Factors
c. Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.32) confirmed that a model relating anchoring on investment decisions with demographic factors controlled was statistically suitable and was a good fit, $F_{4,361} = 80.246$, $p<0.001$).

Table 4.32: ANOVA[a] for Anchoring and Investment Decision with Demographic variables controlled

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.870	3	.957	2.013	.112[b]
	Residual	171.979	362	.475		
	Total	174.848	365			
2	Regression	82.295	4	20.574	80.246	.000[c]
	Residual	92.554	361	.256		
	Total	174.848	365			

a. Dependent Variable: Investment Decision
b. Predictors: (Constant), Proprietor origin, Experience, Education
c. Predictors: (Constant), Proprietor origin, Experience, Education, Anchoring Factors

Source: Research data (2021)

The hierarchical regression coefficients output (Table 4.33) indicated that anchoring had a positive and significant effect on investment decisions ($\beta=0.676$, $p<0.001$). A unit increase in anchoring occasioned an increase of 0.676 units in investment decision. Therefore, the hypothesis suggesting that anchoring had no significant effect on investment decision was also not supported and was subsequently rejected.

Table 4.33: Regression Coefficients[a] for Anchoring and Investment Decision with Demographic Characteristics controlled

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.194	.293		10.905	.000		
	Experience	-.051	.063	-.053	-.808	.419	.624	1.603
	Education	.085	.065	.086	1.304	.193	.619	1.615
	Proprietor origin	.507	.265	.101	1.914	.056	.986	1.014
2	(Constant)	.270	.272		.992	.322		
	Experience	-.008	.046	-.009	-.179	.858	.622	1.608
	Education	.025	.048	.025	.521	.603	.616	1.623
	Proprietor origin	.389	.195	.077	2.000	.046	.985	1.015
	anchoring Factors	.802	.046	.676	17.601	.000	.993	1.007

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The implication of these results was that decision making process anchored on information collected has a positive impact on investment decision. Jetter and Walker (2016) had similar argument that collected information from player-fixed effects, clue category, time trends and controlling score had statistical significance on decision making process. Decision anchored on past experience is also tend to influence positive investment decision. This experience would assist inversion of loss and investing on areas that has created wealth for the proprietor. Ishaya (2018) alluded that experienced investor used personal judgment of the past to make investment decision. Past experience in not only used in investment decision but also in purchasing decision and hence assist proprietors to make better decision. However, due to anchoring the proprietors take time to buy new products in the market since the need to dependent on information from other buyers. Murithi (2014) found that anchoring behaviour influenced decision making process of an investor based on past

performance. The concurred with current study that anchoring had strong positive relationship with investment decision. Therefore, anchoring has positive significant effect on investment decision.

4.13.3 Prospecting and investment decisions

Hypothesis **H_{01c}** posited that prospecting had no significant effect on investment decision among proprietors of SMEs in Nairobi County. To test the effect of prospecting on investment decisions, a hierarchical model regressing investment decisions first on the control variables, and then entering the prospecting variable was again performed. The test was conducted at the 5% significance level.

The model summary (Table 4.34) indicated lack of serial correlation (DW = 1.875). Meanwhile, the R square change value of 0.484 suggested that prospecting on its own accounted for up to 48.4 % of the variation in investment decisions.

Table 4.34 Model Summary[c] Prospecting and Investment Decision

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.128[a]	.016	.008	.68926	.016	2.013	3	362	.112	
2	.708[b]	.501	.495	.49179	.484	350.065	1	361	.000	1.875

a. Predictors: (Constant), Proprietor origin, Experience, Education
b. Predictors: (Constant), Proprietor origin, Experience, Education, Prospect Factors
c. Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.35) confirmed that a model relating prospecting to investment decisions with demographic factors controlled was statistically suitable and was a good fit, $F_{4,361} = 90.482$, $p<0.001$).

Table 4.35: ANOVA[a] for prospecting and investment decision with demographic variables controlled

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.870	3	.957	2.013	.112[b]
	Residual	171.979	362	.475		
	Total	174.848	365			
2	Regression	87.537	4	21.884	90.482	.000[c]
	Residual	87.312	361	.242		
	Total	174.848	365			

a. Dependent Variable: Investment Decision

b. Predictors: (Constant), Proprietor origin, Experience, Education

c. Predictors: (Constant), Proprietor origin, Experience, Education, Prospect Factors

Source: Research data (2021)

The hierarchical regression coefficients output (Table 4.36) indicated that prospecting had a positive and significant effect on investment decisions (β=0.706, $p<0.001$). A unit increase in prospecting occasioned an increase of 0.706 units in investment decision. Therefore, the hypothesis suggesting that prospecting had no significant effect on investment decision was also not supported and was subsequently rejected.

Table 4.36: Regression coefficients[a] for prospecting and investment decision with demographic characteristics controlled

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.194	.293		10.905	.000		
	Experience	-.051	.063	-.053	-.808	.419	.624	1.603
	Education	.085	.065	.086	1.304	.193	.619	1.615
	Proprietor origin	.507	.265	.101	1.914	.056	.986	1.014
2	(Constant)	.362	.258		1.405	.161		
	Experience	-.118	.045	-.124	-2.630	.009	.620	1.614
	Education	.042	.047	.042	.892	.373	.618	1.619
	Proprietor origin	.245	.190	.049	1.292	.197	.981	1.020
	Prospect Factors	.827	.044	.706	18.710	.000	.972	1.028

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The essence of the findings made is that proprietor soften base their decision on high return of an investment. Therefore, an increase in prospect factors would have a significant increase in investment decision. Decision making would be based on prospects of higher returns from an investment. These findings resonate well with other previous findings, and also helps to understand other mystic ones.

For instance, Chetankumar and Hiral (2018) terms as loss aversion where the investor tends to avoid losing and concentrate on higher gains or profitable investments. Prospecting was also associated with pouching business successful business ideas and basing them on experienced business proprietors. The business ideas must have been tried in the local setting similar to the enterprise. Similar, market information plays an important role in investment decision. This assist in making decision basing in the current market situation abstained from the information collected. Sochi (2018)

concurred with finding that prospect factors had positive significant effect on investment decision. However, the study is based on investment decision in Dhaka Stock Exchange. Similarly, Chetankumar and Hiral (2018) had found that prospect theory that were measured using regret aversion, loss aversion and mental accounting affect decision making.

4.13.4 Herding and investment decisions

Hypothesis **H_{01d}** postulated that herding had no significant effect on investment decision among proprietors of SMEs in Nairobi County. To test the effect of herding on investment decisions, a hierarchical model regressing investment decisions first on the control variables, and then entering the herding variable was again performed. The test was conducted at the 5% significance level.

The model summary (Table 4.37) indicated lack of serial correlation (DW = 1.969). Meanwhile, the R square change value of 0.555 suggested that herding on its own accounted for up to 55.5 % of the variation in investment decisions. This implies that herding is the most significant behavioural factor regarding investment decisions undertaken by proprietors of SMEs in Nairobi County.

Table 4.37: Model Summary[c] for herding and investment decision

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.128[a]	.016	.008	.68926	.016	2.013	3	362	.112	
2	.756[b]	.572	.567	.45535	.555	468.428	1	361	.000	1.969

a. Predictors: (Constant), Proprietor origin, Experience, Education

b. Predictors: (Constant), Proprietor origin, Experience, Education, Herding Factors

c. Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.38) confirmed that a model relating herding to investment decisions with demographic factors controlled was statistically suitable and was a good fit, $F_{4,361} = 120.567$, $p<0.001$).

Table 4.38: ANOVA[a] for herding and investment decision with demographic variables controlled

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.870	3	.957	2.013	.112[b]
	Residual	171.979	362	.475		
	Total	174.848	365			
2	Regression	99.996	4	24.999	120.567	.000[c]
	Residual	74.852	361	.207		
	Total	174.848	365			

a. Dependent Variable: Investment Decision

b. Predictors: (Constant), Proprietor origin, Experience, Education

c. Predictors: (Constant), Proprietor origin, Experience, Education, Herding Factors

Source: Research data (2021)

The hierarchical regression coefficients output (Table 4.39) indicated that herding had a positive and significant effect on investment decisions ($\beta=0.749$, $p<0.001$). A unit increase in prospecting occasioned an increase of 0.749 units in investment decision. Therefore, the hypothesis suggesting that herding had no significant effect on investment decision was also not supported and was subsequently rejected.

Table 4.39 Regression coefficients[a] for herding and investment decision with demographic characteristics controlled

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.194	.293		10.905	.000		
	Experience	-.051	.063	-.053	-.808	.419	.624	1.603
	Education	.085	.065	.086	1.304	.193	.619	1.615
	Proprietor origin	.507	.265	.101	1.914	.056	.986	1.014
2	(Constant)	.014	.243		.056	.955		
	Experience	-.016	.042	-.016	-.375	.708	.623	1.606
	Education	.009	.043	.009	.200	.842	.615	1.626
	Proprietor origin	.389	.175	.077	2.223	.027	.985	1.015
	Herding Factors	.884	.041	.749	21.643	.000	.991	1.009

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The results confirmed that herding factors are very critical to investment decisions made by proprietors of SMEs in Nairobi County. Indeed, from the t-value of 21.643, herding factors were deemed to be the main behavioural factors contributing to investment decisions. The implication is that past investments tend to influence future investments. However, there exist a higher chance for proprietors to invest in similar line of business based on past experience in the enterprise. Herding is common when there is fluctuation in prices of goods and services. Shekhar & Prasad (2015) pointed out the India 2008 mild financial crisis lead to human errors as result of changes in market and investments. Similarly, in SMEs price change attracted fluctuation of sales. Therefore, proprietors consider the past trends to reduce uncertainty in investment decision. Herding behaviour according to Ghalandari & Ghahremanpour

(2013) affected positive investment decision even though the results were obtained from Tehran Stock Exchange rather than SMEs.

By investing in herding factors, small enterprises are therefore bound to make good decisions regarding investment due to their ability to mobilize resources for accessing expertized, better structure and larger human resource than micro enterprise. According to Collier, Haughwout, Stewart, Kunreuther and Michel-Kerjan (2016) micro enterprises are expose to risk and often affect investment decision. Therefore, the smaller the enterprise the riskier and thus affected easy to fail.

4.13.5 Behavioural Factors and Investment Decision

Hypothesis H_{01} postulated that behavioural factors had no statistically significant effect on investment decision among proprietors of SMEs in Nairobi County. To test the pooled effect of behavioural factors on investment decision, a pooled OLS regression model was used. In this model, investment decision was regressed on behavioural factors as shown in equation 4.3. The model omitted the control variables since their overall contribution to investment decision (adj. R^2 = 0.008) was negligible.

$$ID= b_o+b_1OF+b_2AF+b_3PF+b_4HF+Ɛ \quad \text{(4.3)}$$

Where ID = Investment decision

OF = Overconfidence factor

AF = Anchoring factor

PF = Prospect factor

HF = Herding factor

bi(i=0,….., 4) = unstandadized regression coefficients

Ɛ = Regression residuals

The model summary (Table 4.40) indicated that the pooled behavioural factors explained up to 67.9% of the variance in investment decision (R^2 =0.679), and actually contributed 67.4% to investment decisions (adjusted R^2=0.674). This implies that factors other than the four behavioural factors accounted for the remaining 32.1%.

Table 4.40: Pooled OLS Regression results for investment decision on behavioural factors

	Unstandardized Coefficients		**Standardized Coefficients**			**Collinearity Statistics**	
	B	**Std. Error**	**Beta**	**t**	**Sig.**	**Tolerance**	**VIF**
(Constant)	-0.600	0.169		-3.553	0.000		
Overconfidence	0.019	0.050	0.017	0.382	0.702	0.429	2.329
Anchoring Factors	0.223	0.061	0.188	3.646	0.000	0.337	2.967
Prospect Factors	0.315	0.054	0.269	5.830	0.000	0.420	2.379
Herding Factors	0.541	0.048	0.458	11.153	0.000	0.531	1.884
Model Summary							
R	0.824						
R Square	0.679						
Adjusted R Square	0.674						
Std. Error of the Estimate	0.395						
Durbin-Watson	2.073						
Goodness of fit							
ANOVA							
F	126.537						
Sig.	0.000						

a Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.40) confirmed that the model relating investment decision to behavioural factors was statistically valid and represented a good fit, $F_{4,361}$= 126.537, p<0.001).

The multiple regressions coefficients output (Table 4.40) indicated that when pooled together, overconfidence (b=0.019, p>0.05) was not a significant predictor of investment decision. However, anchoring factors (b=0.223, p<0.05); prospect factors (b=0.315, p<0.05) and herding factors (b=0.541, p<0.05) were positive and significant predictors of investment decision.

The final model for the direct effects of behavioural factors on investment decision is presented in equation 4.4.

ID = -0.600 + 0.019 OF + 0.223AF + 0.315 PF + 0.541 HF + Ɛ……. …… (4.4).

The implication of these findings is that besides having individual effects on investment decisions, behavioural factors can also be pooled together to impact decisions made by respective SME proprietors. Herding factors followed by prospect factors and anchoring factors in that order are bound to have a bigger impact on investment decisions. However, in explaining only 67.9% percent of the variance in investment decisions, it implies that behavioural factors on their own may not be used to maximize investment decisions. This does indeed show that factors other than considered by this study account for 32.1% of the variance in investment decision. This provides a justification for considering financial literacy as a potential player in the investment decision process.

The findings showing positive impacts of the individual behavioural factors does indeed confirm that investment decisions should take cognizance of the potential for

proprietors lineage towards various behavioural factors as gained through experience. Such findings resonate with many scholars findings (Acuto, 2013; Chentakumar &Hiral, 2018; Ghalandari & Ghahremanpour, 2013; Hassan et al., 2014; Ishaya, 2018; Ishfaq & Anjum, 2015; Javed et al., 2017; Jetter &Walker, 2016; ; Malik *et al*., 2019; Murithi, 2014; Samina et al., 2018; Sochi, 2018;Velumoni, 2017).

4.13.6 Financial Literacy and Investment Decision

Financial literacy was conceptualized as the moderating variable in this study. It was assumed that behavioural factors could require prodding to have more telling impacts on proprietors' decision making process. Therefore, Hypothesis H_{02} postulated that financial literacy had no direct effect on investment decision among proprietors of SMEs in Nairobi County.

To test the effect of financial literacy on investment decision, a linear model regressing investment decision on financial literacy was used (equation 4.5). The test was conducted at the 5% significance level.

$$ID = \alpha+\beta FL + Ɛ \quad \text{..... (4.5)}$$

Where FL = Financial literacy

The model summary (Table 4.41) indicated that the R square value was 0.508 suggesting that variation in financial literacy accounted for up to50.8% of the variation in investment decision. Meanwhile, financial literacy actually contributed 50.7% to investment decisions (Adjusted R^2=0.507). The implication is that financial literacy impacted positively on investment decisions enabling it to have the potential to moderate the relationship between behavioural factors and investment decisions.

Table 4.41: Linear Regression Results for effect of financial literacy on investment decision

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	0.341	0.181		1.885	0.060
Financial Literacy	0.844	0.044	0.713	19.404	0.000
R	0.713				
R Square	0.508				
Adjusted R Square	0.507				
Std. Error of the Estimate	0.486				
F	376.510				
Sig.	0.000				

a Dependent Variable: Investment Decision

Source: Research data (2021)

The ANOVA output (Table 4.41) confirmed that the proposed model relating financial literacy to investment decision was statistically suitable and was a good fit, $F_{1,364} = 376.510$, $p<0.001$).

The linear regression coefficients output (Table 4.41) indicated that financial literacy had a positive and significant effect on investment decision ($b=0.844$, $p<0.001$). A unit increase in financial literacy occasioned an increase of 0.844 units in investment decision. Therefore, the hypothesis suggesting that financial literacy had no significant effect on investment decision was not supported and was subsequently rejected.

The final model for regressing investment decision on financial literacy is presented in equation 4.6.

$ID = 0.341 + 0.844FL + \varepsilon$……. (4.6)

4.14 Moderation Effect of Financial Literacy on the Relationships between Behavioural Factors and Investment Decision

Hypothesis H03 postulated that financial literacy did not moderate the relationship between behavioural factors and investment decision. Therefore, hierarchical regression was used to test the moderating effect of financial literacy on the relationships between behavioural factors and investment decision. Under this approach, the raw data for the behavioural factors and financial literacy were standardized to minimize errors that could arise in the interaction term. Interaction terms were generated by getting the product of the standardized score of each behavioural factor with that of financial literacy. The R^2 change was investigated to see whether it was significant in which case, financial literacy would be assumed to moderate the relationship. The control variables were omitted from the moderations following their negligible contributions to the variance in investment decision.

4.14.1 Moderating the relationship between overconfidence factor and investment decision

Hypothesis $H_{03a:}$ claimed that financial literacy does not moderate the relationship between overconfidence and investment decision among proprietors of SMEs in Nairobi County.

The following model that involved standardized interactions between the overconfidence factor variable and the financial literacy variable was conceptualized to be the moderation model (equation 4.7).

$$ID = b_0 + b_1\,OF + b_2\,FL + b_3 OF * FL + \varepsilon \qquad (4.7)$$

Where, ID = investment decision

OF = Overconfidence factor

FL= Financial literacy

OF * FL= Interaction between overconfidence factor and financial literature

b_i's = Unstandardized estimates

Ɛ = regression residuals

The interaction was standardized to minimize potential errors. Meanwhile, the unstandardized estimates were preferred for purposes of maintaining original metrics.

In order to test for the moderation effects of financial literacy, the interaction between the standardized overconfidence factor variable and the standardized financial literacy variable was tested. Hierarchical regression analysis was run by first entering the overconfidence factor variable and the financial literacy variable in step 1 of the regression, and then entering the interaction variable in step 2. A significant change in the R-square value was used to confirm moderation.

The moderation model summary presented in Table 4.42 affirms that financial literacy moderated the relationship between overconfidence and investment decision among SME proprietors in Nairobi County (R–square change = 0.058, $\Delta F=53.539$, $p<0.05$).

Table 4.42: Moderation estimates for overconfidence and investment decision

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-.051	.036		-1.385	.167		
	Overconfidence	.355	.042	.341	8.462	.000	.760	1.317
	Financial Literacy	.536	.042	.515	12.791	.000	.760	1.317
2	(Constant)	-.013	.034		-.387	.699		
	Overconfidence	-.159	.080	-.152	-1.975	.049	.181	5.540
	Financial Literacy	.142	.067	.136	2.128	.034	.263	3.808
	Interaction 1	.793	.108	.792	7.317	.000	.092	10.896
	R Square Change			.058				
	F Change			53.539				
	Sig. F Change			.000				

Dependent Variable: Investment Decision

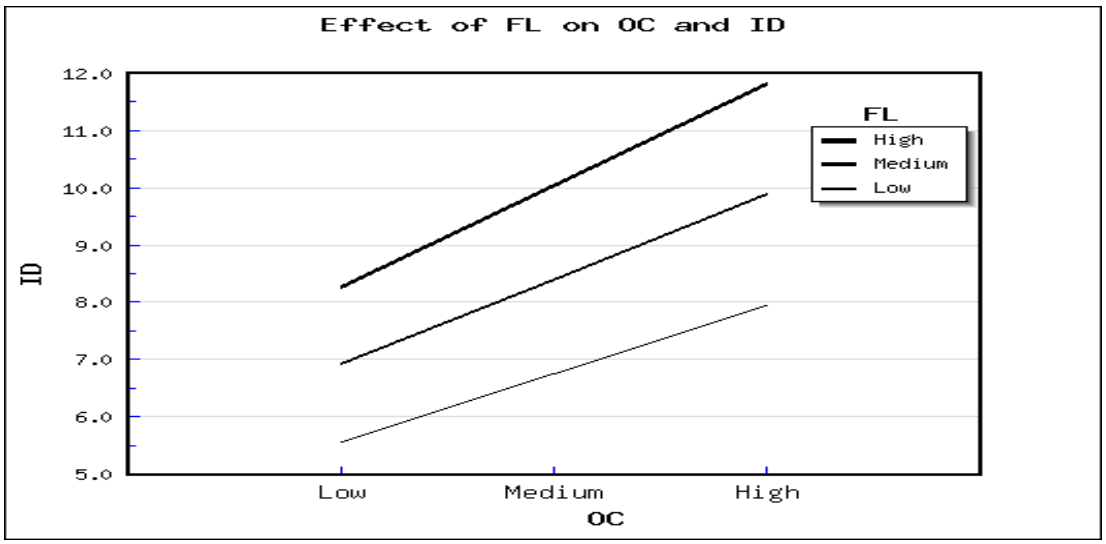
Source: Research data (2021)

The final moderation model of financial literacy on the link between overconfidence factor and investment decision was as displayed in equation 4.8

ID = -0.013 -0.159 OF + 0.142 FL + 0.793 OF * FL + Ɛ…… (4.8)

The associated moderation plot (Figure 4.2) confirms that the slope and intercept of the regression of investment decision on overconfidence factor was dependent upon the changes in financial literacy. From the interaction plot in Fig. 4.2, the relationship between investment decision and overconfidence was increasing at all levels of financial literacy. However, the relationship was increasing with increasing levels of financial literacy. For instance, at low level of financial literacy, the scope of the linear function between investment decision and overconfidence was slightly lower for the middle level, which was also slightly smaller than at the high level of financial

literacy. However, as overconfidence factors increases, investment decisions increase drastically with high financial literacy but increases marginally with low financial literacy.



ID-Investment Decision

OC-Overconfidence

FL-Financial Literacy

Figure 4.1: Moderating Effect of Financial Literacy on overconfidence Factors and Investment Decisions

The implications of these findings is that despite overconfidence factors affecting investment decisions positively, such effects become more intense when proprietors of SMEs have financial literacy skills. The interaction between financial literacy and overconfident significantly affect investment decision. Therefore, literacy in finance tends to improve overconfident for purpose of investment decision. The concept of financial literacy enables investors to use tool like decision theory in risky, uncertain or certain investment decision. There based on the facts available overconfidence can be utilized through optimism concepts and still make better decision. The finding also

brought to light the finding by Awais et al. (2016) contending that risk intensity had the potential to moderating by investing in a minimum or maximum based strategy when deployed in decision making. Since overconfident is related with overestimate, optimism strategies and optimization process these behaviour factors can be utilized improving investment decision as well as performance of the enterprise.

4.14.2 Moderating the relationship between anchoring factor and investment decision

Hypothesis $H_{03b:}$ posited that financial literacy does not moderate the relationship between anchoring factor and investment decision among proprietors of SMEs in Nairobi County.

The following model that involved standardized interactions between the anchoring factor variable and the financial literacy variable was conceptualized to be the moderation model (equation 4.9).

$ID = b_0 + b_1 AF + b_2 FL + b_3 AF * FL + \varepsilon$……………………………………. (4.9)

Where, ID = investment decision

AF = Anchoring factor

FL= Financial literacy

AF * FL= Interaction between anchoring factor and financial literature

b_i's = Unstandardized estimates

ε = regression residuals

In order to test for the moderation effects of financial literacy, the interaction between the standardized anchoring factor variable and the standardized financial literacy variable was tested. Hierarchical regression analysis was run by first entering the anchoring factor variable and the financial literacy variable in step 1 of the regression, and then entering the interaction variable in step 2. A significant change in the R-square value was again used to confirm moderation.

The moderation model summary presented in Table 4.43 confirms that financial literacy moderated the relationship between anchoring factor and investment decision among SME proprietors in Nairobi County (R–square change = 0.078, $\Delta F = 76.143$, $p<0.05$).

Table 4.43: Moderation estimates for anchoring and investment decision

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.051	.036		-1.385	.167		
	anchoring Factors	.382	.045	.367	8.461	.000	.655	1.526
	Financial Literacy	.486	.045	.467	10.772	.000	.655	1.526
2	(Constant)	-.013	.033		-.383	.702		
	anchoring Factors	-.039	.063	-.037	-.616	.538	.276	3.629
	Financial Literacy	.032	.066	.031	.488	.626	.252	3.971
	Interaction 2	.843	.097	.798	8.726	.000	.122	8.210
	R Square Change	.078						
	F Change	76.143						
	Sig. F Change	.000						

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The final moderation model for financial literacy on the link between anchoring factor and investment decision was as displayed in equation 4.10

ID = -0.013 -0.039AF + 0.032 FL + 0.843AF * FL + Ɛ…… (4.10)

The associated moderation plot (Figure 4.3) confirms that the slope and intercept of the regression of investment decision on anchoring factor was dependent upon the changes in financial literacy. From the interaction plot (Fig. 4.3), it becomes apparent that as financial literacy, moves from low level to high level, the gradient of the linear function of investment decision against anchoring becomes steeper. However, as anchoring factors increases, investment decisions increase drastically with high financial literacy but increases marginally with low financial literacy. Consequently, at low levels of financial literacy, investment decision is close to 0.5 for low anchoring factor, and 0.65 for high anchoring factors. At medium levels of financial literacy, investment decision is at 0.9 for low anchoring factor and rises up to 1.2 for high anchoring factor. On the contrary, for high financial literacy, investment decision is at 1.3 for low anchoring factor and rises to 1.7 for high anchoring factor.

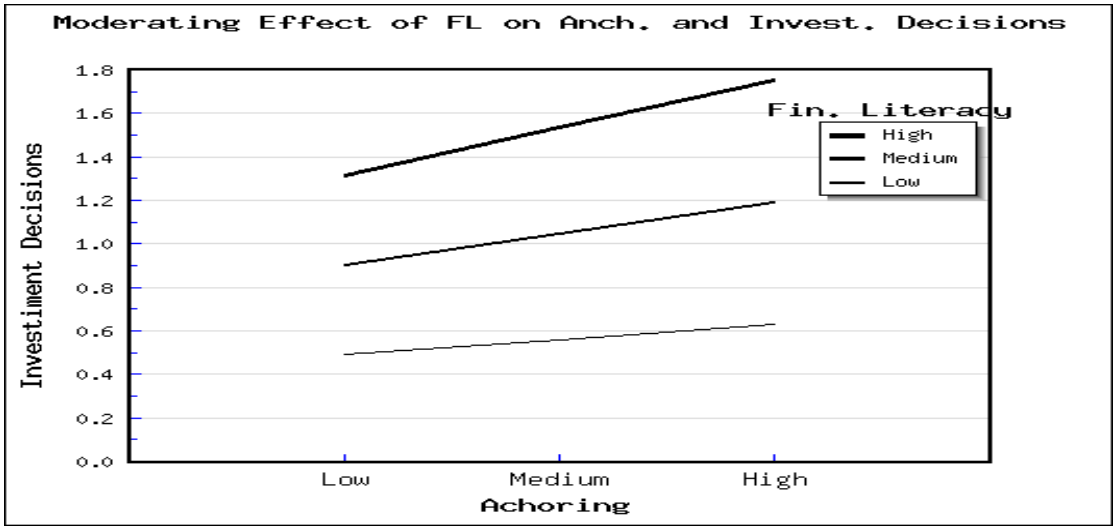


Figure 4.3: Moderating Effect of Financial Literacy on Anchoring Factors and Investment Decisions

The import of these findings is that financial literacy had a role to play in the push of the anchoring factor on investment decision. Financial literacy allows the proprietors to make better decision through learning concept that can be picked from anchoring on past experience, proven business ideas and collected information. Nga *et al* (2010) pointed out that product awareness is important before purchase based on level of financial awareness. It is important to gain information of products, market and investment so as to make sound investment decision. Tyrimai (2013) found that individuals used past personal experience or experience from friend which could be addressed by financial literacy. This not only improves decision process making but increase strategies that can be used to make better investment decision

4.14.3 Moderating the relationship between prospecting factor and investment decision

Hypothesis $H_{03c:}$ presupposed that financial literacy does not moderate the relationship between prospecting factor and investment decision among proprietors of SMEs in Nairobi County.

The following model that involved standardized interactions between the prospecting factor variable and the financial literacy variable was conceptualized to be the moderation model (equation 4.11).

$ID = b_0 + b_1 PF + b_2 FL + b_3 PF * FL + \mathcal{E}$…………………………………….. (4.11)

Where, ID = investment decision

PF = Prospecting factor

FL= Financial literacy

PF * FL= Interaction between prospecting factor and financial literature

b_i's = Unstandardized estimates

$\mathcal{E}$ = regression residuals

In order to test for the moderation effects of financial literacy, the interaction between the standardized prospecting factor variable and the standardized financial literacy variable was tested. Hierarchical regression analysis was run by first entering the prospecting factor variable and the financial literacy variable in step 1 of the regression, and then entering the interaction variable in step 2. A significant change in the R-square value was again used to confirm moderation.

The moderation model summary presented in Table 4.44 confirms that financial literacy moderated the relationship between prospecting factor and investment decision among SME proprietors in Nairobi County (R–square change = 0.089, ΔF= 90.095, p<0.05).

Table 4.44 Moderation estimates for prospecting and investment decision

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.051	.037		-1.384	.167		
	Prospect Factors	.415	.049	.399	8.427	.000	.551	1.815
	Financial Literacy	.432	.049	.415	8.770	.000	.551	1.815
2	(Constant)	-.019	.033		-.583	.560		
	Prospect Factors	-.003	.062	-.003	-.046	.963	.276	3.622
	Financial Literacy	-.045	.067	-.043	-.667	.505	.240	4.165
	Interaction 3	.859	.090	.840	9.492	.000	.126	7.917
	R Square Change	.089						
	F Change	90.095						
	Sig. F Change	.000						

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The final moderation model for financial literacy on the link between prospect factor and investment decision was as displayed in equation 4.12

ID = -0.019 -0.003PF- 0.045 FL + 0.859PF * FL + Ɛ…… (4.12)

The associated moderation plot (Figure 4.4) confirms that the slope and intercept of the regression of investment decision on prospecting factor was also dependent upon

the changes in financial literacy. Figure 4.4 results reveals that in the case SMEs have high levels of financial literacy, prospect factors contribute more to investment decision compared to when there are low levels of financial literacy, as shown by the steepness of the slope. Therefore, as prospect factor increase it led to increase in investment decision but higher margin is achieved with increase in high financial literacy.

Indeed, the figure 4.4 shows that at low levels of financial literacy, investment decisions are at 0.5 for low prospect factor, and rises to 0.7 at high prospect factor. Similarly, for medium financial literacy levels, investment decisions are at 0.85 for low prospect factor, but rises to 1.15 for high prospect factor. Finally, for high financial literacy levels, investment decisions are at 1.15 for low prospect levels and rise to 1.6 for high prospect factor.

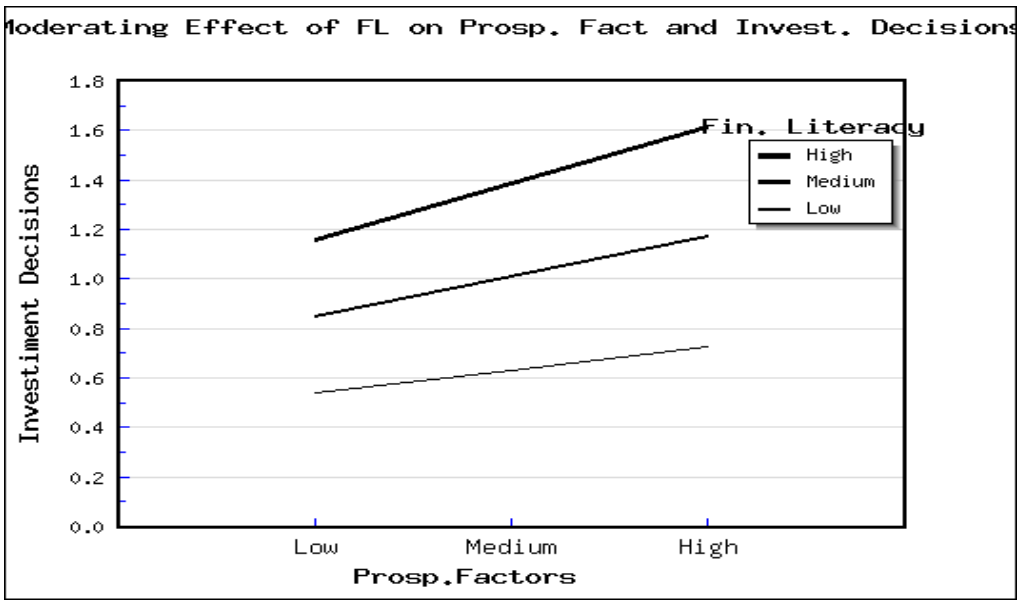


Figure 4.4: Moderating Effect of Financial Literacy on Prospecting factors and Investment Decisions

The message implicit in the findings showing that financial literacy moderates the relationship between prospect factors and investment decisions is that, enterprises gain more knowledge through financial literacy and this assist improves on existing financial behaviour. According to Bhushan (2014) financial literacy enable investors to understand risk and return concepts well so as to make choice in financial products correctly. Since prospect factor enable proprietors to invest based on high returns, used business ideas from successful stories and ideas from experience business. Financial literacy improved the knowledge and proprietors are able to gain more knowledge from case study and concept obtained.

4.14.4 Moderating the relationship between herding factor and investment decision

Hypothesis H_{03d} claimed that financial literacy does not moderate the relationship between herding factor and investment decision among proprietors of SMEs in Nairobi County.

The following model that involved standardized interactions between the herding factor variable and the financial literacy variable was conceptualized to be the moderation model (equation 4.13).

$ID = b_0 + b_1 HF + b_2 FL + b_3 HF * FL + \varepsilon$…………………………………….. (4.13)

Where, ID = investment decision

HF = Herding factor

FL= Financial literacy

HF * FL= Interaction between herding factor and financial literature

b_i's = Unstandardized estimates

ε = regression residuals

In order to test for the moderation effects of financial literacy on the relationship between herding factor and investment decision, the interaction between the standardized herding factor variable and the standardized financial literacy variable was tested. Hierarchical regression analysis was run by first entering the herding factor variable and the financial literacy variable in step 1 of the regression, and then entering the interaction variable in step 2. A significant change in the R-square value was again used to confirm moderation.

The moderation model summary presented in Table 4.45 confirms that financial literacy moderated the relationship between herding factor and investment decision among SME proprietors in Nairobi County (R–square change = 0.119, $\Delta F = 138.926$, $p<0.05$).

Table 4.45 Moderation estimates for herding factor and investment decision

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-.051	.036		-1.414	.158		
	Herding Factors	.489	.052	.470	9.473	.000	.481	2.079
	Financial Literacy	.358	.052	.344	6.934	.000	.481	2.079
2	(Constant)	-.010	.031		-.335	.738		
	Herding Factors	.090	.055	.087	1.628	.104	.302	3.311
	Financial Literacy	-.230	.066	-.221	-3.462	.001	.210	4.761
	Interaction 4	.967	.082	.947	11.787	.000	.133	7.533
	R Square Change	.119						
	F Change	138.926						
	Sig. F Change	.000						

a. Dependent Variable: Investment Decision

Source: Research data (2021)

The final moderation model for financial literacy on the link between herding factors and investment decision was as displayed in equation 4.12

ID = -0.010 -0.230 HF- 0.045 FL + 0.967 HF * FL + Ɛ…… (4.14)

The associated moderation plot (Figure 4.5) confirms that the slope and intercept of the regression of investment decision on herding factor was highly dependent upon the changes in financial literacy. Figure 4.5 shows that as levels of financial literacy increased, the effect of herding factors on investment decision increased as well, as depicted by the steepness of the slope. The steep slopes of the lines relating investment decisions to herding factors at different financial literacy levels confirmed the great impact the financial literacy is bound to have on the relationship between herding factors and investment decisions. For low levels of financial literacy investment decisions rise from a low of 1.45 at low herding factor to a high of 2.05 at high herding factor. Similarly, for medium financial literacy levels, investment decisions rise from a low of 1.65 for low herding factor to a high of 2.35 for high herding factor. Finally, for high levels of financial literacy investment decisions move from a low of 1.8 to a high of 2.65 for low and high herding factors respectively.

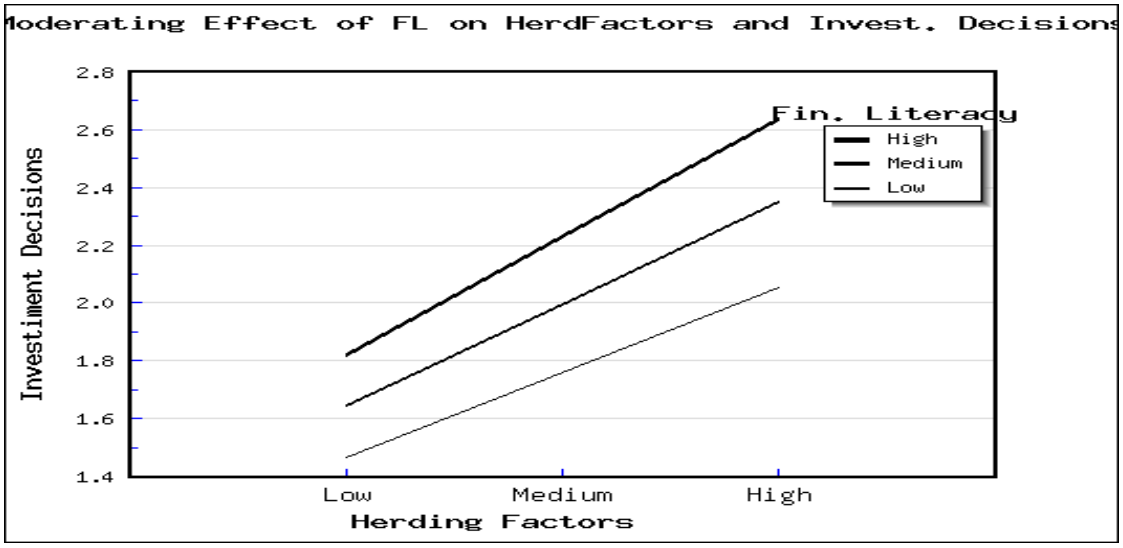


Figure 4.5: Moderating Effect of Financial Literacy on Herding factors and investment Decisions

4.15 Discussion of Results

The findings of this study underscored the significant role that behavioural factors play in investment decisions undertaken by proprietors of SMEs operating in Nairobi County. Moreover, the study positively confirmed that financial literacy was the added impetus that could galvanize the impacts of behavioural factors on investment decisions undertaken for specific SMEs. The pooled OLS regression results demonstrated that pooling behavioural factors could guarantee a higher proportion of investment decisions. Results from regressions of individual behavioural factors showed that each of the factors made good contributions to the variance in investment decision. These findings added to existing discourse on investment decision-making at the SME level.

For example, behavioural factors were found to be positive significantly affect the investment decision in Small and Micro Enterprises. The investment decision also showed that prospect factors, herding factors, anchoring factor and overconfidence had positive significant effect in that respective order. Prospect factor had the highest

behavioural factors that show to have significant effect on investment decision. Velumoni (2017) indicated that prospect theory had significant influence on investment decision as a behavioural factor this is in line with the current study results.

Chetankumar and Hiral (2018) similarly found that behavioural factors contributed positively and significantly to investment decision. Which also concurred with Sochi's (2018) result which also found that behavioural factors had significant influence on the investment decision. The results from Dervishaj (2018) did not support the relationship between behavioural factors in decision making but appreciated the cognitive awareness to affect decision making process. Overconfident result was in line with Mahina, Muturi and Memba (2017) where it affected investment in Rwandese stock market.

The findings also indicated that the size of the firm also matter in term of investment of decision which implied that bigger firms has better decision-making process which leads to success. On the contrary Velumoni (2017) did not found significant different between behavioural factors and socio demographic variable the current study found that firm size contributed to investment decision but age of the firm did not. Rampini and Viswanathan (2014) found that firm size had significant effect on financial risk manage where the current study indicated that it had positive significant to investment decision. The position of Hurst and Pugsley (2011) on firm size is in line with the current findings since the size is associated with business ability to venture even in riskier venture mainly in financial decision.

Age of the firm as used as controlling variable was not significant on investment decision. Rampini and Viswanathan (2013) found that age of the firm affects financial risk management despite the current research finding it not significant in investment decision. Therefore, these imply that large firms make better investment decision than small firm but the age of firm does not affect investment decision. On the contrary Hurst and Pugsley (2011) argued that older firm are more stable and low risk and supported by Haltiwanger *et al* (2013). Hence, age does not affect significantly investment decision made.

In finding that behavioural factors were positive predictors of investment decisions, this study supported assertions by other studies from divergent contexts and sectors. Such studies similarly found that behavioural factors contributed positively and significantly to investment decision; and that behavioural factors had significant influence on the investment decisions in the Indian context (Chetankumar & Hiral, 2018 Sochi, 2018). The results from Dervishaj (2018) did not support the relationship between behavioural factors in decision making but appreciated the cognitive awareness to affect decision making process.

Moreover, the findings on firm size was significant in the sense that they underscored earlier arguments made by among other scholars, Haughwout et al. (2016) who asserted that smaller and younger firms were exposed to more risk and affect investment decision made. Therefore, conclusively the current finding can purport that size of the firm enable the firm to acquire ability to influence the investment decision based on the resources. This is support the theoretical argument of resource based view theory.

Financial literacy had significant negatively with the relationship between overconfidently investment decisions. It had a positive interaction with the relationship of anchoring factors and investment. The finding showed that financial literacy had no significant interaction with prospect factors and investment decision. The interactive effect of literacy on the effect of herding factors and investment decision. Financial literacy has been linked with investment decision but no the interactive effect to the behavioural factors. The result also showed that financial literacy affected the investment decision which concurs with LAl-Tamimi and Kalli (2009), though the finding did not show its interactive effect with behavioral factors. Financial literacy has been focused on in term of financial knowledge, education and awareness which form the demographic description of the investor or a proprietor as discussed by Buchanan (2013). These concepts were found to influence decision making but had not focused on the interactive concept with behavioural factors.

4.15.1 Overconfidence on Investment Decision

Analysis of the effect of overconfidence factors on investment decisions was conducted both descriptively and inferentially. Descriptive analysis revealed that in making investment decisions, proprietors of the SMEs considered various overconfidence practices. For instance, it emerged that decisions were made depending on the aspect in question. In this realm, decisions regarding debt finance were mainly based on credit as opposed to loans. Meanwhile, most proprietors tended to overlook risks and losses when making investment deals. This was perhaps informed by proprietor overconfidence, but maybe a bad move that would have been ironed out if decisions were backed by skills in financial literacy. Another striking finding from the descriptive analyses was that proprietors often overestimated

personal competences and ability when making decisions. This is definitely a negative attribute associated with overconfidence when making decisions. Indeed, the finding showing that occasionally investments were overestimated is the culmination of such overconfidence inhibiting the proprietor from gaining control of expenditure and financial outcome.

From the inferential results, the study confirmed that on its own, overconfidence had a significant impact on investment decisions. However, when pooled with other behavioural factors, overconfidence had a positive but non-significant effect on investment decisions. Besides, the analysis confirmed that financial literacy positively moderated the overconfidence to investment decision link. The essence then is that despite overconfidence leading to some concerning decisions, proprietors with financial literacy skills may be well placed to atone for such decisions.

The descriptive and inferential findings made regarding overconfidence and investment decisions lend support to some existing findings, and also contradict some indicating need for sustained studies on this subject. For instance, the findings are in disagreement with extant literature that has established that overconfident has a positive relationship with investment decision (Acuto, 2013; Hassan, Khalid & Habib, 2014; Javed, Bagh and Razzaq, 2017). Also, the study findings are contrary with the results from Hassan, Khalid & Habib (2014) though the result compared with risk tolerance which found that men and older people tend to be over confident as well as risk tolerant. The current study indicated that found that risk and loss are also associated with overconfidence which also influence investment decision. The results are therefore in contrast with Acuto (213) where overconfidence had a positive influence on investment decisions.

Overconfidence was found to have positive effect of the perceived investment performance according to Javed, Bagh and Razzaq (2017). This result indicates that the perceived investment performance is similar to attained investment decision as researched in this study. Even though Dessi and Zhao (2014) associated overconfidence with America's and Japanese with no overconfidence, the current results indicated that most Kenya SME investor was over confident to some extent following the America's concept of capitalism. This allows people to be aggressive, less tolerance to shame induce investment decision and efficiency. Therefore, overconfident trait is important in investment decision and thus contributes positively to investment decision.

Previously, scholars have also reported findings similar to the ones reported by this study regarding overconfidence among investors especially in the inferential perspective. According to Javed et al. (2017), investors who elicit overconfidence when making decisions are likely to reap handsome returns. Meanwhile, Hassan et al. (2014) used multiple regression analysis to demonstrate that overconfidence was one of the behavioural factors that impacted positively on investment decisions. The import of such a finding is that there are occasions when investors need to remain firm on decisions they make. The similar story was inherent in findings attributed to Acuto (2013). Nevertheless, the study findings contradicted others like Hassan et al. (2014) though the result compared with risk tolerance which found that men and older people tend to be over confident as well as risk tolerant. The current study indicated that found that risk and loss are also associated with overconfidence which also influence investment decision. The results are therefore in contrast with Acuto (213) where overconfidence had a positive influence on investment decisions.

Risk factor is highly associated with overconfident as Tahira, Wajiha and Abirah (2014) argued that those who preferred risk were likely to be over confidents. The current results indicated that risk where overlooked which concurred with Tahira, Wajiha and Abirah (2014) findings. It was also overconfident through overestimation and over optimism also resulted to positive effect on investment decision in Rwanda according to Mahina, Muturi and Memba (2017). These results were different from the study findings since no link was established between overconfidence and investment decision.

4.15.2 Anchoring and Investment Decision

Descriptive analysis of the anchoring factor highlighted the various practices that proprietors of SMEs in Nairobi County employ when making investment decisions. For instance, it emerged that proprietors always dig into past experience to leverage investment decisions on available information. The only snag here is that they sometimes use information unrelated to whatever they may be engaged in. it was also determined that proprietors took too much time before carrying out purchases. This is perhaps due to relying too much on previous prices that may be outdated.

From the direct effects and moderated analysis results, the study revealed that anchoring factors positively and significantly impacted investment decisions whether singly, or when pooled. This underscored the need for proprietors to identify suitable anchors to underpin their decisions. The study further highlighted the significance of financial literacy in the anchoring to investment decision link. Perhaps skills in financial literacy have the potential to enable proprietors to come up with proven anchors.

The finding showing that anchoring impacted investment decision positively was consistent with the finding by Murithi (2014), showing that anchoring was a significant predictor of investment decision. According to Murithi (2014), investment decision among proprietors was based on prior performance. Suffice it to say that this study used the SME context to show that proprietors often perused past records in search of information to base investment decisions on. The finding also resonated well with findings by Ishfaq and Anjum (2015). According to these scholars, anchoring correlates positively with investment decision. Nevertheless, the study by Ishfaq and Anjum (2015) leaned towards risk investment portfolio as their lynch pin to decision making.

The finding showing that anchoring predicts investment decision supported the views of Jetter and Walker (2016). Using divergent indicators of anchoring including individual attitude and preference, time trends, player–fixed effects, and due category, Jetter, and Walker determined that anchoring factors significantly impacted on decision making. The implication of the findings of this study which measured anchoring using information availability and experience is that whichever indicators are used to measure anchoring, anchoring factors will often have positive impacts on decision making. The findings also corroborate findings by Kremer et al. (2013) who found positive and significant effects of behavioural factors on investment decisions in firms.

The findings contradict findings sowing that anchoring on framing and priming, availability bias, confirmation bias, and group thinking did not significantly impact on investment decision (Anderson & Johansson, 2013). However, this study improves on

that by Anderson and Johnson (2013) by making use of a larger sample than that used by the two scholars, and relying on the Kenyan context solely.

The findings on anchoring as a behavioural factor that impacts investment decision-making is indeed a big plus for SMEs. Some businesses perform so well that leveraging them as anchors would do well for novice business proprietors. By finding that anchoring has a positive and significant effect on investment decisions, this study lends support to those by Murithi (2014), albeit, from a Kenyan perspective. Indeed, SMEs in Kenya have failed early in their business pursuits owing to go it alone as opposed to reflecting upon successful anchors. Murithi (2014), for instance argues that proprietors base their investment decision on prior performance. Yet, times change and prior performance may count for nothing. In using the SME context, this study hoped to come up with the findings made that provide knowledge to proprietors on how to exploit anchors within their reach such past records, prior investments, and available information, as well as, data bases to base investment decisions on. The finding also boosted that by Ishfaq and Anjum (2015), by showing that anchoring does not only enter into correlation with investment decisions but does have a causal effect as well.

4.15.3 Prospect on Investment Decision

The study established that prospect factors had a positive and significant effect on investment decision. Moreover, the study indicated that prospect factors were functions of business ideas from reputable entities, investment returns and market information. These findings are consistent with Duclos (2015) who leveraged upon investment experience and information sourcing to make decisions. Duclos argued that ICT incorporation was crucial in investment decisions due its ability to enhance

chances of access to stock distribution information. Similar findings were also replicated by Chentaknmar and Hiral (2018).

Further this study determined that prospect factors unilaterally and when pooled had positive and significant effects on investment decisions. In doing so the study was consistent with others which have previously reported similar results. For instance, in examining how the prospect theory impacts decision-making, Velumoni (2017) reported that behavioural factors within the theory are simply synonymous with socio-demographic factors and are bound to have a positive effect on investment decisions that are ultimately made.

Meanwhile, Chentakumar and Hiral (2018) were able to show that the influence of behavioural factors on investment decisions was likely to soar even higher when prospect components that are inclusive of mental accounting, loss aversion, and regret aversion were to be exploited. This was more so because information on such components could be useful in the decision to risk or otherwise. Infact, this finding resonates well with the position taken by other scholars who explored prospecting (Dervishaj, 2018; Grover & Singh, 2015; Kengatharan, 2014; Luu, 2014; Sochi, 2018).

According to Luu (2014), prospect factors were among behavioural factors that had telling impacts on investment decisions in securities markets albeit in the Vietnam context. However, the use of the five behavioural factors pooled together could not easily be used to commend upon prospect. Moreover use of listed firms could not imply the same could apply for SMEs. This study showed that prospect factors could indeed be relied on. Moreover, Luu (2014) like this study,) demonstrated that

behavioral factors had positive and significant effects on individual investors' investment decision-making. Taking cognizance that the Vietnamese context differed from the Kenyan one, this study was therefore ideal given that it demonstrated that the effects of the prospect theory's anchoring, prospect, herding, and overconfidence factors were replicable to SME investors' decision-making from a developing economy perspective. Besides, the findings in this study confirmed that explanatory approaches could equally be relied on for causation.

The findings also echoed Kengatharan (2014) who explored the potential for behavioural factors to influence individual investors 'decision and investment performance at the Colombo Stock Exchange. Based on the findings, it was revealed that four behavioural factors namely, Prospect, Herding, Market and Heuristics influence investment decision, out of these anchoring ranked high in influence while choice of stock reported low influence. This was also the case for Grover and Singh (2015) who examined how emotions and mental mistakes affected the behaviour of investors when making investment decisions and revealed that they intentionally held on to shares whose values had plummeted and are more willing to dispose of those with a rising value

Suffice it to say that the findings by Dervishaj (2018)who researched on psychological biases, main factor of financial behaviour based on literature review reflected these similar views. The findings in this study regarding prospecting impacting positively on investment decisions auger well with the desires to risk. Dervishaj (2018) while referring to the complexity of financial relationship, risk, investment choices and financial crises globally, the referenced prospecting as critical behavioural factors. Through his desk review of past literature, ascertained the

negative effect of behavioural biases on investment decisions. The research found that investors are not aware of behavioural biases and suggested that cognitive awareness can assist to evade biases in decision making process. Consequently, the findings of this study are bound to improve investment decision making processes employed by proprietors of SMEs. This will ultimately eliminate individual errors that could have affected the macro level, and by extension, the economic viability of those SMEs.

4.15.4 Herding factors on Investment Decision

Regarding the effect of herding factors, the study demonstrated that herding factors were positive and significant determinants of investment decision made by proprietors of SMEs operating in Nairobi County. This results concurred with the findings made by Ghalandari and Ghahremanpour (2013)when investigating herding in firms trading at the Tehran Securities Exchange showing existence of a positive causal relationship. The finding was also consistent with the findings by Shekhar and Prasad (2015)which indicated that herding factors positively and significantly impacted investment decisions among investors in Bangaloor. This finding also lends credence to findings by Kumar and Sharma (2018) which indicated that herding factors critical to investment decisions albeit, to a weak extent through investment patterns elicited both daily and monthly.

The finding that herding had a positive effect on investment decisions in SMEs in Nairobi County, also find favour with the findings by Ghalandari and Ghahremanpour (2013) which revealed that herding as a strategy had a positive effect on investment decision-making at the Tehran Securities Exchange, yielding prudent decisions that led to improved performance in investment among firms trading at the Exchange. Similar findings have also been reported from the Nairobi Securities Exchange where

it was established that herding was one of the behavioural factors with a large influence on investment decisions by firms listed on the exchange (Omery, 2014). The finding also echoes the finding by Lin (2011) showing that females and the younger generation lean towards herding in making investment decisions to good effect.

4.15.5 Financial Literacy on the Relationship between Overconfidence and Investment Decision

The study has established that financial literacy moderates the relationship between overconfidence and investment decisions among small and micro enterprises in Nairobi County. The independent contribution of financial literacy showed to have more contribution to investment decision than overconfidence. The findings conforms to the finding by Buchanan (2013) indicating that financial literacy has the potential to impact on investment decisions relating to investment related issues. This essentially means that overconfident investors can now make rational investment decisions when they seek to be financially literate.

Indeed, the power inherent in financial literacy to impact investment decisions is well documented and helps to explaining such a finding showing that it moderates in the relation involving overconfidence and investment decisions. Janor et al. (2016) for instance, demonstrated that financial literacy a alongside nature of investment, and risk tolerance were crucial facets of investment decisions. Meanwhile, Awais et al. (2016) determined that being based on risk, certainty, and uncertainty in investment, financial literacy impacted investment decisions in a positive way. Correlations between financial literacy and investment decisions have also been documented by other scholars (Bhushan, 2014; Lai-Tamimi & Kalli, 2009; Lusardi & Mitchell, 2007).

Moreover the finding that financial literacy moderates the relationship between overconfidence and investment decision mirrors Medury (2013) who demonstrated from the Indian context the utility of financial literacy anchored on socio-demographic factors in investment decisions that investors come up with. Meanwhile, the intervention of financial experts has confirmed that socio-demographics cannot be wished away in financial matters. Consequently, concentration has in the end focused on essential socio-economic facets such as gender, marital status, income, age, education, financial knowledge and professions which are seen as potential boosters of overconfidence.

4.15.6 Financial Literacy on the Relationship between Anchoring and Investment Decision

The study confirmed that financial literacy was critical to the relationship between investment decision and anchoring. Leveraging financial literature has the potential to enhance the impact of anchoring on decision making. Through financial literacy, owners of SMEs are in a position to identify relevant anchors that can lead to more useful investment decision. Moreover, financial literacy has the potential to open up proprietors to become receptive of new information. According to Nga et al. (2010), later supported by Geetha and Ramesh (2011), skills in financial literacy are the keys to investment decision.

The moderation of financial literacy to moderate in relationships between investment decisions and anchoring perhaps demonstrates the capability of financial literacy to point out suitable anchors for leveraging investment decisions and mirrors observations by others. For instance, Geetha and Ramesh (2011) argued that individual's often lacked insight on available investment anchors at their disposal and

require proper understanding such as facilitated by financial literacy to make appropriate choices. Samudra and Burghate (2012) meanwhile implied implicitly that inability to identify appropriate anchors meant that most investors tended to resort to used bank deposits as their main channel of investment followed by insurance in Nagpur. Many other studies have demonstrated the utility of financial literacy in investment decisions (Akims & Jagongo, 2017; Chaturvedi & Khare, 2012; Nasrullah & Imtiaz, 2019).

4.15.7 Financial Literacy on the Relationship between Prospecting and Investment Decision

The study also revealed the moderating potential of financial literacy in relations involving prospect factors and investment decision. The results suggest that highly literate proprietors would not have to rely heavily on other experienced business proprietors since they are in possession of the requisite financial skills. Also they would be better placed to apply better and divergent techniques that would ultimately lead to more informed investment decisions. The findings conform to that of Merikas et al. (2003) showing that financial information was a critical facet in investment decisions. Indeed, the importance of financial literacy is underscored by Agnew and Szykman (2005) in arguing that improvement in financial education is the panacea to successful investment.

Moreover, the finding showing the moderation potential of financial literacy in relations involving prospecting auger well with Nasrullah and Imtiaz (2019) who did a study on financial literacy and investment decision and found that financial literacy impacted significantly on investment decisions irrespective of the behavioural factor. Although they focused on the mediating effect of personality traits based on the big-

five model on financial literacy and investment decision, their findings are used in this case because moderation is equally conditional. The fact that their study was in in Karachi and based on convenience sampling method, this study becomes significant in the sense that it was conducted in the Kenyan context, and used random sampling techniques. Moreover, this study avoided the components such as extraversion, agreeableness as well as conscientiousness which were applied by Nasrullah and Imtiaz (2019)

All in all, it can be argued that financial literacy bears a significant negative effect on investment decisions through openness to experience and a significant and positive effect neuroticism. However, it successfully moderates between prospecting and investment decisions. These findings echoed the review by Nasrullah and Imtiaz (2019) which was essential in broadening our comprehension of investor behaviour by taking into account the intervening role played by the big five personality traits on the association between investment decisions and financial literacy. The findings showing that financial literacy was a significant moderator answers the proposal that financial institutions ought to offer investment advisory services to potential investors using the consumer profile approach.

Besides, the study findings offer support to Sood and Medury (2012) who examined the investment preferences of working adults within Delhi, Gurgaon and Noida; finding in the process that investment inclinations are not impacted by factors like income, age, marital status, and gender as well as employment status. The findings also lend credence to Bashir *et al* (2013) who evaluated the investment inclinations and risk level of indemnified individuals in Pakistani provinces of Gujrat and Sialkot, finding that when it came to taking risks males topped females while the young and

knowledgeable people were inclined towards risky investment prospects and seek to stake funds into such instruments but they rethink their choices owing to limited resources in addition to a dearth of opportunities of investing including a dearth of investment trends.

The same story of support goes to Volpe and Chen (2006) who scrutinized 212 benefit administrators overseeing individual finance programs in the US-based organizations for the purpose of establishing critical individual finance concerns held by working adults; and evaluating their level of knowledge. In the process, they determined that the least significant areas will be investment and estate planning. The least significant subjects in particular will carry insights regarding mutual fund prospects, expense ratios as well as mutual fund expenses. The respondents also revealed that working adults will be in reality least aware on the same subjects that they considered insignificant. Basically, the benefit administrators demonstrated that working adults had quite low levels of knowledge.

Similarly, the study findings reflect those by Tamimi (2006) who explored the most ad well as least impacting elements on the UAE investor's behavior by scrutinizing 343 individual investors; and the most impacting factors in order of significance; and reported that the most influencing factors, in order of importance were: corporate earnings get rich quickly, stock marketability, past performance of the firm's stock, government holdings, and the formulation of the organized financial markets. And that, two elements had uniquely the least impact, they are family member opinions and religious reasons. However the findings in this study link financial literacy to improved investment decisions through prospecting which was missing in most previous studies.

4.15.8 Financial Literacy on the Relationship between Herding and Investment Decision

Financial literacy also emerged as a significant moderator in the relationship involving herding and investment decision making. In particular, the study established that financial literacy has the potential to strengthen the effect of herding on investment decision. The implication is that financial literacy enables proprietors to extract more useful and reliable information that is instrumental when making investment decisions. There is also a possibility that in the event that proprietors are not able to identify proper herding factors, leaning towards skills in financial literacy would expose them to techniques four sourcing different information to inform their investment decisions.

The finding showing that financial literacy moderates between herding factor and investment decisions support views by Arianti (2018) who examined the impact of financial literacy, financial behavior and income on investment decision. Although Arianti (2018) used a quantitative, descriptive study design; alongside primary data obtained and processed from 29,231 students and sampled using random sampling technique via the slovin formula. 100 students were issued with questionnaires and the data obtained was taken through descriptive statistical analysis tools namely multiple linear regression, classical assumption test, t test, data quality test, F test and coefficient of determination with the aid of software program SPSS version 22. The findings revealed are implicitly reflected in the findings of this study in the sense that there may not have existed direct effects but, financial literacy could elicit indirect effects on investment decisions. On the other hand financial and income behavior significantly influenced investment decisions. The present study nonetheless looked

into the intervening effect of financial literacy on investment decision and went on to show the power inherent in financial literacy to moderate the relationship.

Similarly, Maditinos *et al*. (2007) evaluated the approaches and strategies employed by six distinct groups of Greek investors: official members of the Athens Stock Exchange, individual investors, mutual fund management companies, listed firms, brokers as well as portfolio investment companies. Their findings were echoed by this study which indicated that in general, the respondents rated their instinct or experience as the most critical factor to be adhered to by fundamental analysis and the trends in foreign financial markets. With, noise in the market and portfolio evaluation being considered inconsequential. The findings on moderation of the relationship between herding and investment decision also supports the findings by Amisi (2012) who looked into the impact financial literacy has on investment decision making by pension fund managers in Kenya. Using a sample of 16 fund managers, Amisi (2012) like in the case of this study, demonstrated that financial literacy and investment decisions are correlated. What this study adds is that besides being correlated, financial literacy also moderated in the relationships involving investment decisions.

The findings of this study also resonated well with Tyrimai (2013) in partnership with Bank of Lithuania who investigated the financial behavior of Lithuania households with respect to the borrowing and saving culture of individuals in the households as well as reasons for doing so. Using an overall of 1011 households Tryimai (2013) discovered that saving and borrowing financial behavior significantly influenced the stability of the financial systems of Lithuania. Most of the households actively saved owing to the fear of unprecedented factors for instance safeguarding themselves against a drop in earnings or emergency spending is demonstrated by the option of

non-risky saving and investment tool. The households sampled revealed that financial behavior should tackle the concern that is financial literacy as most of the survey participants relied on previous personal encounters or that experienced by friends.

Meanwhile, the findings also implicitly supports Bhushan (2014) who conducted a study on the relationship between financial literacy and investment behavior of salaried individuals employed in both government and non-governmental institutions in Himachal Pradesh, India. Using a survey of 516 questionnaires to obtain data, and a mix of purposive and multi-stage methods; and analyzing financial literacy in three dimensions of knowledge, awareness and behavior where a 5-likert attitude scale was implemented. Bhushan came to the realization that high financial literacy levels resulted in improved financial awareness of the financial commodities consequently bringing about more informed investment decisions as opposed to their equivalent with low financial literacy face restrictions or limitations with regard to alternatives on where to stake funds and consequently settle on investing in limited conventional commodities. While conventional products provide more secure and guarantee of higher returns, they carry more risks. According to Bhushan, it is imperative to have at least a specific degree of financial literacy to comprehend risk and return along with making informed choices when settling on financial products. The findings of this study also showed that financial literacy could boost the relationship between herding factors and investment decisions.

The findings also supported the findings of a similar study carried out in Pakistan which revealed that investment decision is closely linked with financial literacy(Awais, Laber, Rasheed, & Khursheed, 2016). Consequently, leveraging the decision theory, alongside financial literacy makes investment decision can bear seen

or unforeseen risks. Awais *et al* (2016) provided that risk intensity can either be moderate at its highest or lowest depending on the approach taken when making decision. Drawing on existing texts and publications Await *et al* (2016) highlighted that risky investors were more adept in investing that builds on risk tolerance. An experienced investor makes use of their risk tolerance given the experience they gather from the past investment decisions.

In Malaysia and the United Kingdom, investment decision implies that an enterprise is greatly influenced by factors such as risk tolerance, financial literacy along with the type of investment(Janor, Yakob, Hashim, Aniza, & Wel, 2016). It was discovered that financial literacy levels were relatively low in Malaysia and the government needed to improve on financial awareness. Financial literacy was discovered to impact the investor's behaviour when making decisions. A discrepancy with respect to financial literacy was found to be prevalent in Malaysia in contrast to United Kingdom. This study therefore added to the existing literature by showing that similar findings could be replicated in developing nations like Kenya.

4.16 Summary of the Hypothesis Test

The results presented in Table below 4.29 indicated the summary of both multiple and hierarchical regression models. Thus, the table shows (R^2) and Δ in (R^2) for both main and interaction effects as well as the decision on the formulated hypothesis.

Table 4.3: Summary of Hypotheses Testing Results

Hypothesis Formulated	Beta (β)	ρ – values	Decision
Main Effects			
Ho_1: Overconfidence has no significant effect on investment decision among SMES in Nairobi County.	.019	.702	Accepted
Ho_2: anchoring has no significant effect on investment decision among SMEs in Nairobi County.	.223	.000	Rejected
Ho_3: prospecting has no significant effect on investment decision making among SMEs in Nairobi County.	.315	.000	Rejected
Ho_4: herding factors has no significant effect on investment decision among SMEs in Nairobi County.	.541	.000	Rejected
Model 4 – moderating effect	Beta	**ΔR^2**	**Decision**
Ho_{5a}: financial literacy does not moderates the relationship between anchoring factors and investment decision	.793**	.058**	Rejected
Ho_{5b}:financial literacy does not moderate the relationship between overconfidence and investment decision among SMEs in Nairobi County	.843**	.078**	Rejected
Ho_{5c}:financial literacy does not moderate the relationship between prospecting and investment decision among SMEs in Nairobi County	.859**	.089**	Rejected
Ho_{5d}:financial literacy does not moderate the relationship between herding and investment decision among SMEs in Nairobi County	.967**	.119	Rejected

*Level of significance, *p<.05, **p<.01,*

Source: Research data (2021)

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes the study findings, and gives a concrete discussion of the findings in line with existing literature. The chapter also outlines the conclusions drawn from the findings in line with the objectives of the study. Finally, the chapter gives recommendation for theory and practice as well as, recommendations for future studies.

5.1 Summary of the Findings

This study sought to establish the effect of behavioural factors on investment decisions among proprietors drawn from SMEs in Nairobi County under the moderating influence of financial literacy. Behavioural factors were measured in terms of overconfidence, herding factors, anchoring factors, and prospect factors. The main finding of the study was that in spite of behavioural factors impacting positively and significantly on investment decision, financial literacy moderated this link in the context of proprietors of SMEs in Nairobi County.

5.1.1 Overconfidence and investment decision among SMEs

In relation to overconfidence, the findings indicated that debt finance decision was mostly based on credit rather than loans. It was also established that loss and risks were occasionally overlooked by proprietors when striking investment deals. Further the proprietors were sometimes overconfident when making investment decisions and sometimes ignored risks and potential losses. Such overconfidence also culminated in

overestimating personal competences and abilities leading to poor investment decisions anchored on inability to control the financial outcome.

The results of multiple regressions indicated that on its own, overconfidence impacts investment decisions positively but this influence wanes when pooled alongside the other behavioural factors. Meanwhile skills in financial literacy were likely to moderate investment decisions made in relation to the overconfidence to investment decision link. This implies that skills in financial literacy masks the proprietor's lineage to overconfidence when making investment decisions, allowing them to think rationally.

5.1.2 Anchoring and investment decision among SMEs

The study through descriptive analysis of the anchoring construct revealed that information gathered was crucial to the process of decision making. Purchase decision are particularly critical and are often arrived at using past experience. Moreover, the study revealed that proprietors were often patient and took time before new products were sourced from the market. One aspects that continuously emerged is that availability of information was at the center of decision making. Another finding that arose from descriptive analysis relates to original prices being higher than prejudge prices.

Results from the regression analysis found that anchoring factors had positive and significant impacts on investment decision in the context of the SMEs. In addition, financial literacy was also found to be a significant moderator to the relationship involving anchoring factors and investment decision. These results underscore the critical role that anchoring factors play in investment decision making among

proprietors in SMEs in Nairobi county. Financial literacy accelerates the impacts of anchoring factors on investment decision. Consequently, to boost their businesses, proprietors need to invest in financial literacy to be in a position to identify anchors that suit their businesses.

5.1.3 Prospecting and Investment Decision among SMEs

Descriptive findings indicated that experience plays an important role in the ideas for business that SMEs in Nairobi County lean towards. In addition, most businesses seek to satisfy the needs of the local community in which they operate. Furthermore, previous stories in business that have shown success were also leveraged to prospect investment decisions. High returns that accrue from investment were also occasionally leveraged to make investment decisions.

From the regression results, prospect factors positively and significantly impacted on investment decisions in the context of SMEs drawn from Nairobi County. Additionally, financial literacy emerged as a significant moderator to the relationship involving prospect factors and investment decisions. These findings imply that looking into the future enables SME proprietors to come up with viable investment decisions. This was made easier through financial literacy skills. Prospecting is therefore an ideal fulcrum for prudent investment decisions in the context of SMEs in Nairobi County.

5.1.4 Herding and Investment Decision among SMEs

In relation to herding, the study indicated that expansion is based on profit in the present business size. Also, there is a higher likelihood of increasing investment in the same line of business in future. Moreover, whenever the prices of the goods are low,

the enterprise reduces sales and sells at high prices. Further, past investment affect what to invest in future. In addition, there is doubt whether the price changes of securities are considered before investing. The regression findings indicated that herding factors positively and significantly influence investment decision among proprietors drawn from SMEs in the context of Nairobi County. Besides, the hierarchical regression results confirmed that financial literacy moderated the relationship involving herding factors and investment decisions. These findings underscore the central role that herding plays in investment decisions made by SME proprietors. The relationship is further strengthened when the concerned proprietors acquire financial literacy skills.

5.2 Conclusions

The study concluded that factors such as proprietor education, business experience and country of origin had insignificant impacts on investment decisions in the context of SMEs and needed not to be controlled for.

From the main study objectives the study concluded that overconfidence in a pool of behavioural factors does not impact significantly on investment decisions by proprietors of SMEs in Nairobi County. This is despite proprietors being overconfident about their knowledge, optimism and control over their portfolio. However, when moderated with financial literacy, overconfidence positively impacts on investment decision. It means that incorporation of financial literacy makes it possible for proprietors to utilize their skills and knowledge in certain circumstances to improve investment decisions. Consequently, overconfidence is good for the proprietors if used alongside financial literacy.

The study also concluded that anchoring factors are critical to coming up with relevant investment decisions. The elements inherent in anchoring including accessibility to new information have potential to enable proprietors of SMEs in Nairobi County to make investment decisions that are well informed. Identifying relevant anchors is further strengthened when proprietors invest in financial literacy. Financial literacy moderates the use of anchoring factors and ends up enhancing investment decisions.

Moreover, the study concludes that prospect factors as facets of behavioural factors are also critical for informed investment decisions. Prospect factor enable proprietors to lean towards ideas that have previously been used successfully, thereby avoiding future losses. The impact of prospect factors is made even stronger when proprietors of SMEs invest in financial literacy.

The study also concludes that herding factors play a significant role in investment decisions in the context of SMES operating from Nairobi County. The proprietors prefer herding factors because they are capable of extracting useful and reliable information that is key in making investment decisions. The herding behavior is also exhibited by the enterprises reliance on past investments to make investments in the future.

Finally, financial literacy moderated the relationship involving overconfidence and ended up enhancing investment decision-making among proprietors. Furthermore, financial literacy boosted the odds of prospect factors to spur investment decisions. Besides, the interaction of financial literacy with herding factors indicated that there was a positive and significant influence on investment decision. In addition, financial

literacy positively moderates the relationship involving investment decision and anchoring factors.

The uniqueness of the study is that this aspect of behavioural factor has been done so much in big firms and people who are investing in NSE. Researcher found that view studies that have been done in SMEs in Africa and none in Kenya moderated with financial literacy. The new knowledge is that overconfidence had no significant effect while herding, anchoring and prospect has significant effect. The study also discerned the moderation potential of financial literacy in relations involving, overconfidence, anchoring, herding prospect factors.

5.3 Theoretical implication

The findings showed that managers/owners of the enterprise considered risker investment to some extent through overconfidence which support the concept of behavioural portfolio theory. The interactive potential inherent in financial literacy reduces the effect of improve overconfidence and more people would invest even in riskier investment since it had positive interactive effect on overconfidence and investment decision. It indicates that financial literacy acts as the avenue through which proprietors access knowledge regarding investment in risky investments that would maximize benefits for the businesses. Firms' size also contributed to better decision making as well as prospect factor, herding factor and anchoring factor. Behavioural portfolio also explains maximization of returns which is explained by the effect on investment decision.

The findings showing the positive influence of prospect and anchoring factors lend support to the regret theory which addresses decision making in time of uncertainty.

The postulation then is that by leveraging prospect and anchoring factors, proprietors have little regret on their investment decisions. Financial literacy further improves odds of sound decision making considering that proprietors are able to rationalize their decision making.

According to prospect theory mental accounting assist in making decision between losing and gaining (Marchand, 2012). However, the theory does not examine in-depth effect of behavioral factors on investment decision. The results would provide more information on prospect theory as well as empirical gaps. Financial literacy has mainly conceptualized with investment decision (Remund, 2010). The prospect theory was manifested in the findings which underscored the importance of prospect factor in investment decision. This was more so in the finding showing that proprietors tended to value and frame prospect factors when investment decisions involved uncertainty. In such scenario investment decisions were mainly based on potential losses and gains that would accrue when the reference point, usually purchase price was to be taken. Besides, as postulated by the prospect theory, this study indicated connectivity between financial literacy and prospect factors. This is indeed consistent with prospect theory which indicates that prospect factors are bound to contribute to the strong foundations for financial literacy.

On the contrary competency theory underscores the importance of financial literacy. This was quite evident in the findings where although initial over confidential factors appeared to have no effect on investment decisions, an entry of financial literacy as a moderator saw all this change and overconfidence now became stronger. It is imperative to seek to improve financial skills, awareness and knowledge to continue exploiting its inherent potential. The central role of financial literacy was manifested

in its ability to moderate in the relationships involving all the behavioral factor components A.

5.4 Managerial/ Implication to Practice

Behavioural factors have significant effect in decision making. Therefore, manager in organization should utilize prospect factor since it has the highest positive impact on investment decision. Therefore, organization should adopt technological advancement to improving prospect factor through the use of Decision Supporting System that simulates information obtained from the past to make sound decision.

Financial literacy also played main role not only in investment decision but improving overconfidence and herding factors. Financial literacy improves individual knowledge and skills on how to invest in riskier project as well as information that follow and implement. Therefore, there is need for continuous improvement of manager skills so as to enable them applies financial concepts and knowledge for improving their performance and making appropriate investment decisions. This can be done through training and human development on financial concepts, knowledge and awareness improving decision made.

5.5 Implication to Policy

Policy makers are able to develop financial policies that encourage financial literacy in organization. These policies enable the SMEs to use appropriate concepts of financial literacy in improving decision making. Hence enable government to saturate their efforts of provision of credit and funds to Small and Micro Enterprises in Kenya based on improve investment decision. There is need to also have a comprehensive training to enlighten SMEs and hence improve investment decision made. Investors

who have improved their knowledge, skills and awareness in financial matter provide to performance better that those who dependent on behavioural factors. The government should then create a taskforce that would ensure that majority of proprietor are trained before accessing funds.

The findings showing that financial literacy moderates in the behavioural factors under study offer a framework upon which policy makers can craft policies to oversee entrepreneurs liaise with each other to maximize their application. Indeed, entrepreneurs or business proprietors can use each other as anchors, and also come together to guide prospecting and herding factors in businesses. Besides, mechanisms can be sought through which proprietors are exposed to more opportunities to improve their financial literacy skills. In this way, many SMEs are bound to enjoy longevity in the market.

5.6 Limitation of Study

The study is limited to the businesses within Nairobi County and hence does not represent green economy and blue economy concepts in other region where farming and fishing are the main economic activities. However, similar models might affect blue and green economy. There was limited secondary data on behavioural factors, financial literacy and investment decision. Therefore, the study collected primary data that provided sufficient information about the current state of business in Nairobi County. Since it represents business centre of that is vibrant in Africa, the information is important to be utilizing as reference point both in business and theoretical contribution.

5.7 Recommendations

The study recommends that proprietors should exploit financial literacy to identify and select anchors that are bound to boost their decisions to invest. There is need for them to enter into consultations that can make them avoid costly decisions. The study also recommends that proprietors should be objective when seeking for information to inform anchoring decisions. More importantly, they should seek to try out other reference points of decision making as opposed to being conservative.

The prospect factors positively impact on the investment decision among SMEs in Nairobi County. Therefore, proprietors should shun the fear of loss from previous investment experiences, and take bold steps to make investments after careful thought. They should peg their decisions on the potential for high returns when taking investment decisions. If possible proprietors should opt for businesses that have been tested and found fruitful.

Considering that herding impacted investment decisions positively among proprietors operating small businesses in Nairobi County, proprietors need to rigorously analyze past events, seeing that they influence the investment decisions. Besides, the proprietors should base their decision to expand on profits made by the enterprise. Furthermore, proprietors need to carefully identify and settle on proprietors with vast experience to partner with or act as reference anchors. Finally, proprietors ought to take cognizance of potential limitations of herding factors before leaning towards them when making decisions.

5.8 Recommendation of Further Studies

The study explored how financial literacy moderates the link between behavioral factors and investment decisions among proprietors engaged in small and micro businesses in Nairobi County. The study only focused on business in Nairobi County. There is need to investigate behavioral factor and financial literacy on financial performance in listed companies in stock exchange. This is prompted by poor performance of listed companies where some are deregistered and other are under receivership. There is need to conduct further studies to provide answers on what is ailing most of companies.

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APPENDICES

Appendix I: Introductory Letter

Dear Respondent

I am, a student ofMoi University pursuing PHD in the School of Business& Economics finance option. I am required to carry out a research as a requirement of the course. My research Study is to assess the ***"Behavioral factors, Financial Literacy and Investment Decision among Small and Medium Enterprise in Nairobi County."***

You have been selected as one of the respondents for this study. Your honest and accurate answers will be very useful in accomplishing the identified objectives. Remember you are one of the few chosen respondents in this study and the information you give will be treated as confidential and solely for academic purpose. Your participation is entirely voluntary and the questionnaire is completely anonymous. Your contribution in facilitating this study will be appreciated.

Yours faithfully

Leah JemutaiBarno

Appendix II: Questionnaire

Instructions

Please indicate the extent to which you agree or disagree with the following statements on investment behaviors among Small and Medium Enterprise in your organization. **SECTION A: GENERAL INFORMATION**

No.	QUESTION	RESPONSE
1	Firm size?	☐ Micro ☐ Small
2	When was the business started?	☐ 0-5 years ☐ 5– 10 years ☐ 10 – 15years ☐ 15 and above
3	What is your business experience?	☐ Less than 4years ☐ 5 – 9years ☐ 10 – 14 years ☐ 15years and over
4	What is your education level?	☐ Secondaryand below ☐ Diploma ☐ Degree ☐ Masters
5	Which is your region of origin?	☐ Kenyan ☐ Foreign

SECTION B: BEHAVIORAL FINANCE

Please use the following scale to indicate your response. Circle the best response. **1= Strongly Disagree (SD) 2= Disagree (D) 3= Neutral (N) 4= Agree (A) 5= Strongly Agree (SA)**

I. OVERCONFIDENCE

	SD 1	**D 2**	**U 3**	**A 4**	**SA 5**
Overestimating my potential affects my ability to control the financial outcome					
I often overestimate my investment in the business					
I overate my personal ability and competences when making decisions					
In most cases, I overlook the potential for loss and risk when striking investment deals					
Our decisions on debt finance are mainly based on credit rather than loans.					

II. ANCHORING FACTOR

	SD 1	D 2	U 3	A 4	SA 5
We use of information collected to make decisions					
Our experience is that prejudge prices are mostly lower than initial prices.					
Our past business experiences informs most of the investment decisions we make.					
We takestime to purchase new products in the market					
Our past experience with the business affectsour investment decisions					

III. PROSPECT FACTORS

	SD 1	D 2	U 3	A 4	SA 5
The nature of potential returns from an investment informs our decision to invest					
Most of our investment ideas are based on prior successes					
We sometimes source investment ideas from experienced business proprietors.					
Most of our investments are based on ideas that have been tried and proven					
Available market informationcomes in handy to our investment decisions.					

IV. HERDING FACTOR

	SD 1	D 2	U 3	A 4	SA 5
Our investments take cognizance of price changes in securities					
Past investment patterns informs our future investments.					
There are high chances of increasing our investments in this business					
Our future expansions will depend on profits we make in the current business.					
Fluctuations in prices of goods and services informs our investment decisions					
We exploit the inverse relationship between pricing and volume of sale.					
We consider past trends of stockwhen making investment decision.					

SECTION B: FINANCIAL LITERACY

	SD 1	D 2	U 3	A 4	SA 5
I have adequate knowledge on financial management					
I am well conversant with financial matters					
I am often confident when making financial or saving decisions					
I have a sound understanding of financial planning					
I set financial goals and objectives for my business					
Igather data and analyze current financial situation before make a financial decision					
I sometimes consult experts such as financial planners, insurance advisors and others before making financial decisions					
I often review financial plan periodically after implementation					

SECTION C: INVESTMENT DECISION

	SD 1	D 2	U 3	A 4	SA 5
I am generallysatisfied with the manner in which I make investment decisions					
My decision-making helps the business to achieve its investment objectives					
Investors' are confident with the accuracy of ourinvestment decisions					
My investment decisions mostly earn us higher than average returns in the market					

Imake all investment decisions by myself					
I usuallyconsider all possible factors while making investment decisions					
I have increased investment to assets					
I have opened many branches in other part of the country					
I have diversified my business to other sectors					
I borrow more loans to increase my business stock					

END

Appendix III: A Sample List of SME's In Nairobi County (CBD)

	HOSPITALITY
1	Deluxe Fruits Ltd
2	Demo Entertainment
3	WilsamPharmaceticals Limited
4	Janico Salon
5	Gris Cafe
6	Karis Services
7	Best Bite Cafe
8	Classic Touch Salon
9	Emanuel Cafe
10	Silver My Health Services
11	Sofie Hair Stylist
12	Bulk Medical Suppliers
13	Jello Butchery
14	Fish Wholesalers
15	KenecoMazingira Services
16	True Blaq Entertainment
17	Why Not Entertainment Ltd
18	Can Translators
19	Kinyagi Foods Ltd
20	KenecoMazingira Services
21	Silver Dine Kenya
22	Fast Choice Ltd
23	True Blaq Entertainment
24	Bozzi Bakers
25	Bake and Bite Bakers
26	Boss Bakers
27	Wega Bakers
28	Eucla Bakers
29	Mina Bakers
30	Mashi Bakers
31	Bake & Bite Bakers
32	Primavara Picknick
33	Kim's Snacks Shop
34	Bakers Mall
35	Will Bakers
36	Ahadi Bakers
37	Luanda Bakers
38	Umoja Royal Bakers
39	Corner Bakers

	TOURS & TRAVEL
1	Biashara Africa Limited
2	Freyr International Limited
3	Express Travel Group
4	Harvest Travels
5	Leisure & Travel
6	Stadicom Ltd
7	Helina Safaris
8	Senator Travel Safaris
9	Klass Travel & Tours Ltd
10	Uniglobe Northline Travel
11	Silverbird Travel Plus
12	Vintage Travel & Tours
13	Boma Travel Services
14	Cupstone Travel Ltd
15	Venture Africa Safaris
16	Chronicle Tours & Travel
17	Africa Touch Safaris
18	Travel Mart Ltd
19	Venture Africa Safaris
20	Uniglobe Northline Travel
21	Designer Tours & Travel
22	Helina Safaris
23	Winter Tours & Travel
24	Signature Tours & Travel
25	Sky World Wide Express
26	Timeless Courier
27	Winter Tours & Travel
28	Helina Safaris
29	Senator Travel Safaris
30	Klass Travel & Tours Ltd
31	Uniglobe Northline Travel
32	Silverbird Travel Plus
33	Vintage Travel & Tours
34	Akarim Agencies
35	Boma Travel Services
36	Cupstone Travel Ltd
37	Venture Africa Safaris
38	Chronicle Tours & Travel
39	Africa Touch Safaris

40	Master Bakers
41	Nice Cake Bakers
42	N.K. Bakery
43	Beneka Home Bakers
44	Emmanuel Bakers

	INFORMATION TECHNOLOGY
1	Airfall Colling Services
2	Future Soft Technologies
3	Bero Tech
4	Caravet System Limited
5	Open World
6	Compiterways Limited
7	OlyeniElectornics Limited
8	Shrend Publishers Limited
9	Hillspan Printing Press
10	Star Printers
11	EPZ Designers
12	Pinnacore Printers
13	Intermass Stationers & Printers Ltd
14	Charti International Ltd
15	Kenya Toner & Ink Suppliers
16	Good Shepherd Computers
17	Joriam Technologies Ltd
18	Techbiz Ltd
19	Splice Technologies
20	Charti International Ltd
21	Kenya Toners & Ink Suppliers
22	Next Technologies Ltd
23	Splice Technologies
24	Dunia Link Communication Ltd
25	Empire Micro System Ltd
26	Next Technologies Ltd
27	Symphony
28	Empire Microsystems Ltd
29	Michi Media Ltd
30	Pinnacore Printers
31	Intermass Stationers & Printers

40	Travel Mart Ltd
41	Venture Africa Safaris
42	Uniglobe Northline Travel
43	Sarawet Agencies
44	Helina Safaris
45	Winter Tours & Travel
46	Signature Tours & Travel
47	Sky World Wide Express
48	Timeless Courier
49	Winter Tours & Travel
50	Intergrall Group Ltd
51	Airpress Communications
52	Niceline Products
53	Trans-Counties Investments Limited
54	Coast Industrials & Safety Supplies Ltd
55	Kenya Bus Service
56	Muranga Forwarders
57	Charlstone Travel Limited

NO	**INDUSTRY**	**NO.**
1	**MANUFACTURING**	**64**
2	**HOSPITALITY**	**44**
3	**CONSULTING**	**107**
4	**INFORMATION TECHNOLOGY**	**79**
5	**GENERAL SHOP**	**31**
6	**TOURS & TRAVEL**	**57**
TOTAL		**382**

	Ltd
32	Charti International Ltd
33	Kenya Toner & Ink Suppliers
34	Good Shepherd Computers
35	Stadicom Ltd
36	Interdata Systems
37	Intel Networks Ltd
38	Soloh Worldwide Enterprises
39	Intel Networks Ltd
40	Webtribe Ltd
41	Splice Technologies
42	Splice Technologies
43	Intel Data Systems
44	Intel Networks Ltd
45	Take two Communication Ltd
46	Xtreme Media Solutions Africa
47	Twaweza Communications
48	Valley Point Telecoms Ltd
49	Airpress Communications
50	Dual Pix Communication Ltd
51	Empire Microsystems Ltd
52	Fontana Media Productions
53	Interdata Systems
54	Intel Networks Ltd
55	Kenpak Color Printers
56	Media Edge Interactive
57	Intel Networks Ltd
58	Michi Media Ltd
59	Webtribe Ltd
60	Spice Technologies
61	Splice Technologies
62	Zeon Business Systems
63	Intel Data Systems
64	Intel Networks Ltd
65	Designer Tours & Travel
66	Take two Communication Ltd
67	Xtreme Media Solutions Africa
68	Protecht Ltd Africa
69	Twaweza Communications
70	Valley Point Telecoms Ltd
71	Liason Media
72	Dual Pix Communication Ltd
73	Empire Microsystems Ltd

74	Ramco Hardware
75	Digital City Ltd
76	Powerpoint Systems (EA) Ltd
77	Isolutions Associates
78	Avtech Systems Limited
79	Onfon Media Ltd

	GENERAL SHOP
1	Cutlery Duka – Nairobi
2	Kuza Biashara
3	Sadina Mini Market
4	Emmu Stage Stores
5	Lelua Enterprises
6	Joel Enterprises
7	The Flag Shop
8	Direct Sales and Distributors
9	Roza Enterprises
10	Dadson Enterprises
11	Mimaki Agencies
12	Mwea Rice Wholesalers
13	Millenium Sales
14	Eco - Line Suppliers
15	ABC Supplies
16	Kaperon Enterprises
17	Intergrated Suppliers
18	Emalard Total Solutions
19	Emaland Total Solutions
20	Ovation Enterprises Ltd
21	Maxnan Enterprises Ltd
22	Akarim Agencies
23	Broadlink General Merchants
24	Sarawet Agencies
25	Zeon Business Systems sultants
26	Accression Agencies
27	Maxnan Enterprises Ltd
28	Value Choice Agencies
29	Soloh Worldwide Enterprises
30	Aqua Enterprises Ltd
31	Maxnan Enterprises Ltd

SME Category	Business Code in Nairobi Area	Number of SME's in Nairobi County
Medium Trader Shop or Retail Services	110	16804
Small Trader, Shop or Retail Service	115	55194
Small Transportation Co.	315	2844
Small Petrol Filling	335	895
Small Storage Facility	365	945
Small Communications Co.	380	175
Small agric. Producer/Processor/Dealer	415	2452
Medium Lodging House With Restaurant Or bar	515	274
Small Lodging House With Restaurant/Bar	518	236
Medium Lodging House	524	328
Small Lodging House Basic Standard	527	415
Small Restaurant With Bar	546	956
Large Eating House; Snack Bar; Tea House	549	612
Medium Eating House; Snack Bar; Tea House	552	1054
Medium professional services firm	610	508
Small professional services firm	615	5235
Medium financial services	630	512
Small financial services	635	478
Small private health facility	735	65
Doctor/ Dentist/Physiotherapist	740	912
Small Entertainment Facility	760	75
Small Industrial Plant	815	794
Medium Workshop, Services-Repair Contractor	825	11124
Small Workshop Service Repair Contractor	830	102887

Appendix IV: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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Date of Issue: 10/October/2019

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This is to Certify that Ms. LEAH BARNO of Moi University, has been licensed to conduct research in Nairobi on the topic: EFFECTS OF BEHAVIORAL FACTORS FINANCIAL LITERACY ON INVESTMENT DECISIONS AMONG SMALL AND MICRO ENTERPRISES IN NAIROBI COUNTY, KENYA. for the period ending : 10/October/2020.

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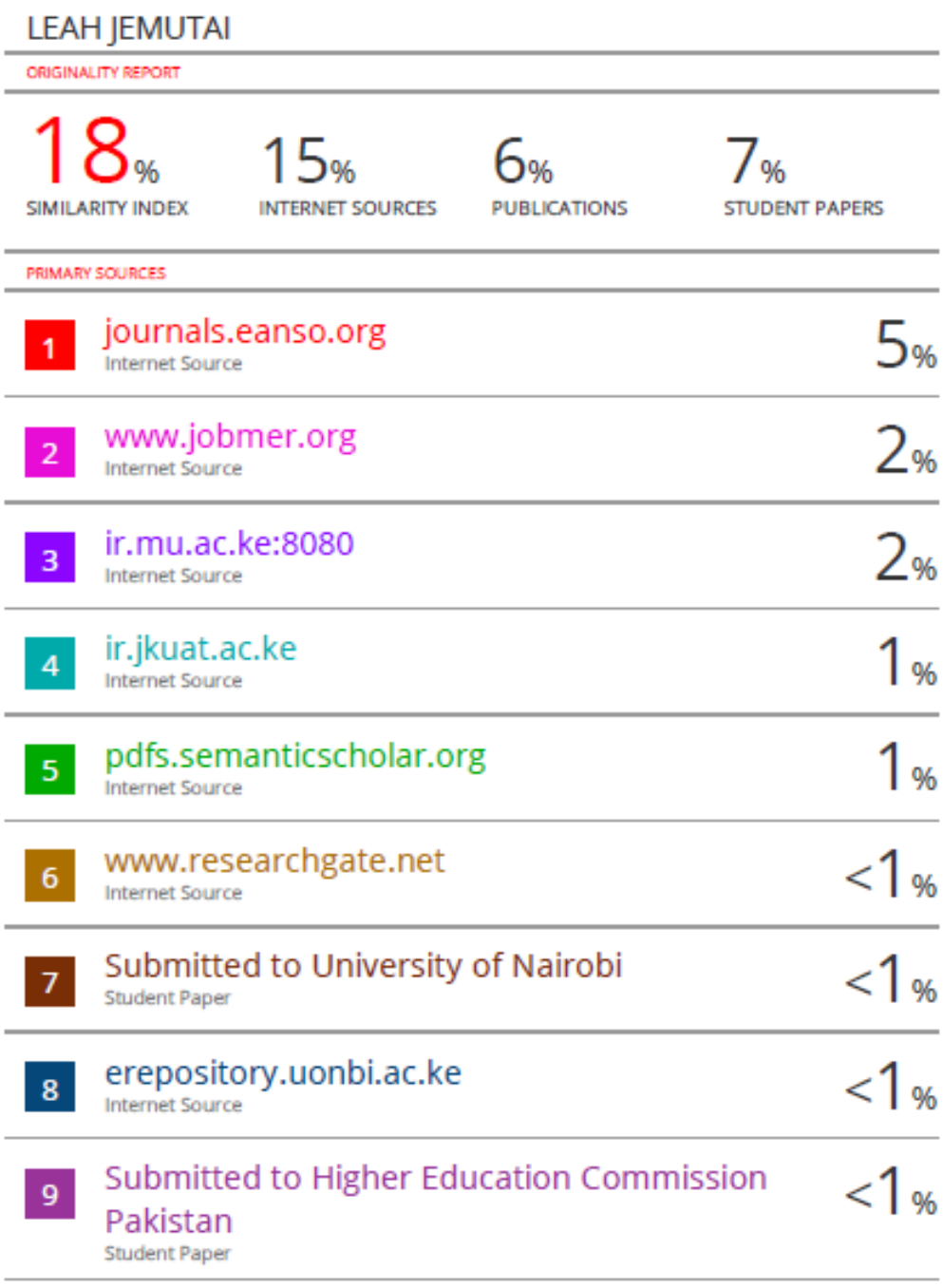
Appendix V: Plagiarism Result



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