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Psychological Biases and Decisions of Small and Medium-Sized Enterprises (SMEs) to Apply for Bank loans: A Study Based on Behavioural Finance

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Abstract

The purpose of this study is to underscore from the lens of behavioural finance the influence of psychological biases on the decisions of SMEs to apply for bank loans. To attain the objective, we adopted a mixed research method. Accordingly, in order to capture deeply the effect of psychological biases on the borrowing decisions of SMEs; interviews were conducted with 10 owners/managers of SMEs. Subsequently, survey questionnaires were used to collect data for the final phase of the study. Our sample consists of 400 SMEs operating in different sectors of the city of Douala. Both stratified and random sampling were used as sampling methods for the study. Logistic regression statistical technique was employed to analyse collected data. The results of the study revealed that control aversion, overconfidence bias and discouragement bias influence significantly the decisions of SMEs to apply for bank loans. From this study, it is observed that decisions of SMEs to apply for bank loans divert from orthodox finance paradigm, but are rather captured by psychological biases related to behavioural finance. As a result, behavioural finance provides relevant theoretical framework to understand the financing decisions of SMEs, which is essential in capturing the financing lacuna faced by SMEs.

Keywords: SMEs, Psychological Bias, Bank Debt, Behavioural Finance

1. Introduction

The significance of Micro, Small, and Medium Enterprises (MSMEs) in contributing to the economy has been well-established (Endris & Kassegn, 2022). SMEs represent the largest and most dynamic economic sectors in numerous countries, acting as a vital engine for sustainable development and economic resilience (Amoah *et al*., 2022). The main formal financing source for SMEs is the bank (Khalid & Wahab, 2014 b). Aminu & Shariff (2015) argued that access to debt finance is a vital tool for the survival and operations of any business. A large body of the existing literature has documented that banks are the main external capital provider for SMEs sector in both developed and developing countries (Vera & Onji, 2010), and the most common source of external finance for SMEs (Howorth and Moro, 2012). It is found that access to debt finance influences the profitability, survival and growth of SMEs (Badi and Ishengoma, 2021).

For a long time, everybody thought that traditional finance theory is accurate because it states that investors think rationally and make deliberate decisions, based on various estimations or using economic models. A common belief in traditional finance is that investors are rational beings who consistently seek to maximize their expected utility (Areiqat *et al*., 2019). However, behavioural finance challenges this assumption by recognizing that investors often make decisions based on biases and emotions rather than pure rationality. Behavioural finance is a new approach that combines practical and traditional financial theories by considering aspects of investor behaviour when making decisions (Kaakeh, 2018). Research by Suyati and Ratnawati (2023) and Hidayati *et al*. (2018) found evidence of the influence of behavioural finance on debt decisions.

The psychological biases of SMEs are amongst the most fundamental variables influencing their financial decisions (Bailey, 2012). Therefore, the characteristics of SMEs in making debt decisions are strongly influenced by behavioural finance (Suyati & Ratnawati, 2023). Several studies have developed behavioural theories of finance in SMEs, such as (Purwidianti *et al*., 2022; Raveendra *et al*., 2018). The results of research on the financial behaviour of SMEs revealed that financial behaviour would influence the company's financial decisions. SMEs often behave irrationally when making financial decisions because of influenced psychological factors. It will lead to biased decision-making because the influence of individual tastes exceeds rational considerations. Financing decisions are crucial for the success and survival of small and medium-sized enterprises.

Therefore, understanding the factors that influence these decisions is important.

The literature on SME financing decisions highlights several factors that affect how owners and managers make financing decisions (Olutayo *et al*., 2024). In behavioural finance studies, the research conducted focuses more on the study of investment decision-making, such as research by (Gill, Khurshid, Mahmood & Ali, 2018; Wali & ur Rehman, 2019). Meanwhile, studies on debt decision-making are still very limited and relatively few, especially in Cameroon. Behavioural finance introduces the possibility that, in their real world decision making, entrepreneurs as SME owners are less than fully rational in that they employ irrational behaviours called heuristics and biases in their decision-making (McMahon, 2002). If SME financial management is to be considered from a behavioural finance perspective, it is necessary to identify such irrational behaviours that are typically employed by SMEs.

Although, there is general agreement that financial theories have contributed to the understanding of capital structure decision-making; they conveniently ignore the role played by psychological biases in determining capital structure, especially in the SME context, where owner-managers have greater influence over financing decisions than is the case in larger firms (Matthews *et al*., 1994). Despite their contribution to understanding of SME decision, capital structure theory approach to SME financial decision making do not adequately address the complexities that characterise the decision making of SMEs. These theories do not explain that noneconomic and nonrational factors play a vital role in SME decision making. Accordingly, Matthews *et al*. (1994) have called for the integration of perspectives from social psychology, strategic management, and decision making literatures to explain the noneconomic factors that are not captured in capital structure models, This is in line with the arguments on the role of biases and heuristics in the decision making of SMEs due to the unique environment of these firms, and uncertainty that characterise their decision making. Explicitly, research on behavioural finance has developed rapidly, especially on the relationship between behavioural biases and investment decisions. However, more research is still needed to examine the relationship between the impact of behavioural bias and financing decisions, especially in SMEs (Ayad *et al*., 2024). Consequently, **what is the influence of psychological biases on the decisions of SMEs to apply for bank loans?** The objective of this paper is to underscore the role that psychological biases play in decisions of SMEs to apply for bank loans. The rest of this paper is divided as follows: section 2 focuses on the review of literature, section 3 the methodological approach of the study, section 4 is the presentation and discussion of findings, and section 5 is the conclusion.

2. Literature Review

This section reviews the conceptual, theoretical and empirical literature of the study.

2.1 Overview of SMEs

Commonly referred to with the acronym SMEs, small and medium-sized enterprises are a feature of all economies. The SME and micro-enterprise sector encompass very broad range types of businesses; from traditional family businesses employing over a hundred people to "survivalist" self-employed people working in informal micro-enterprises. SMEs are the lifeblood of most economies. High economic growth, support to intensification of GDP, increasing employability, developing innovation ability and development of the region are provided by the vital sector of small medium enterprises (SMEs) in developed or developing countries.

There is no specific universal definition for SMEs. Thus, the definition of an SME varies across diverse countries and sectors. Some of criteria used to define SMEs includes number of employees, total net assets, sales and investment level, however, employment is the most common used indicator. In this study, SMEs were defined based on the Cameroon's law of finance (2010), and the definition of SMEs by NIS (2009). Both definitions categorise SMEs based on their numbers of workers: 1-20 as small and 21-50 as medium.

While small and medium-sized enterprises (SMEs) are important for economic growth and employment, they face numerous obstacles in accessing external finance. The challenge for SMEs is that they face more constraints in accessing finance than large firms (Beck, 2007; Berger & Udell, 1998; Dong & Men, 2014), especially in developing countries (Dong & Men, 2014). In several national and regional surveys across the globe, owners and managers of SMEs consistently rank access to funds as the number one constraint to the growth of their firms (e.g., Beck & Cull, 2014; Dong & Men, 2014).

2.2 Overview of Bank loans

Broadly, sources for finance for SMEs may either be formal or informal, internal or external, equity or debt, short-term or long-term. According to Rungani (2009) commercial banks are a principal source of debt finance for new SMEs. Banks provide loans, overdrafts, and different forms of secured credit to SMEs. Debt financing is always used in case the internal sources are not sufficient or available. However, debt finance is a means through which firms get debt finance, in the form of loans, from lending institutions and then promise to repay the loans within given periods of time and at given interest rates. This form of financing is the one most commonly used by firms, including SMEs, to get funds for investment and to finance new businesses. Keasey and McGuinness (1990) argued that in spite of the fact that bank financing is more expensive in comparison to other sources of finance, it generates a higher rate of return for SMEs. They further conclude that bank finance can help SMEs accomplish better performance levels than other financing sources can do.

In a nutshell, quantitative empirical studies by (Beck & Cull, 2014; Beck, 2007), showed that SMEs in developing countries, especially in Africa, do not have access to credit and loans from banks. Even when they do, high interest rates, stringent requirements such as provision of collateral, and other transaction costs discourage SMEs from accessing finance from Banks (Beck & Cull, 2014; Dong & Men, 2014). From the lender's perspective (or supply-side), banks have difficulty differentiating between good (high quality) and bad (low quality) loan applicants. As a result, banks are likely to adopt more stringent lending policies favouring those who can provide more collateral assets, or who have a more established credit record. In other words, banks have to adopt credit rationing measures to minimize problems from adverse selection and moral hazard (Stiglitz & Weiss

1981). The potential for credit rationing is thought to be greater for small firms. On the demand side, the amount of information that banks could acquire is usually much less in the case of small firms, because banks have very little data concerning these firms' managerial capabilities and investment opportunities. SMEs are highly opaque in nature, meaning that it is difficult to ascertain if firms can pay (have viable projects) and the willingness to pay (due to moral hazard).

2.3 The paradigm of behavioural finance

For many decades, the field of finance has been dominated by the traditional finance theories or standard finance theories or classical financial theories since the mid of 18th century. The similar assumptions of these theories where markets are efficient, investors make rational decisions, all the market information are included in the stock prices. In the past two and half decade a paradigm shift has taken place in the field of financial economics from standard finance to a new field of finance named as Behavioural Finance. Behavioural economists argue that markets are not always efficient due to the presence of irrational investors. The behavioural finance says that financing decision making process is not only based on rational analysis always. Rather they are forced to be the prey of different emotional and psychological attitudes which contradicts rational behaviour. Behavioural finance is an emerging field that combines the understanding of behavioural and cognitive psychology with financial decision-making process. It also studies the psychological and sociological factors that influence the financial decision-making process of individual, groups and entities. It is a new paradigm of finance which supplements the modern theories of finance by introducing behavioural aspect to provide explanation for why investors make irrational decision (Babaraju and Apurva, 2014). In other words, it is a relatively recent and high impact paradigm which provides an interesting alternative to classical finance.

2.4 Psychological biases and financing decisions of SMEs

Certain heterodox factors that are not typically included in conventional financial models are believed to also affect the capital structure decisions of SMEs (Abor, 2008). Mainstream financial theory has largely ignored the manager's individual role in the decision-making process. Traditional Finance models usually do not consider the manager himself and his personal traits. The individual role of the manager in those decisions is usually ignored. Such an incomplete perspective on the business problem has raised serious issues. The point is that people make decisions, not companies. And people's choices, including those in management positions, are influenced by a set of economical, institutional and social factors that are very particular to the context where individual decisions are made, but also by one's personal characteristics. Individuals, even those in management roles, have heterogeneous psychological characteristics that can have a relevant impact on the decisions made in the firm and, ultimately, on the performance of an organisation. Therefore, it is also important to try to link those psychological idiosyncrasies with financing decisions.

Several studies (Matthews *et al*., 1994; Gibcus *et al*., 2004) have successfully incorporated arguments from decision theory to show that the decision making in SMEs differ from large firms due to the boundaries and uncertainties in the SME environment. The varying results from these studies based on different context reinforces the arguments on the role of contingent and contextual factors in the decision-making process and behaviour of individuals. In their study (Gibcus *et al*., 2004) used decision making perspective to explain SME decision making, and studies (Matthews *et al*., 1994; Koropp *et al*., 2014; Al Balushi *et al*., 2018) have used psychology based models to understand and explain the financial decision making of SMEs in different research domains. Bayu, Nia and Muhammad (2022) seek the effect of behavioural and non-behavioural factors of SME's owners and their business characteristic on the financing decisions. This study discovered a significant effect of behavioural aspects of SME's owners on the financing decisions, which is, instead of having significant enforcement on the financing decisions, the non-behavioural aspects were more likely impacted on the SMEs owners' investment decisions. Ramashar and Muhammad (2024) examine financial behaviour that influences debt decision-making by moderating Sharia compliance. The research results show that each dimension of financial behaviour, namely overconfidence, herding, and risk aversion, influences debt decision-making. Suyati and Andalan (2023) examine behavioural finance and its effect on formal debt decisions to improve business performance in micro, small, and medium enterprises in Semarang. The results of the analysis of overconfidence have no significant effect on formal debt decision-making, the illusion of control and availability have a positive and significant effect on formal debt decisions, and formal debt decisions have a positive and significant effect on business performance. Ploypailin (2021) examines how behavioural factors of business owners' impact on the intention to use private finance in small and medium enterprises (SMEs). It was found that attitudes, subjective norms and perceived behavioural control of owners of SMEs' impact on their intention to use private finance at a statistically significant level of 1 percent. Nobre *et al*. (2022), in order to understand the role played by behavioural biases in the investment decisions of entrepreneurs and managers in Brazil, developed qualitative research with the use of interviews and then a content analysis, in which the results found the presence of behavioural biases in the decisions of the participants, mainly overoptimism, overconfidence and risk aversion.

2.5 Overconfidence bias and Decisions of SMEs to Apply for Bank Loans

Bias causes to show inclination for or against someone or something. In finance, bias is a tendency of the investor to make financial decision while he already has a faith and trust (Samina *et al*., 2018). Overconfidence or over-trust is one of the most important concepts of modern finance that has a special place both in financial theory and psychology. Overconfidence is the most important findings of psychology in the field of judgment and decision making. Research shows that managers in decision-making, are more prone to overconfidence. Overconfidence leads to more optimistic assessment in the estimate of the company's success and forecasts of future performance (e.g., earnings). According to Agrawal (2012), optimism is about expecting a favourable outcome irrespective of the actual effort or skills devoted by individual to bring about the outcome. Ramnath *et al*. (2008) explain over-optimism as the tendency to

overvalue the possibility of desired outcomes and undervalue the occurrence of unfavourable events. Optimistic managers choose higher debt levels and issue new debt more often but need not follow a pecking order (Hackbarth, 2008).

Theory of overconfidence has become one of the interesting topics that has received wide attention from researchers in the field of psychological and behavioural finance. As humans, it is undeniable that entrepreneurs or managers have a tendency to be overly confident in their abilities and predictions to succeed, which is also a reflection of a person's level of confidence to achieve or get something. Nevins (2004) defines overconfidence as, people who are overconfident in their own abilities. He observes that investors and analysts are particularly overconfident in areas where they have some knowledge. This refers to the phenomenon where people tend to overestimate their ability to act on their own beliefs and intentions. A firm which is operated by management team with higher confidence believes that its management team will be able to generate cash flow and increase the firm's value. An overconfident management, when having to use external financing, is most likely to utilise debt than issuing shares. Overconfident people tend to overestimate their self-confidence, or underestimate variety of risks. Hambrick & Cannella (2004) made few decisions related to the implication of decision making by overconfident managers: (1) managers tend to invest more; (2) the investment is done by using debt; (3) the firm has bigger default risk. A confident management will believe in their abilities to generate cash and value to the firm; therefore, it tends to be bolder in taking risk by utilizing more debts (Murhadi, 2018).

Many previous researchers have researched the relationship between overconfidence and financing decisions. However, there are different views on the effect of managerial overconfidence towards firm's debt financing decision. Previous studies conducted by (Rihab & Lotfi, 2016; Hidayati, *et al*., 2018) have proven that a manager's overconfident attitude influences the use of debt. Therefore, overconfident managers tend to use more debts than equity. In the same vein, Nofsinger (2003) stated that overconfidence will encourage managers to invest using more debts than doing many acquisitions. Amirreza, Samira and Somayeh (2019) investigate the effect of overconfident managers on capital structure. The results showed that as managers' confidence increased, the ratio of corporate debt also increased implying that companies borrowed through issuing bonds to finance more of their equity in the capital structure. While Almeida *et al*. (2005) interviewed CFO and found that overconfident CFO tends to use more debts, particularly long-term debt. Meanwhile, Malmendier & Tate (2005) showed a different result, whereby overconfident managers prefer to use internal funding first, then debt, and stock. Abor (2007) found that optimistic managers show a strong relevancy between debt utilization and deficit financing, compared to non-optimistic managers. Burg (2015) analyses the impact of managerial optimism on financial policies of firms. According to this author, optimistic managers overestimate the credit quality of their firms and should be more likely to issue debt contracts that link coupon payments to the future credit risk of their firms. In the contrary, Tomak (2013) found that overconfidence does not play a role in debt decision-making.

In SMEs, the owner-manager is usually the single decision-maker about all aspects including financial decisions. The beliefs and values of this owner/manager are substantial drivers in strategy making tasks (Heck, 2004). Findings from Hidayati *et al*. (2018) conclude that overconfidence behaviour of SME owners can cause courage to take funding from debt. Batool *et al*. (2022) state that overconfident managers will consider funding from equity to be more expensive than funding from debt. Therefore, managers prefer to obtain funding from debt rather than issue equity. The latest research from Ayad *et al*. (2024) shows the dominant role of overconfidence behavioural bias in SME debt funding decision-making. Contradictory results are shown by Abdeldayem and Sedeek (2018) regarding overconfidence behaviour, which cannot increase the courage of business owners to take funding from debt.

H_1: Overconfidence bias influences the decisions of SMEs to apply for bank debt.

2.6 Control aversion and the decisions of SMEs to apply for bank loans

Loss aversion is known to impact various facets of decision-making, encompassing financial choices. For Kahneman and Tversky (1979) loss aversion refers to the tendency for people to prefer avoiding losses than acquiring gains. According to these authors, loss aversion can cause individuals to make unsound financial decisions that will affect the financial management of their business. Noe and Rebello (1996) argue that the locus of control within a firm is an important determinant of choice of finance. Specifically, Mueller (2002) contends that loss of control is measured as the difference in the probability of winning a vote for the largest owner before and after a hypothetical equity increase. Hutchinson (1995) suggests that where the objective of an owner-manager is to maintain control of the firm, interdependent investment and financing strategies may be chosen to control the small firms cost of capital.

It is well known that capital structure decisions, in SMEs as in large firms, relate to the use of either equity or debt or both. Issuing additional equity to satisfy the firm's financial needs would then lead to a dilution in ownership and control. The equity component of external finance gives the financier the right of ownership in the business and as such may not require collateral since the equity participant will be part of the management of the business. Therefore, in order to keep full ownership and control of their businesses, SMEs owner–managers may prefer to seek debt financing rather than external equity. This attitude later is one of the key factors to explain the behaviour of making future decisions. In this case, the decision to finance a SME is highly influenced by the personal characteristics of the owner-manager, such as individual attitudes, and economic and non-economic motivations.

The personal characteristics of the owner-manager make a difference to the firm's ability and likelihood of accessing external finance (Irwin & Scott, 2010; Casser, 2004). The reason is that the owner-manager of SME has the dominant position in the firm in their role as the primary decisions maker. In order to keep full ownership and control of their businesses, SMEs owner–managers may prefer to seek debt financing rather than external equity. Holmes and Kent (1991) suggest that in SMEs, managers tend to be the business owners and they do not normally want to dilute their ownership claim. Berggren *et al*. (2000) advocate that most owner-manager of SMEs do not prefer to finance firm

operations using external finance, particularly as it entails changes in ownership structure, since such financing may lead to control aversion. Hutchinson (1995) echoed that the owner/managers of small firms tend to be risk averse and also want to avoid dilution of ownership. Thus, they are averse to using outside sources of equity that would dilute ownership control, preferring debt, typically in the form of bank loans. In fact, there is likelihood that owners of SMEs with high control motivations face a trade-off between raising external finance and losing their control over the firm. Debt offers a solution to this dilemma while equity does not, leading to higher debt-equity ratios. Compared to debt, equity financing grants management right to their holders, and such a legal aspect may cause SMEs to heavily rely on debts. Owners of SMEs may prefer debt over external equity, because the former does not dilute ownership and control rights of capital. For instance, a fundamental reason, commonly given for the reluctance of SMEs to rely on external sources of financing is the desire of owner/managers to maintain independence and control over the decision-making in their enterprise (Hutchinson, 1995; Berggren *et al*., 2000). Accordingly, SMEs seek for external financing when they are ready to accept for external control (Berggren *et al*., 2000). As a result, control-averse owner/managers are less likely to accept external financing, especially those that involve a sale of equity to outsiders.

Empirical studies show that SME owners tend to be control averse, preferring to utilise internal sources of finance through a fear that external sources of finance will lead to a loss of control over the firm and limit the ability of the owner/manager to make decisions independently (Hutchinson, 1995; Berger & Udell, 1998). Rao and Kumar (2018) tested the factors influencing SME financing preferences from the demand side (the behaviour side of SME owners). The study's results proved that risk-averse SME owners significantly affected the demand for financing from external sources. The facts showed that most SME owners were risk averse. In the same vein, Berger and Udell (1998) argued that when firm owners do have to turn to external sources of financing, their preference is for debt rather than equity, because debt does not require them to give up ownership or control of the firm. It implies that control aversion might develop a preference on debt than equity. Consequently, to maintain an absolute control of the firm, the owner-manager prefers using internal funds and debt as a second option source of financing whenever internal equity is not sufficient. According to Mueller (2002), companies with high potential loss of control do indeed use more debt, issue less new equity and grow more slowly. Li,

H_2: Control aversion influences the decisions of SMEs to apply for bank loans.

2.7 Discouragement bias and the decisions of SMEs to apply for bank loans

Kon and Storey (2003) defined "discouraged borrowers" as a good firm, requiring finance, that chooses not to apply to the bank because it feels it application will be rejected. Freel *et al*. (2012) find that twice as many businesses were discouraged from applying for a bank loan than had their loan request denied in the United Kingdom. Watson *et al*. (2009) provide evidence that Australian SME owners are being discouraged from applying for loans from a financial institution because they believe their application will be rejected. Khalid and Wahab (2014 a) argue that SMEs that finance their start-ups with informal financing will be reluctant to apply for bank loans because of fear of rejection. Following the same pattern, Coleman (2002) reveals differences in the characteristics and borrowing experience of small firms by race and ethnicity. According to this author, in the United State black small business owners were less likely to even bother applying for a loan, because they assumed they would be denied. In addition, some conditions banks impose on loans discard SMEs from seeking bank loans. Accordingly, Kon and Storey (2003) point out the introduction of collateral is likely to discourage an additional group of SMEs to apply for loans. According to these authors, this group of firms, whilst they know they are good, also know the requires collateral from them as a guarantee of their quality do not have the minimum level of collateral required, and so are discouraged from applying. Thus, the number of discouraged borrowers falls with increasing information, with lower application costs, and with increasing alternative sources of funding. These authors found cases of potential borrowers from banks who may offer perfectly reasonable business proposals but who do not apply for a bank loan because they feel they will be rejected. However, the discouraged attitudes of SMEs may result from cognitive biases, since banks are unwilling to service loans to them. In a nutshell, SMEs may likely mimic the actions of others and deliberately refrain from funding by debts.

H_3: Discouragement bias influences the decisions of SMEs to apply for bank debt.

3. Theoretical Foundations

Social psychology-based approach provide explanation for SME financial decision making. These different perspectives all aim to recognise and understand the unique factors that influence the financing preference of SME owners/managers, and to explain the complex noneconomic and nonrational factors that play key role in the decision-making process.

3.1 Cognitive biases theory

Bias are general rules that permeate and deviate from the rational calculations they tend to produce. Buchanan and Huczynski (2004) concur that cognitive biases are systematic distortions in the way humans perceive reality when making a decision. Some of the most important cognitive biases are overconfidence - the tendency to overestimate one's own abilities, loss aversion - tendency for people to prefer avoiding losses than acquiring gains and mental accounting - people group their assets into a number of non-fungible mental accounts (Anissimov, 2004). McMahon (2002) says in his research that biases cause individuals to overestimate the reliability and validity of information, to draw incorrect conclusions and to give information too much or too little weight and this will affect decision making.

3.2 Theory of planned behaviours (TPB)

The theory of planned behaviour is a well-established social psychology theory widely used across various fields to predict behaviours. It helps understand and explain the role of beliefs, perception, attitude, in the behaviour of individuals. The theoretical framework postulates that attitude, subjective norms, and perceived behavioural

control are key factors influencing the intention of individuals to engage in a specific behaviour. Ajzen (1991) said that individual behaviour is affected by the individual's intentions and other factors that are not under his control. This theory can support studies of factors that influence decisions to use debt. It is because in the TPB it is explained that three components affect a person's desire to behave, namely behavioural beliefs, normative beliefs, and control beliefs. These components are affected by personal, social, and information factors. Personal factors can include attitude, personality, emotions, and intelligence. Social factors include education, income, and religion. Meanwhile, information factors include knowledge and experience. Traditional finance theories argue that the key goal of managers is to maximize value; however, Brettel *et al.* (2009) emphasized that owner/managers in general lack the required skills to implement value maximizing strategies, hence they rely on their heuristics and beliefs as highlighted in the strategic decision-making literature. These scholars assert that it is more beneficial to focus on the actual financing preference of SMEs owner/managers rather than focusing on preferences they should have if they act according to certain assumptions as prescribed in traditional capital structure theory.

Prior empirical studies (Koropp *et al*., 2014; Al Balushi *et al*., 2018; Brettel *et al*., 2009; Makpotche *et al*., 2015; Ghouri *et al*., 2016) have successfully adopted the TPB framework within various SME financing decision domain. In their study Brettel *et al*. (2009) adopted the Theory of Planned Behaviour (TPB) arguing that this theory provides more scope to investigate the actual micro-level factors that impacts the financing decision of SMEs. The study applied a decomposed approach by developing and integrating hypotheses reflecting antecedents to the main constructs in the TPB theory. Southey (2011) postulates that TPB theory is suitable for predicting the decision-making behaviour of small businesses due to the fact that decisions in SMEs are usually taken by an individual (the owner or manager), therefore the values and beliefs of the owner/manager is significant in the strategic decision making in the business. Al Balushi *et al*. (2018) in their study successfully adapted the TPB theory and included religiosity and awareness as predictors for the SME behavioural intention in Islamic financial decision making for SMEs in Oman (this study is discussed further in later section of this chapter). Similarly, Koropp *et al*. (2014) successfully adapted the TPB theory to explain the financial decision-making behaviour of family firms in Germany, they combined predictors from in the TPB theory and determinants identified in classical finance theory. In their study, Makpotche *et al*. (2015) adapted the TPB theory adding cultural factors to predict the intention for entrepreneurs to use bank loan in Benin and Mauritania, their study showed that the main predictors in the TPB theory mediates the impact of conservatism and secrecy (cultural factors) on the intention to use bank loans. These studies have been able to use TPB theory to provide non-economic and non-rational explanation for the behaviour of SMEs within the different research contexts.

3.3 Herd theory

«Herd theory» is the behaviour of an individual gives up his decision in favour of the group. In other words, it is a bias that refers to a situation in which a rational person begins to behave irrationally by imitating the judgments of others when making decisions. According to Sias (2004), herd behaviour is the tendency individuals have to mimic the actions of a large group. Herding occurs when individuals' private information is overwhelmed by the influence of public information about the decisions of a herd or group. Evidence of group influence in many financial decisions is consistent with bounded rationality. In an uncertain world, if we realise that our own judgment is fallible then it may be rational to assume that others are better informed and follow them (Hirshleifer & Teoh, 2003).

Herding attitude is a cognitive factor that can also influence a person's financial decision-making. Devadas and Vijayakumar (2019) argue that someone tends to behave in herding because they are confused about making decisions in solving problems, so they choose to irrationally follow the decisions or actions of other people or particular groups. The relationship between herding behaviour and financial decision-making has been proven in research by (Sabir, Mohammad & Shahar, 2019), which states that herding behaviour influences a person's financial decision-making. Investors who deliberately replicate the actions of their peers are described as displaying herding tendencies. These investors consistently imitate the financing and investment approaches of others (Kamil & Abidin, 2017). Herding behaviour often arises when investors have insufficient information to make well-informed decisions about trading assets (Lee, Wu, & Lee, 2021). Individuals often mimic the actions of others, especially in uncertain situations. For example, the fact that SMEs are discouraged to apply for bank loans prior to enormous rejections of loans by banks may be explained by the herd theory. As a result, loans from banks may be available, but SMEs deliberately avoid to apply, since they belief that their applications are going to be rejected. Explicitly, the fact that banks reject enormously the lending applications of SMEs is likely to discourage others to apply for loans. As a result, SMEs may herd towards the application of loans. On the other hand, and to some extent, the conditions banks impose on loans may cause SMEs not to apply for loans as well. From this perspective, SMEs may be discouraged to apply for bank loans, because of stringent lending conditions applied on loans. Accordingly, lending conditions are likely to induce herding behaviours within the sector discouraging SMEs to seek for bank loans. In conclusion, SMEs systematically mimic the decisions of others susceptible to discourage the application of loans.

3.4 Prospect Theory

Proposed by Kahneman and Tversky (1973), prospect theory suggests that individuals make decisions based on perceived gains and losses relative to a reference point, rather than absolute outcomes. Loss aversion, where losses loom larger than equivalent gains, is a central tenet of this theory. The way information is presented, or framed, can significantly impact decision making. People may react differently to the same information depending on how it is presented, leading to irrational choices (Thaler, 2005). Risk aversion is sought to be an ultimate framework of the prospect theory. For instance, the fact that SMEs perceive the risk of losing the control of their businesses as a threat; will prefer using debt as a source of external finance. Accordingly, external sources of financing such as equity may be available; but highly unutilised by SMEs, because they orchestrate the loss of business control explaining the

irrational financing behaviours experienced by SMEs. From this perspective, debt decision is not marked by rational behaviour characterised by risk and return, but the desire to maintain the control of the business.

4. Methodology

To achieve the objective of the study, we adopted a mixed research approach known as **"Triangulation"**. The purpose of Triangulation is just for increasing the wider and deep understanding of the study phenomenon. Therefore, to deeply explore the effect of psychological biases on the decisions of SMEs to seek for bank loans, we carried out qualitative analysis through interviews with 10 owner-managers of SMEs. Indeed, qualitative analysis unearthed issues related to psychological biases susceptible to influence the decisions of SMEs to apply for bank loans. This phase was pivotal to design the research hypothesis, and hence the questionnaire of the study. Subsequently, we collected data using survey questionnaires administered to sampled SMEs. A pilot phase was carried out for pre-testing the questionnaires in order to avoid questions susceptible to cause any bias. The sample contains SMEs in different sectors such as manufacturing sector and the service sector. Moreover, both stratified and random probability sampling techniques were used to constitute the sample of the study. Logistic regression statistical technique was used to analyse the data. The binary nature of the dependent variable (that is, whether applied for bank loans or not) warrants the adoption of logistic regression model to analyse the data.

4.1 Determination of sample size

The minimum sample size was calculated using Sloven's formula which states that for any given population, the required sample size is given by:

$$n = \frac{N}{[1+N(e)^2]} \quad (1)$$

Where, N is the known population size and e is the level of significance which is 0.05. Given a target population of 900,000 respondents in selected SMEs, a sample size of approximately 400 respondents was used.

$$n = \frac{N}{[1+N(e)^2]} = \frac{900{,}000}{[1+900{,}000(0.05)^2]} = \frac{900{,}000}{[2{,}251]} \cong 400$$

Table 1: Distribution of sampled SMEs of the study by sector of activities and size

Sector	Micro	Small	Medium	Total
Service	100	60	40	200
Manufacturing	30	70	100	200
Total	130	130	140	400

Source: Author from sampled SMEs

4.2 Definition of Variables and Model Specification

4.2.1 Definition of variables

In this study psychological biases represent the independent variable of the study, and is captured by overconfidence bias, discouragement bias, and risk of losing business control marked by control aversion. The explanatory variable refers to the decisions of SMEs to apply for bank loans. The effects of each independent variables on the decisions of SMEs to apply for bank loans are captured using Likert's scale defined as follows: strongly agree (1), agree (2), neutral (3), disagree (4) and strongly disagree (5). Respondents were instructed to tick one of the above measurements. The table below synthesis the overall variables of the study with their operationalisation.

Table 2: Definitions of dependent and independent variables of the study

Variable	Nature	Indicator	Measurement
Decision to apply for bank loans	Dependent	Whether applied for bank loans or not with only two possible outcomes: yes or no.	Binary/dichotomous
Overconfidence bias	Independent	Optimistic about company's success and forecasts of future performance (e.g., earnings).	Likert's scale
Control aversion	Independent	Risk of losing the control of business prior to funding decisions.	Likert's scale
Discouragement bias	Independent	Feelings that application will be unsuccessful (or rejected), and lending conditions on loans.	Likert's scale

Source: Author (2025)

4.2.2 Model specification

As said before, logistic regression statistical technique was employed to model the relationship between psychological biases and the decisions of SMEs to apply for bank loans. As per say, logistic regression is particularly useful where the dependent variable is dichotomous. Similar to Khalid and Wahab (2014 a), the parametric functional form of the logit model with the binary dependent variable can be written as follows:

$$\text{Logit}(y) = \log\left(\frac{y}{1-y}\right) = \ln\left(\frac{y}{1-y}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon_i \quad (2)$$

- y: represents the decisions to apply for bank loans
- logit (y) is the log (to base e) of the odds ratio or likelihood ratio that the dependent variable is 1.
- β_0: Constant term
- $\beta_1, \beta_2,$ and β_3 are respective coefficients of independent variables.
- X_1: Overconfidence bias
- X_2: Control averse
- X_3: Discouragement bias
- ϵ_i: Errors

It implies that the model can be written as:

$$\text{Logit}(y) = \beta_0 + \beta_1 \text{Overconfidence bias} + \beta_2 \text{ Control aversion} + \beta_3 \text{ Discouragement bias} + \epsilon_i \quad (3)$$

5. Analysis and Discussion of Results

Interpreting logistic regression involves looking at coefficients (B), p-values (significance), and Odds Ratios

(OR), where coefficients show change in log-odds for a one-unit predictor increase, p-values show significance, and or [Exp(B)] reveal how odds of the outcome change (OR > 1 = more likely; OR < 1 = less likely). Key outputs also include the overall model fit (chi-square, pseudo-R-squared) and a classification table (how well it predicts categories), helping assess if predictors significantly influence the probability of the binary outcome (e.g., yes/no, success/failure).

5.1 Model classification

The most basic diagnostic of a logistic regression is predictive accuracy. To understand this we look at the *prediction-accuracy table* also known as the *classification table* or confusion matrix. A logistic regression classification table evaluates model performance by comparing observed versus predicted binary outcomes, usually at a 0.50 probability cutoff.

Table 3: Table of classification

Classification table[a]					
			Predicted		
			Loan application		Percentage correct
	Observed		No	Yes	
Step 0	Loan application	No	193	52	78.7
		Yes	62	93	61.5
	Overall percentage				71.8
	a. The cut value is .500				

Source: SPSS output

From the table, the percentage of correct predictions is 71.8%. Therefore, for the 400 observations used in the model, the model correctly predicted whether or not SMEs applied for bank loans is 71.8%. This implies that at a cut value of .500, the model classified correctly by 71.8% SMEs who did apply or did apply for bank loans.

5.2 Reliability and validity of the model

Table 4: Result of model summary and Hosmer-Lemeshow test

Model summary				Test of Hosmer-Lemeshow		
Step	-2loglikelihood	Cox and Snell R-square	Nagelkerke R-square	Chi-square	df	Sig.
1	606.275	.257	.342	5.673	3	0.00

Source: SPSS output

Table 4 above shows result of the explanatory strength of the model. That is, it reliability to predict the decisions of SMEs to apply for bank loans from proxies of psychological biases. The R^2 of Cox and Snell and Nagelkerke indicate that 25.7 per cent and 34.2 per cent respectively in variations of the decisions of SMEs to apply for bank loans are explained by the model. It implies that variations in the decisions of SMEs to apply for bank loans are explained by 25.7% and 34.2% by psychological biases of owner/managers of SMEs. In addition, we conducted a test to assess the reliability and goodness of the model. Accordingly, the test of Hosmer-Lemeshow based on Chi-square statistics was used to test the fitness and reliability of the logistic regression model. The value of Chi-Square and corresponding p-value explain the reliability of the regression model. The result shows that, the model is a good fit in explaining variations to the decisions of SMEs to apply for bank loans caused by proxies of psychological biases. Since, chi-square is 5.673, with a p-value = .000 < 0.05, it is found that the model is reliable and statistically significant to explain changes in the decisions of SMEs to apply for loans by psychological inputs.

5.3 Variables in the equation

Table 5: Result of logistic regression capturing the influence of psychological biases on decisions of SMEs to apply for bank loans

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Overconfidence bias	.169	.202	.791	1	0.000	1.184
Control aversion	.279	.206	.635	1	0.001	1.323
Discouragement bias	-.027	.203	.630	1	0.025	.973
Constant	-.389	.422	.325	1	.559	.678
Number of observations 400						

Source: SPSS output

From the result above (table 5), logistic regression model can be rewritten as:

$$\text{Logit}(Y) = 0.389 + 0.169\text{overconfidence bias} + 0.279\text{control aversion} + -0.27\text{discouragement bias}$$

Table 5 shows the result of regression analysis for variables in the equation. The effect of independent variable on the dependent variable is captured through odd ratios [Exp(B)]. The odd ratio estimates the changes in the dependent variable due to changes in the independent variable. It is calculated by using the regression coefficients of predictors as the exponent. The odd ratio of overconfidence bias is 1.184 > 1, showing that overconfidence positively influence the likelihood of SMEs to apply for bank loans. In other words, a one unit increase in overconfidence is more likely to increase the decisions of SMEs to apply for bank loans by 1.184 times. In addition, the odd ratio of control aversion is 1.323 >1. This implies that control aversion has a positive effect on the decisions of SMEs to apply for bank loans. Thus, a one unit increase in control aversion is more likely to increase the decisions of SMEs to apply for bank loans by 1.323 times. On the contrary, discouragement bias has an odd ratio of 0.973, which shows a negative effect of this variable on the decisions of SMEs to apply for loans. Explicitly, a one unit increase in discouragement bias likely decreases the decisions of SMEs to apply for bank loans by 0.973 times.

In this study, Wald chi-square test is used for testing the hypotheses of the study. Wald chi-square test tests the null hypothesis. This hypothesis is rejected if the p-value is smaller than the critical p-value of .05, and the statistical value of Wald chi-square is greater than the critical value of Wald chi-square. Explicitly, coefficients having p-values less than alpha are statistically significant. From the result, control aversion has Wald value of .635>.352, and a p-value of 0.001<0.05, showing a significant influence of control aversion on the decision of SMEs to apply for loans. Hence, hypothesis H2 stating an influence of control aversion on the decisions of SMEs to apply for bank loans is supported. In addition, overconfidence bias has a Wald value of .791>.352 and a p-value of 0.000<0.05 attesting a significant influence of overconfidence bias on the decisions of SMEs to apply for bank loan. Hence, owner/managers of SMEs who are overconfident about business prospect apply for bank loans. Hypothesis H1 stating an influence of overconfident bias on

the decisions of SMEs to apply for bank loans is supported. Moreover, discouragement bias has Wald value of .630>.352, and a p-value of 0.025<0.05, confirming a significant impact of discouragement bias on the decisions of SMEs to seek for bank loans. Hence, hypothesis H3 is accepted showing that discouragement bias influence significantly the decisions of SMEs to apply for bank loans. In conclusion, based on the above result, it is revealed that psychological biases influence significantly the borrowing decision of SMEs.

5.4 Effects of control aversion on the decisions of SMEs to apply for bank debt

Control aversion is found to have a positive significant influence on the decisions of SMEs to apply for bank loans. Explicitly, control aversion increases by 1.323 the likelihood of SMEs to apply for bank loans. Hence, owner/managers of SMEs who are control-averse prefer bank loans than external equity. Therefore, the fear or risk to loss the control of the business induces SMEs to prefer debt than equity. Accordingly, SMEs prefer sources of financing for which they could continue to maintain the control over the business as compared to sources diluting the control/ownership of owners. Additionally, in support of the theory of behavioural finance, the decisions of SMEs to seek for bank loans is not explained by the optimal capital structure postulate, but instead by psychological biases of the owner/managers of SMEs characterised by control-averse behaviour. Therefore, owners of SMEs who are control-averse characterised by the fear to loss the control of the business prefer debt than equity when resorting to external finance. Indeed, owner's desire to maintain independence and retain control over the company is the main explanatory factor for SMEs' preference on debt. Similarly, conventional finance theory analyse the financing decisions of firms from the lens of the pecking order theory. According to this theory, the financing decisions of firms follow a hierarchical order caused by information asymmetry costs related to external financing. Consequently, firms prefer debt than equity when seeking for external finance because it has less information asymmetry costs compared to equity. Contrary to the pecking order theory, this result shows that the demand for debt is influenced by the desire of the owner/managers to maintain control, management, and ownership of their businesses, which is in support of postulates related to behavioural finance.

However, control aversion can induce SMEs to make unsound financial decisions that will affect the financial management of their business. Therefore, in order to keep full ownership and control of their businesses, SMEs' owners prefer to seek debt financing rather than external equity. Issuing additional equity to raise capital dilutes ownership and control powers of incumbent owners of SMEs. Indeed, most SMEs are family business whereby to preserve the control of the business is a salient strategy. In such a context, debt financing may be highly preferred over equity financing. As said by Berggren *et al*., (2020), SMEs are reluctant to cede control over their businesses causing them to favour financing choices that place the least number of restrictions on their operations. However, the result of this study is in line with the findings of (Irwin & Scott, 2010; Casser, 2004; Noe & Rebello, 1996; Holmes & Kent, 1991; Berger & Udell, 1998; Hutchinson, 1995; Mueller, 2002). Moreover, it is in support as well of underlying theoretical views such as cognitive bias, planned behaviour, and prospect theory related to behavioural finance.

5.5 Relationship between overconfidence bias and the decisions of SMEs to apply for bank loans

On the other hand, the result above shows that overconfidence bias has a positive significant influence on the decisions of SMEs to apply for bank debt. From the result, a one unit increase in overconfident bias is more likely to increase the decisions of SMEs to apply for bank loans by 1.323 times. Hence, owner/managers of SMEs who are optimistic about company's success and forecasts of future performance readily apply for bank loans. In support of empirical findings, the overconfidence bias plays a significant role in shaping financing choices of firms (Ghelichi *et al*., 2016). Overconfidence causes managers to have too much confidence in the company's investment opportunities. Hence, this excessive trust will influence financial decisions, such as external funding decisions (Grežo, 2020). In the same vein, overconfident managers prefer debt financing to equity financing, and short-term debt to long-term debt (Mundi & Kaur, 2022; Pham & Nguyen, 2019). It is because they feel confident and able to repay the loan (Grežo, 2020; Hidayati *et al*., 2018; Murhadi, 2018).

Afza and Hussain (2011) describe that debt is considered as a way to highlight investors' trust in the firm. If a firm issues debt, it provides a signal to the market that the firm is expecting positive cash flows in the future. In privately held firms, in particular, owners, as insiders, have superior information regarding the condition of the firm compared to outside lenders or investors. The implication of this is that firm owners who are confident about the success of their firm will be more willing to invest their own funds, retain earnings, or take on external debt as opposed to seeking external equity investors who would desire a share of future earnings and profits (Coleman, 2006). Storey (1994) argued that when the owner possesses more information on the probability of success of a firm, they are ready to secure loans by providing collaterals. Nevertheless, collaterals provide signals to the bank that the entrepreneur believes the project is likely to succeed because the owner will commit their personal resources to the project if otherwise. Therefore, an optimistic owner of SME may signal the quality of business by requesting for bank loan; rather than, external equity. However, this finding is in line with the results of empirical studies of (Hambrick & Cannella, 2004; Almeida *et al*. 2005; Abor, 2007; Malmendier & Tate, 2005; Murhadi, 2018). In addition, the results of this study corroborate theoretical postulate of cognitive bias theory and theory of planned behaviour.

5.6 The link between discouragement bias and the decisions of SMEs to apply for bank loans

From the result above, it is revealed that discouragement bias has a negative significant influence on the decisions of SMEs to apply for bank loans. The result shows that discouragement bias characterised by the fear of rejection, and lending conditions decreases the likelihood of SMEs to apply for bank loans. Precisely, a one unit increase in discouragement bias is likely to decrease the decisions of SMEs to apply for bank loans by .973 times. Kon and Storey (2003) stated that discouragement causes "good borrowers" not to apply for bank loans because they feel their

application will be unsuccessful. In such a situation, risky firms with preference to accept high interest on loans may be motivated to apply loans (Stiglitz & Weiss, 1981). Similar to Kon and Storey (2003), we found that discouragement bias significantly influence the decisions of SMEs to apply for bank loans.

Basically, in the literature, it is sought that SMEs face enormous challenges to acquire loans from banks. Hence, these challenges are likely to discourage SMEs to seek for loans. Discouragement bias induces herding behaviours causing SMEs to refrain from bank loans. Accordingly, SMEs fear to apply for loans because it is challenging to access bank loans prior to enormous rejections of borrowing applications. Again, the fact that banks impose some lending conditions on loans hinders the decisions of SMEs to demand for debt. As a result, SMEs may deliberately not apply for bank loans because of the feeling (or fear) that it will be denied (or rejected). The result of this study is in line with empirical findings of (Freel *et al*. 2012; Watson *et al*., 2009; Khalid & Wahab, 2014a; Coleman, 2002; Kon & Storey, 2003). Additionally, it corroborates with theoretical predictions of cognitive bias, planned theory and herding behaviour theory.

6. Conclusion and Recommendations

The main purpose of the study is to determine the influence of psychological biases on the decisions of SMEs to apply for bank loans. From the analysis, it is observed that issues pertaining to psychological biases explain the irrationality observed towards SMEs in making financing decisions. In other words, SMEs exhibit irrational behaviours, which are not in line with traditional finance paradigm. From the analysis, it is sought that behavioural finance is relevant in explaining the decisions of SMEs to seek for bank loans. Explicitly, the results revealed that psychological biases proxied by control aversion, overconfidence bias, and discouragement bias influence significantly the decisions of SMEs to apply for bank debt. Indeed, control aversion, overconfidence bias, and discouragement bias are issues which are related to psychological behaviours of owner/managers, and are found to have a profound influence on the decisions of SMEs to apply for bank loans. This result underscores the fact that the decisions of SMEs to apply for bank loans are influence by psychological biases of the owners rather than the value maximisation principles postulated by conventional finance theories. Therefore, psychological issues pertaining to owner/managers of SMEs provide a suitable explanation of the choice of debt than equity. In support, to Malmendier *et al*. (2011), we found that that characteristics of a firm's management can be an explanatory factor in a firm's decision to choose between financing alternatives. In line with Kartini and Nahda (2021), it is concluded that, biases that have a significant effect on financing decisions of SMEs are risk (control) aversion, since beyond obtaining higher profits prefer to avoid losing the control of the business; overconfidence bias and discouragement bias because owners tend to herd on the choices made by other individuals rather than their own decisions.

In a nutshell, this study has practical implications for market practitioners and policy makers suggesting the need for better understanding of SMEs behaviour and strategies to promote more rational access to finance. For instance, banks should revisit some of their lending conditions discouraging SMEs to apply for loans. It is revealed that, owner/managers of SMEs who are optimistic about the performance of their businesses confidently apply for loans. Consequently, banks should consider the decisions of SMEs to apply for loans as sign of profitability and prospect of the business. Therefore, psychological biases should be integrated in lending analysis of banks. Accordingly, banks should consider in their lending decisions the fact that SMEs demand for loans whenever the owners are self-assured about business prospect. Such analytical view will discard the myopic approach of lending decisions applied by banks, and offer a broad perspective of lending decisions susceptible to make bank loans accessible to SMEs. Therefore, banks should consider cognitive biases of SMEs in their lending decisions.

Risk of losing control is sought to influence the most the decisions of SMEs to apply for bank loans. Indeed, the risk of losing the control of business is sought to favour the choice of debt financing by SMEs. From this perspective, financing lacuna face by SMEs is partially explained by the desire of SMEs to prefer sources of finance enable to continue maintaining control over the business. As a result, SMEs avoid sources of finance which may cause loss of ownership, management, and control of business. Compared to equity, bank loans have the characteristics of not diluting the control of a business. Nevertheless, loans from banks are challenging; hence, deepening the financing gap face by SMEs. Therefore, it is important to design specific sources of finance for SMEs giving the opportunity to maintain continuous control of the business. For instance, offering customise equity financing for SMEs, which does not dilute the control and management of SMEs is an effort to resolve the financing gap faced by SMEs. Indeed, most SMEs are family firm whereby equity capital is owned by family members. Such business entities are not willing to cede the control of the business to outsiders. Therefore, by customising sources of external funding, it will enable SMEs to raise capital and simultaneously maintain control over their businesses. Notwithstanding, in this study, psychological biases are used to explain borrowing decisions of SMEs; basically, on aggregate level of debts. Further studies, may use different components of debt such as short-term, medium-term and long-term to highlight the effects of psychological biases towards the aforementioned components of debt. Indeed, psychological biases may have different influence on each component of debt. Furthermore, this study focused only in the city of Douala to underscore the effect of psychological biases on the borrowing decisions of SMEs. Further studies should extend this study to other areas or regions of the country. Contextual specific factors may provide different results.

7. References

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