Gordon Institute of Business Science
University of Pretoria

The heuristics that influence bank lending decision-making during the SME default risk evaluation process

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A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfillment of the requirements for the degree of Master of Business Administration.

01 November 2022

Abstract

Access to finance for SMEs is a persistent wicked challenge that is faced globally. Formal lending, from financial institutions such as commercial banks, is the dominant source of financial resources for SMEs. Therefore, the supply-side perspective on this challenge is pertinent to understanding the constraints that result in the low access to finance that SMEs face.

Financial factors such as financial information and the 5Cs of credit form the basis of the credit risk evaluation process to inform the final credit decision. The tools used to predict the default risk for SMEs do not accurately account for the nuanced nature of SMEs. Therefore, a multi-criteria decision-making model that includes non-financial factors is better suited for SMEs. These non-financial factors include the behavioral factors of the credit decision-maker and the SME owner.

Therefore, the purpose of this research is to understand the heuristics that influence bank lending decision-making during the SME default risk evaluation process. A qualitative exploratory approach was taken to gain new insights. A narrative research design was adopted, and 10 in-depth, semi-structured interviews were conducted with credit decision-makers from 3 commercial banks. The data proves that heuristics do influence credit decision-making during the SME default risk evaluation process.

Keywords

Small medium enterprises (SMEs) lending decisions

Credit risk evaluation

Access to Finance

Heuristics

Declaration

I declare that this research project is my work. It is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination at any other University. I further declare that I have obtained the necessary authorization and consent to carry out this research.

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1 November 2020

Table of Contents

List of Figures

List of Tables

1. Introduction to Research Problem

1.1. Background to the Problem

Small Medium and Micro Enterprises (SMMEs/SMEs) play an important part to deliver economic growth worldwide and they account for approximately 90% of global businesses (Brei et al., 2020; Jude et al., 2018). Yin et al., (2020) further describe the importance of SMEs as significant contributors to employment and wealth creation opportunities. The Global Entrepreneurship Monitor South Africa (GEM SA) 2019/2020 report confirms not only the role SMEs play as main drivers of job creation globally but also the key role SMEs play to promote sustainable and inclusive economic growth, creating economic resilience, and promoting social cohesion (Bowmaker-Falconer & Herrington, 2020). SMEs do however face challenges and are unable to fully meet their potential role in developed and developing economies. In South Africa, a developing economy, the formal SME sector is estimated to be only 28.9% (755,265) of the estimated 2,6 million SMMEs recorded by SEDA in the first quarter of 2020 (Schirmer & Visser, 2021). The balance is either unrecorded or part of the informal SME sector. The challenges faced by SMEs are contextually influenced for example by the business environment, the size of the economy, and market structures (Bowmaker-Falconer & Herrington, 2020).

The contextual embeddedness framework by Swartz et al. (2019) studies the case of South African entrepreneurship under six dimensions to frame the "where" and "when" entrepreneurship happens to understand the underlying "why" of entrepreneurial choices, specifically by black South Africans (Swartz et al., 2019). This research aims to zoom into the institutional dimensions of contextual embeddedness which speaks to legal and government structures under which SMEs operate (Swartz et al., 2019). Welter (2020) describes context as the external factors (conditions, environment, situation, and circumstances) that enable or disable the study subject. South Africa's context matters as it helps explain the economic stagnation which is linked to the lack of skilled and educated human capital which is vital for national development and individual progression (Bowmaker-Falconer & Herrington, 2020). The dual educational system which is a systemic result of the apartheid regime remains, where the minority wealthy population receives a quality education to achieve the required outcomes to succeed and the majority poor population does not receive the same quality of education which results in ill-equipped young people with little post-school success and this has perpetuated the unemployment crisis in South Africa (Swartz et al, 2019; Bowmaker-Falconer & Herrington, 2020). Swartz et al. (2019) state that the country had a stunted human capital by the time of the 1994 democratic elections. The institutional dimension is intertwined with the historical dimension of South Africa's colonial past and the temporal dimension of pre-and post-1994 (Swartz et al., 2019). Post-1994 to 2015, South Africa remains one of the most unequal societies with a Gini coefficient of 63 as cited by the World Bank, 2018 (Swartz et al., 2019). Furthermore, Welter (2011) describes the institutional dimension as the societal norms and attitudes, regulatory and legal regulations, support, and policy measures. The contextual background provides a lens to understand the root cause behind the "why" SMEs have a challenge with access to finance and who the SMEs are. The Department of Small Business Development (DSBD) is an institution that has set to prioritize SME development in line with the National Development Plan (NDP) Vision 2030 which states that SMEs play a role in the economic development course of South Africa and have set a goal for SME to contribute 90% of jobs by 2030 (NPC, 2012; DSBD, 2020). Furthermore, the DSBD's mandate is to support SMEs create more employment, and improve SME access to finance (DSBD, 2020).

"The shocking truth about the small, medium and micro enterprises is that we know very little about them." (Schirmer & Visser, 2021, p. 1). The gap, in theory, is that the SME sector is not well understood in terms of the detail of its size, its contribution to the South African economy, and how it can be used to drive economic growth and employment. There is no one consistent definition for SMEs as different sets of studies, legislation, and policy documents in South Africa define them using different criteria including annual turnover, the number of employees, or the size of total assets (Schirmer & Visser, 2021). In addition, SMEs can be described as legal entity that has a small number of employees a small production scale, and a small number of assets (Jin & Zhang, 2019). This broad definition is consistent in the literature however the detail of the parameters of "small" are not included in detail. The working definition for this study will be based on the size of annual turnover across sectors which aligns with the criteria used by commercial banks, and financial institutions, in South Africa and focused on the formal segment with an average annual turnover of R13,4 million for small enterprises and an average annual turnover of R35,3 million for medium enterprises (Republic of South Africa, 2003). This then allows the researcher a quantitative boundary for "small" turnover. The use of turnover is pragmatic as it includes small enterprises in the lower end as they are likely to have a small asset base and few employees to no employees (International Finance Corporation, 2018). In South Africa, commercial banks are the main lenders to SMEs and represent 68.9% (R160 billion) of formal lending and financial support (International Finance Corporation, 2018; Jude et al., 2018). OECD (2022) quantifies the total SME credit exposure, in South Africa, to be R631 million which translates to 25% of business loans at the end of 2020. Jude et al., (2018) argue that commercial bank lending is the dominant source of financial support for SMEs and plays a critical role in resource allocation globally. Generally, formal funding can be obtained via private or public sectors. One of the differences between the two sectors is that in the private sector an SME will be provided with an outcome within 48 hours however in the public sector, they could wait up to four years, if at all, for a reply (Schirmer & Visser, 2021). Therefore, SMEs are more likely to approach the institution that will provide the fastest feedback due to the time pressure of the fund required.

The Small Enterprise Development Agency's (SEDA) 2020/21 Annual Report states there needs to be a collaboration between the private sector and the government to ensure stability and recovery for the South African economy post the impact of the COVID-19 pandemic (Seda, 2021). To illustrate some of the work done by Seda, the report highlights some success stories as practical insights to SME businesses that they have contributed to and assisted with. (Seda, 2021). This is aligned with their mission to provide customized non-financial business support services with other key role players (Seda, 2021). One of the key performance indicator outcomes was to "Improve Service Assess" with an output of "SMEs assisted with Access to Finance" for the period Audited 2019/20 and they achieve 61% against a target of 40% (Seda, 2021). This illustrates some of the latest measures taken by the government perspective to address the challenge of access to finance faced by SMEs in South Africa.

Balachandra et al. (2019) emphasize that access to finance is a challenging and important issue that SMEs face to grow their businesses. Access to finance affects societies globally at an individual and business level. Although access to finance is not directly a goal under the Sustainable Development Goals (SDGs), it has the potential to facilitate SDGs 1 – 9 in various ways (Kara et al., 2021). In line with this research, SDG 8 – Decent Work and Economic Growth and SDG 9 – Industry, Innovation, and Infrastructure, are affected by access to finance. With regards to SDG 8, access to finance has the potential to reduce youth unemployment by encouraging productive and full employment and inclusive economic growth; access to finance for SDG 9 means promoting small-scale industry and enterprise growth through access to finance for SMEs and improving access to information and communication technology to increase access to market or SME integration into the value chains (Kara et al., 2021).

Therefore, a sample of practical success stories in the SEDA 2020/21 report shows how an institution can support and align with SDG 8 and SDG 9 through access to finance support (Kara., 2021; Seda, 2021; UNDESA, n.d.). The challenges along with the SEDA interventions and outcomes are presented in Table 1: SEDA SMME Success Story Challenges, SEDA Intervention, and Outcomes.

Table 1: SEDA SMME Success Story Challenges, SEDA Intervention, and Outcomes (Seda, 2021)

Challenge	SEDA Intervention	Outcome
Lack of machinery and equipment (assets)	Assisted with a grant application for assets	Finance was approved
Inadequate supply of raw materials	Engaged and partnered with Sasol	A longer contract with Sasol provided access to raw materials
Inadequate business finance management and record/bookkeeping skills	Businesses underwent a vital planning exercise that prepared more realistic and accurate 12 monthly financial projections.	Able to streamline the internal process and gained market share
Lack of support in terms of mentorship and coaching	Client completed enterprise coaching program with SEDA	Gained continued support and guidance
Lack of growth and selling strategy	Assisted to develop business vision, mission, and strategy. In addition, defined their customer value proposition that correctly addresses customer needs	Access to R5m worth of projects with Growthpoint Properties led to increased turnover
Need for long-term contracts with the private sector in high competition low barrier to entry cleaning environment	Connected with and joined the Property Point program and assisted with the ISO 9001 accreditation process	Obtained ISO 9001 accreditation which exposed them to larger customers in the private sector and differentiated them from the high competition

In South Africa, SMEs' contribution to the gross domestic product (GDP) is estimated to have increased to 40% in 2020 from 18% in 2010 (OECD, 2022). Therefore, lending to the SME sector is an indirect driver of economic growth, employment, and wealth creation, and it has a positive impact on GDP. Furthermore, the practical problem of access to finance from financial institutions for SMEs is important to understand from the perspective of the bank, as the main lender with the quickest response to SMEs. The lender's perspective offers a different lens to approach this global wicked problem of access to finance for SMEs with an understanding of the interdependent and interconnected relationship between the global economy, the nuanced context of developing countries, and the dynamic nature of society as a whole (Grewatsch et al., 2021).

1.2. Problem Statement

Access to finance is a critical challenge faced by SMEs which hinders their survival and growth. From the supply side, this challenge is aggravated by market imperfections such as information asymmetry which hinders the ability to lend to SMEs (Jude et al., 2018).

The significance of the problem from a business perspective is that commercial banks, as the main suppliers of finance, miss out on potential earnings of the unserved formal SME sector. In addition, the problem from a national perspective is that the economy has not been able to effectively leverage the potential of the SME sector to drive economic growth and decrease unemployment. Lastly, the theoretical significance is that there is minimal research that has been conducted on the view of heuristics and finance decision-making based in South Africa from the lender's perspective.

In terms of economic growth, the SME sector accounts for approximately 22% (R2,3 trillion) of the total revenue of the South African formal business segment (Statistics SA, 2022a). In terms of unemployment, South Africa's unemployment rate was at the highest it has been since the start of the Quarterly Labour Force Survey (QLFS) in 2008 at 35.3% as of the fourth quarter of 2021 (Statistics SA, 2022b). Specifically, the formal SME sector accounts for approximately 53% (5,53 million jobs) of SME employment which overall accounts for 68% of all employment in South Africa (Seda, 2021). In addition, SMEs contribute over 50% of global employment, yet approximately 55% of SMEs globally lack access to finance from formal financial institutions in emerging markets like South Africa (International Finance Corporation, 2018; Choudhury & Goswami, 2019). There has been a distinct shift in the labor market from larger businesses to SMEs as the main drivers of employment in South Africa, therefore there is a distinct focus to ensure the survival and sustainability of SMEs (Seda, 2019).

The main contributor to the survival of SMEs is financial support throughout their life stages however they experience limited access to finance especially formal finance from the bank. SMEs' lack of access to bank finance is due to the lenders' inability to sufficiently predict SME default/credit risk. SME bank finance is based on determining the enterprises' creditworthiness which underpins the credit risk evaluation process that informs the financing decision (Yin et al., 2020). Therefore, an opportunity exists to use the potential of SMEs to drive employment and economic growth by reducing SME credit risk which would increase access to finance from formal financial institutions like commercial banks (Jude et al., 2018; Choudhury & Goswami, 2019).

The various factors that contribute to SME lack of access to finance include information asymmetry, characteristics of the business (including ownership structure), country-specific financial and economic performance, internal bank lending standards, banks' credit risk appetite and liquidity ratio, quality of SME financial information, country-specific legal and regulatory bank frameworks, and the closeness of the bank/SME relationship (Jude et al., 2018). In contrast, according to Yin et al., (2020) understanding the following non-financial information factors can address the information asymmetry: business characteristics (including enterprise age, management style, and the number of employees), evaluation process of credit risk, and enterprise business plan combined with the financial factors can lead to more accurate SME credit/default risk predictions. This research focuses on reducing information asymmetry and understanding factors that contribute to SME credit risk evaluation by commercial banks. Not excluding additional factors such as internal bank lending standards and the closeness of the bank/SME relationship to gain a deeper understanding of SME financing from the lenders' perspective.

Based on research from a China perspective, Ma et al., (2019) state that a 10% increase in SME access to finance would result in 4.3 million additional SME businesses which equates to 11 million jobs. This further emphasizes that a shift of as much as 10% in credit access for SME enterprises has significant potential to contribute to economic growth in terms of the country's productivity and employment. Investigating this challenge from the lenders' perspective will provide insights that have the potential to empower SMEs to gain greater access to finance.

Brei et al. (2020) agree that financing is a key factor in the survival of an SME and they describe that a finance gap exists between SME credit lenders (supply-side) and SME borrowers (demand side) which is driven by market imperfections such as information asymmetry and creates a barrier for SMEs to gain access to bank financing. In addition, Palazuelos, et al. (2019) describe the barrier to SME finance as information opaqueness which is common in the SME segment, and it refers to the lack of clear and useful information about the SME. Furthermore, Jude et al., (2018) emphasize that information asymmetry is the main hindrance to SMEs' ability to access bank finance and that results in SMEs not reaching their full potential as drivers of economic growth, employment, and poverty alleviation at large globally. It is known that the challenge of information asymmetry increases the uncertainty in assessing default risk in the SME segment which is fundamental in the credit lending process to ultimately decide to lend or not to lend to the SME and it is fundamental to increasing access to finance for SMEs (Palazuelos et al., 2019). Ciampi et al., (2020) argue that in addition to the financial information (financial ratios) used in SME default prediction models which often form the basis of the credit lending decision, non-financial information should be included to increase the default risk prediction accuracy. SME default risk measures the probability of an SME defaulting on their financial obligation and can negatively impact the performance of a bank (Jude et al., 2018). This supports the need to investigate subjection decision-making tools that have non-financial information as their base to support SME default risk prediction accuracy given SME business uncertainty to increase access to finance for SMEs which ensures that bank performance is not negatively impacted by the increased access to finance for SMEs

The potential value of unmet SME credit demand was approximately $5 trillion in 2015, mainly due to a lack of collateral and credit history (UNSGSA, 2018). The economic and business opportunity lies in addressing the financial gap, which is wider if the informal SMEs are included, and institutions like commercial banks can no longer afford to leave the SME segment unbanked (Roy & Shaw, 2021).

1.3. Purpose of the research

The purpose of the research is to understand the bank lending process underpinned by SME default risk evaluation from the supply side (lender) and to investigate how the appropriate decision-making tools available to SME lending decision-makers can influence their lending decisions to increase access to bank finance for SMEs despite their high-risk nature and information opaqueness. Specifically, this will be done by investigating how the decision-making theory of heuristics can positively influence lending decision-making given SMEs' high credit risk and uncertainty.

There is limited research on SME access to finance from the supply side of the credit lender (Jude et al., 2018) and there is limited research on the subjective aspects that influences access to bank finance for SMEs in South Africa. This gap in research is also identified by Ondolos et al. (2021) who describe the issue as neglected in the practices and policies applied in bank lending. A study by Choudhury & Goswami (2019) reviewing literature for the period 2005 to 2016 on the finance gap in SMEs reflects most of the literature is based in the Indian (41%) and European (34%) geographic areas while studies based in Africa accounts for 11%. Specifically, the context of South Africa is important, like in several emerging economies, as the SME sector has been identified as an area that could drive economic growth and inclusion which is a national and business imperative (International Finance Corporation, 2018).

From a theoretical perspective, the decision-making theory of heuristics is perceived as an inferior strategy because it processes a subset of the information and conducts sufficing searches compared to “rational” strategies that process all the information and conduct exhaustive searches (Luan et al., 2019). Ondolos et al. (2021) argue that rational decision-making is sub-optimal due to the complex nature of human behavior which influences the credit lender’s decision-making ability, and this is an area under behavioral finance that is still uncovered adequately in banking practices. The theoretical contribution of this study will be to add to the school of thought that under common conditions of uncertainty faced by decision-makers, the use of heuristics can and has been proven to result in more accurate decision-making. Furthermore, the research will add to the body of research on understanding the underlying subjective and behavioral approach to SME lending by credit decision-makers in commercial banks. The decision-making theory of heuristics is described by Gigerenzer &

Gaissmaier (2011) as a strategy that ignores some of the information to make decisions quicker, frugally, and more accurately than complex statistical methods. This study seeks to understand how heuristics influence the lending decision in the SME credit risk evaluation process to address the correct fit of heuristics (ecological rationality) for better decision-making. The study of heuristics is developing and based on the research by Gigerenzer and other rationality scholars the subject has mainly been in the psychology discipline (Gigerenzer, 2007; Gigerenzer & Gaissmaier, 2011). The study aims to expand the theory of heuristics outside the psychology discipline and into the finance discipline to explore decision tools that can lead to quicker, frugal, and more accurate credit risk evaluations to increase access to finance for SMEs who have limited information available. In addition, recent research by Ondolos et al. (2021) provides a behavioral bias (psychology discipline) perspective to the finance-based theories in traditional financial discipline.

The rest of the document follows with Chapter 2 which is the literature review of academic literature related to the three main constructs (i) SME Bank Lending, (ii) Bank SME Default Risk Evaluation, and (iii) Heuristics in Decision Making. Thereafter, Chapter 3 states the four research questions underpinning this research and is followed by the proposed methodology for the study in Chapter 4, including the research limitations. Chapter 5 discusses the results from the research followed by a discussion of the results in Chapter 6 and concludes with Chapter 7 which provides the research conclusions and recommendations.

2. Literature Review

2.1. Introduction

The purpose of this chapter is to understand the existing academic literature related to this study based on three constructs: (i) SME Bank Lending, (ii) Bank SME Default Risk Evaluation, and (iii) Heuristics in Decision Making. This is in line with the purpose of the study to understand the SME default risk evaluation process from the supply side and to investigate how the appropriate decision-making tools available to SME lending decision-makers can positively influence their financing decisions to increase access to bank finance for SMEs despite their high-risk nature and information opaqueness.

2.2. SME Bank Lending

South Africa has a low percentage of bank-financed SMEs approximately 26% compared to 63% in China, 40% in Brazil, and 36 % in Turkey (International Finance Corporation, 2018). OECD (2022) quantifies the total SME credit exposure in South Africa to be R631 million, which translates to 25% of business loans at the end of 2020. Considering the low penetration, banks remain the dominant financiers to small businesses with a quantum of R160 billion (68.9%) of the total current supply of formal funding in South Africa (International Finance Corporation, 2018; Jude et al., 2018). This section aims to explore existing academic research on bank SME lending.

2.2.1 Bank Lending Challenge

Lending, also referred to as financing or credit, to SMEs is critical for the establishment, development, and survival of an SME (Jin & Zhang, 2019). Credit is defined as providing a form of financial resources to enterprises or individuals under specific agreed terms and conditions from the borrower and the lender (Roy & Shaw,2021). Credit applicants go through a credit risk evaluation process that requires detailed scrutiny, and the finest errors have significant consequences (Roy & Shaw, 2021). The main challenge faced by SMEs is access to finance which is constrained by credit rationing which occurs because lenders prefer safer applicants and deny credit or finance to riskier applicants to avoid financial losses (Jin & Zhang, 2019; Roy & Shaw, 2021). Credit rationing occurs when finance is granted to one applicant and denied for another applicant where applicants are overall similar in nature, even if the applicant that has been denied access to finance is willing to pay a higher interest rate (Jin & Zhang, 2019). There is an inverse relationship between the size of the enterprise and the probability of credit rationing, where the smaller the enterprise size than the higher the probability of that enterprise being rationed (Jin & Zhang, 2019). The implication is that access to finance for SMEs is not only difficult, but it can also be more expensive than for larger enterprises. Research-based on Malaysia further supports that this challenge exists and despite various interventions over years, SMEs still face difficulty to obtain finance from banks (Ondolos et al., 2021). Asia-based SMEs reported that the credit application process is too long, requires an extensive amount of information, involves a demanding administrative procedure, and should the application be approved, then the interest rates charged are too high (Wasiuzzaman et al., 2020). Therefore, measures taken by banks, as the main formal sources of lending to SMEs, in response to this challenge are limited and the financing problem for SMEs persists and has not been adequately addressed in developing countries (Jin & Zhang, 2019; Ondolos et al., 2021; Roy & Shaw, 2021).

2.2.2 Commercial Bank SME Lending

The SME financing challenges can be explored from a demand-side (SME) and a supply-side perspective (banks). The scope of this research specifically focuses on commercial bank lending to SMEs in South Africa (also referred to as banks). In banking practice, the credit decision-maker conducts the credit analysis of the SME credit applicant and decides whether or not to approve the credit based on their credit risk evaluation process (Ondolos et al., 2021). In line with the SME financing challenges addressed above, the barrier for SMEs as the borrower and from the lenders' perspective is the high cost of borrowing. It was addressed that from the SME perspective, these high borrowing costs refer to the cost of the extensive information required for the credit application and the cost of interest rates on approved credit applications (Jin & Zhang, 2019; Ondolos et al., 2021). From the bank's perspective, an SME's lack of credit history or business financial documentation, poor record keeping, and inability to provide supporting collateral makes it challenging and costly to establish creditworthiness, hence SMEs are regarded as high-risk and uncreditworthy applicants by the banks (Wasiuzzaman et al., 2021).

Some banks specialize in transactional lending where they base the credit risk evaluation mainly on hard information which is costly considering the information opaqueness of SMEs (Degryse et., 2017). In contrast, other banks specialize in relationship lending which can mitigate against the information opaqueness by making use of qualitative (soft) information for valuable insights about the business and its operations shared in the SME and the banker relationship (Degryse et al., 2017). Research by Jude et al., (2018) shows evidence that relationship banking for SMEs can lead to higher access to funding as the bank can accumulate private insights about the SME which is regarded as valuable information to gain access to finance. In addition, Roy & Shaw (2021) state that strong relationship lending affects the credit lending decision to SMEs, and Basel II international standards also support the use of quantitative and qualitative methods for credit scoring.

Credit lending in banking terms is defined as financial resources to individuals and business borrowers under agreed terms and conditions (Roy & Shaw 2021). Bravo et al. (2015) describe credit scoring as one of the most widely known data mining and statistical models applied to differentiate the borrowers who will meet their loan repayments (non-defaulters) versus those who will not (defaulters) and ultimately calculate default risk. The credit scoring models are mainly based on accounting data and financial ratios which limits SMEs' access to bank finance and creates a challenge to assess their creditworthiness (Bravo et al., 2015).

Therefore, banks encourage SMEs to be as transparent as possible in their ways of reporting their businesses and rely on the relationship banking model where the banker and credit finance decision-maker make use of soft (qualitative) and hard (quantitative) information to inform the financing decision (Van Klyton & Rutabayiro-Ngoga, 2017). This is in line with the suggestion by Ciampi, et al. (2021) to make use of non-financial information in addition to financial information to increase default risk prediction accuracy. Recent research by Yin et al. (2020) supports the use of financial and non-financial information in evaluating SMEs as it leads to increased accuracy in predicting future default risk. Soft or non-financial information in the form of enterprise structure and characteristics, business plan, and enterprise industry insights that are shared by the SME refers to unquantifiable information that cannot be used in default risk calculations, while hard information in the form of financial statements, cash flow projections and financial ratios refers to the quantifiable information that can be used to calculate default risk (Van Klyton & Rutabayiro-Ngoga, 2017). The unavailability of adequate financial information for SMEs makes it challenging to accurately predict their default risk as the models are data-driven and by default SMEs, therefore, do not gain access to finance as a result (Roy & Shaw 2021). The need for relationship banking is therefore emphasized to extract that data from the relationship between the bank and the SME. Wasiuzzaman & Nurdin (2018) argue that the theory of finance was not established with small businesses in mind as most of the theories assume that businesses make the borrowing or not decisions with adequate access to finance instead of the perspective of an SME to borrow as a necessity to grow with limited access to finance.

Therefore, this implies that the decision for financing is demand-side driven yet, most SMEs' finance choices are limited to bank financing which is constrained due to the lack of access caused by their high-risk nature and financial vulnerability (Wasiuzzaman & Nurdin, 2018).

2.3. Bank SME Credit Risk Evaluation

Credit risk evaluation is fundamental to financial institutions including banks to inform the credit lending decision (Yin et al., 2020; Roy & Shaw 2021). Credit risk evaluation is the process of credit analysis on an applicant to predict their probability or likelihood of defaulting or not meeting the credit obligations (Yin et al., 2020; Ondolos et al., 2021; Wasiuzzaman et al., 2020). Accurately predicting the probability of default related to the credit risk for the SME segment is important as this segment is more financially vulnerable compared to larger business segments and the impact of high defaults could jeopardize the performance and survival of the bank (Roy & Shaw 2021).

Banks make use of various methods to evaluate credit or default risks with the use of financial information on the SME's cash flow, financial ratios, and non-financial information such as business credit and capital history (Ciampi et al., 2021).

2.3.1 Credit Risk Evaluation

The credit risk evaluation is the assessment of credit risk which refers to assessing the borrowers' potential to fail in meeting their obligations (default) in line with the agreed approval terms or conditions (DeZoort et al., 2017). The basis of the credit risk evaluation is to distinguish between the risk of an applicant defaulting or not which is often difficult to accurately calculate (Shi et al., 2018). Ultimately, the banks’ interest is to estimate and mitigate the risk from credit lending, especially in the case of SMEs compared to larger enterprises as SMEs are deemed high risk (Roy & Shaw, 2021).

The prevalence of information asymmetry in SMEs makes it more challenging to assess credit risk and subsequently make the appropriate financing decision (DeZoort et al., 2017; Roy & Shaw, 2021). The credit risk evaluation process includes both fundamental factors (rational factors) and behavioral factors (irrational factors) (Ondolos et al., 2021).

Rational decisions are systematic in nature and the analysis is based on a standard format. In the credit risk evaluation process, the systematic standard method used is the 5C's credit analysis and the parameters include analysis of capacity, character, capital, collateral, and conditions to determine the associated credit risk of the SME applicant (Ondolos et al., 2021). Wasiuzzaman et al. (2020) describe the 5Cs of credit as the measure of the creditworthiness of a borrower. Furthermore, capacity refers to the borrower's ability to repay the credit obligations and the borrower's experience and liquidity to meet scheduled credit repayments and keep the business operational; character refers to the borrower's ethical behavior based their credit repayment history, their integrity and honesty based on the financial information provided together with their determination to meet their existing debt obligations; capital refer to equity base of the borrower, in the event that the borrower experiences an unexpected loss then to what extent will the bank be able to recover their outstanding debt and what is the borrower at risk to lose if the business fails; collateral refers to a type of insurance that the bank holds and call on to should the borrower default and it is usually in the format of assets that are pledged to back the loan requirement and mitigate the risk of the loan and lastly conditions refer to the terms of the credit agreement that stipulated the structure of the loan and the borrower's obligations to the lender and the conditions refer to the external conditions that the borrower is exposed or vulnerable to such macro and micro economic factors (Wasiuzzaman et al., 2020; Ondolos et al., 2021).

Irrational factors are human behavioral factors that are subject to the credit decision-maker as an individual. These human behavioral factors include psychological decision-making bias and the use of intuition in the credit lending decision-making process (Ondolos et al., 2021). The main contrast between the rational factors and the irrational factors is that the irrational factors do not undergo a systematic analysis and they are based on soft information such as the borrowers' prior relationships, historic performance, and personal characteristics. The credit decision-maker is therefore exposed to behavioral bias in the credit risk evaluation process which can lead to incorrect lending decisions (Ondolos et al., 2021). The perception is that credit risk evaluation based predominately on financial information allows the SME finance decision-maker to accurately predict the SMEs' probability of default and the argument is that the inclusion of non-financial information increases the prediction accuracy as it provides a holistic analysis which will ultimately increase access to finance for SMEs. The purpose of the credit risk evaluation is to differentiate between applicants who have a high and low probability of default which must be supported by holistic data (Shi et al., 2019). In addition, the credit risk evaluation process includes a comprehensive assessment of the borrower's tangible asset size to serve as collateral to spread the risk level of the loan which is aligned with the collateral analysis of the 5Cs (Jin & Zhang, 2019). The challenge from the bank's perspective is that SME's core competitiveness is often based on intangible assets such as brand value or intellectual property rights to which the bank cannot attach a collateral value and therefore cannot use to mitigate the risk of the credit application (Jin & Zhang, 2019).

2.3.2 Default Risk

Ciampi et al., (2021) state that the interest in SME default risk prediction dates back from academic literature in the 1970s, and with the implementation and developments of the Basel Capital Accords, renewed interest surfaced in the 2000s. The introduction of Basel II also meant a change in the bank's internal credit risk appetite as the framework regulated that the bank must match their level of capital to the level of creditworthiness of their customers, hence larger enterprises are preferred by banks as their cost of capital is lower than SMEs who lack creditworthiness (Ciampi et al., 2021). Furthermore, the commencement of the Basel III accords in 2013 meant that banks must change the structure and strengthen the capitalization of their balance sheet to improve the stability of their funding and improve the liquidity of their assets (Roulet, 2018). From a banking perspective, the assets are the loans to borrowers and the liabilities are the deposits. During a credit crunch, these regulations impose stricter liquidity requirements that result in the banks reducing their lending activity, especially on assets that are deemed riskier (Roulet, 2018). The real consequence is therefore a contraction of investment by the banks into real economic activities and economic growth.

Despite the progressive academic interest in SME default risk predictions, the traditional default prediction models used are mainly based on larger enterprises whereas SMEs have unique financial characteristics and thus these traditional models do not accurately predict SME default risk (Ciampi et al., 2021). One of the main measures to assess credit risk is the probability of default (PD) which is a structural model that measures the probability that the assets will be greater than the liabilities at a point in time (Shi et al. 2019). The entity, therefore, is at risk of default if its liabilities are more than the assets, therefore the liquidity of the entity is under pressure (Shi et al., 2019).

The financial characteristics of an SME are a low fixed tangible asset base to support their loan requirements and the loan size is considered small-scale loans for shorter loan periods and frequent in nature (Jin & Zhang, 2019). Furthermore, SMEs lack a business credit record and credible history on the probability of business success which results in the SME projects risk, on average, being higher than the risk associated with larger companies (Jin & Zhang, 2019). Hence, the traditional default risk prediction models are therefore by structural design contributing to the lack of access to finance for SMEs as they produce prediction results of high default risk. Furthermore, information asymmetry can lead to financial exclusion and credit rationing due to moral hazards and adverse selection as lenders are unable to accurately predict or measure default risk (Jin & Zhang, 2019; Shi et al., 2019; Brei et al., 2020). This impact is particularly intensified for SMEs due to the nature of an SME which includes a vague credit track record, limited available collateral, and the lack of credible financial statements (Shi et al., 2019; Brei et al., 2020; Roy & Shaw, 2021). The global financial crisis in 2008 and the recent COVID-19 pandemic not only resulted in pressure on SME survival but also increased the banks' emphasis on accurately predicting default risk in the most representative manner possible (Oliveira et al., 2017; Ciampi et al., 2021). This makes it necessary to ensure that banks as the dominant lenders to SMEs make use of default risk prediction models that are based on the unique factors faced by SMEs by adapting existing models and including weighting to non-financial factors in the default risk prediction models.

The decision to finance an SME is determined in the credit risk evaluation process and it is underpinned by results from default risk prediction models (Yin et al., 2020; Ciampi et al., 2021). The survival of SMEs especially in a post-COVID-19 global world is dependent on banks' and other SME lenders' ability to rethink their credit risk evaluation process to include adaptive decision-making and tools (Ciampi et al., 2021).

2.4. Heuristics in Decision-Making

Heuristics are strategies to make decisions quickly, frugally, and/or more accurately than more complex methods using less information (Luan et el., 2019; Kozyreva & Hertwig, 2021: Rauwerda & De Graaf, 2021).

2.4.1 Decision-Making

In decision-making, heuristics are cognitive strategies that use a simplified method to reduce the complexity of the decision by making use of part of the available information or making use of a portion of all possible solutions, the simplification path determines the applicable heuristic (Kozyreva & Hertwig, 2021). Heuristics are perceived to be less accurate than logic and statistic due to the effort-accuracy tradeoff however with the formalization of heuristics, there is evidence that heuristics are equal to statistical models of "rational" cognition (Gigerenzer & Gaissmaier, 2011). Philosophy and science theories suggest that more cognitive effort in terms of more information, computations, and time leads to better knowledge however heuristics provide a greater advantage in high uncertainty and can result in better decisions when adapted to the environment (Cristofaro & Giannetti, 2021); Kozyreva & Hertwig, 2021). Furthermore, heuristics are neither bad nor good rather the structure of the environment (ecological rationality) determines its accurate use (Luan et al., 2019). Ecological rationality is defined as the fit between a heuristic and a specific environment and therefore a heuristic is ecologically rational when its use matches the environment of use (Luan et al., 2019). Luan et al., (2019) argue that organizations are guided by shared "rules of thumb" which influence decision-making within that organization. Individuals, therefore, make use of these "rules of thumb" to make decisions in addition to the influence of their experience and knowledge, this behavior is often unconscious and embedded in the culture of the organization (Rauwerda & De Graaf, 2021).

Heuristics allow for adaptive decision-making suited to the uncertain environment and make use of the less-is-more ecologically rational approach which simplifies a high-uncertainty decision-making environment and leads to better decisions (Kozyreva & Hertwig, 2021). There are three heuristic strategies applicable to lending decision-making that the study seeks to investigate. These include similarity, recognition, and satisficing. Similarity and recognition refer to decision-makers' ability to identify whole situations and characteristics, respectively, that seem like important signals of evidence for a particular decision, and satisficing refers to decision-makers' ability to make use of part of the information that is most appropriate as a good enough reason to justify the decision under uncertainty (Luan et al., 2019). Overall, decision-makers can make better decisions using heuristics under conditions of uncertainty with the appropriate experience. Decision-makers can select the most suitable heuristics from their adaptive toolbox to improve their decision-making accuracy depending on the structure of the environment (Gigerenzer & Gaissmaier, 2011). Credit lending decisions are intrinsically risky and uncertain by nature, specifically for SMEs who have a relatively high risk of default and a high information opaqueness which increases their uncertainty (DeZoort, Wilkins & Justice, 2017). The heuristics lens in credit lending decisions is appropriate as heuristics manifest when an individual evaluates the odds or probability of a future event based on experience, similarly when a lending decision maker evaluates the probability of default for a credit applicant (Cristofaro & Giannetti, 2021).

2.4.2 Risk and Uncertainty in Decision-Making

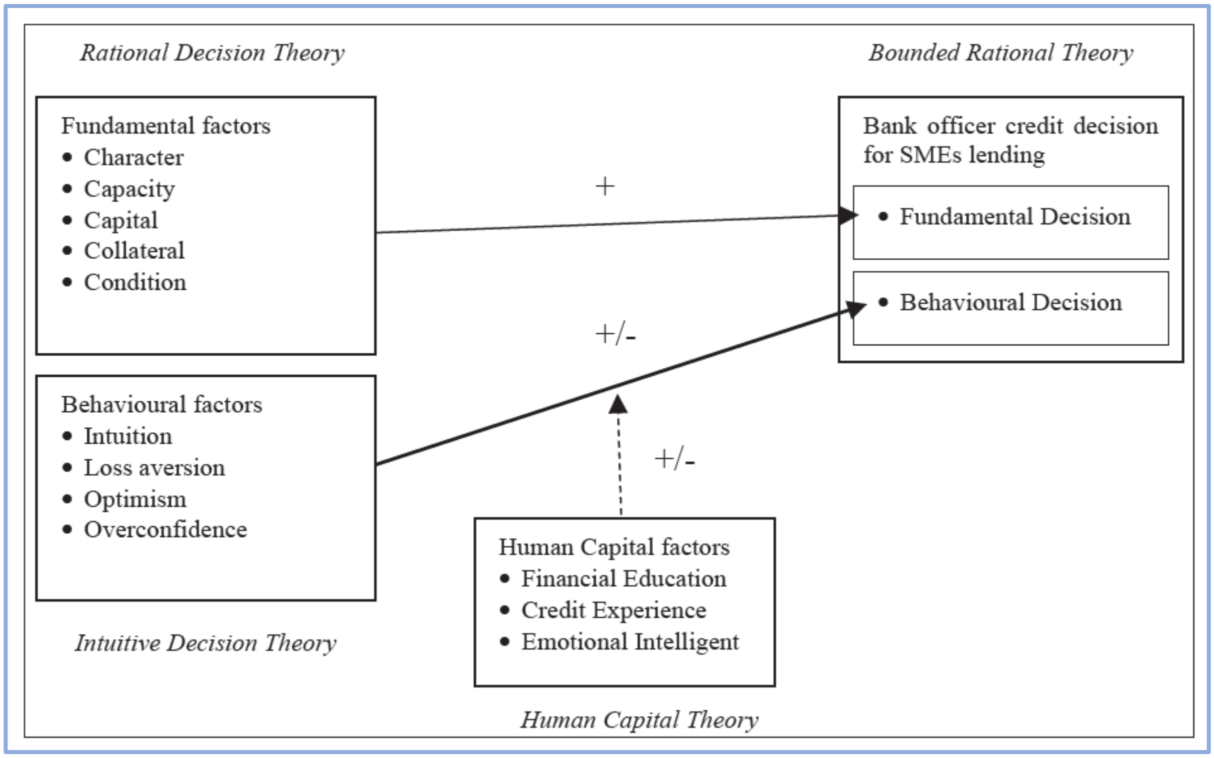
Risk and uncertainty under probability theory are fundamentally different due to the measurable nature of risk where you can calculate the probability of the occurrence of a risk event, but the probability of uncertainty is immeasurable (Kozyreva & Hertwig, 2021). According to the Bayesian decision theory as cited in Kozyreva & Hertwig (2021) uncertainty cannot be measured through objectively known probability however one can subjectively assign probability in a consistent manner that adds up to one and therefore treat uncertainty as risk. However, decision-making and human reasoning don't follow the logic of probability theory due to an individual's actual cognitive ability and optimality (Kahneman, 2003; Kozyreva & Hertwig, 2021). Instead, Simon (1947) as cited by Cristofaro & Giannetti (2021) states that individuals experience bounded rationality when making decisions or choices because of their limited computational capacity and access to all the relevant information is restricted. Therefore, when individuals are faced with pressure to justify their decision and judgment then they look to be seen as having applied evidence, logic, and adequate reasons to support their decision (DeZoort et al., 2017). Gigerenzer & Gaissmaier (2011) state that decisions are made mainly when the mind applies logic, statistics, and heuristics however these “mental tools” are not regarded equally (Gigerenzer & Gaissmaier, 2011). Hence, uncertainty in decision-making and judgment is subject to not only the cognitive capabilities, experience, and knowledge but also the distribution of information within a specific environment (Kozyreva & Hertwig, 2021). Additional drivers of the use of heuristic strategies include the cost and the time restrictions for information, especially as mentioned in the SME segment that is characterized by information opaqueness (Methling et al.,2022).

2.4.3 Human Capital and Intuitive Theory

Bruns et al. (2008) argue that despite the efforts to standardize the credit risk evaluation process with the use of the 5Cs, decisions made by credit decision-makers vary depending on their level of experience in credit lending. Furthermore, facets of human capital that affect the credit decision-maker include skills, experience, and knowledge however how these facets influence their decision-making process is not researched in depth (Bruns et al., 2008). Experience as a facet of human capital is a personal factor and an individual’s behavior and intentions are influenced by it (Ondolos et al., 2021). Therefore, SME credit experience influences the credit decision-makers’ decision to lend or not to lend to SMEs and it also influences their intentions or perceptions towards this segment. Ondolos et al. (2021) provide an example that when a credit decision-maker has successfully granted credit in the past, then they are more likely to positively look into an SME loan application in the future. Credit decision-makers’ experience and exposure to the SME credit application process to gain implicit knowledge positively contribute to their ability to access the application with more consideration, maintain a balance to bank-specific requirements and the familiarity leads to decreased perception of risk (Bruns et al., 2008).

Underlying behavioral factors exist as part of the human capital and these include intuition and loss aversion. Intuitive decision-making theory states that the decision process which makes use of an assessment or evaluation of information to arrive at a decision is driven by prior exposure that is stored in an individual’s memory and often used unconsciously (Ondolos et al., 2021). Intuition, therefore, allows people to not place reliance on all the hard information available but rather to learn from past experiences and conclude on perceptions of knowledge unconsciously (Ondolos et al., 2021). Credit decision-makers make use of hard information based on the standard requirements of the banks and its regulatory bodies and soft information which is all subject to unconscious use of their experience and intuition in the credit risk evaluation process to reach the final application outcome. In general loss aversion in bank employees exists as the tendency to perceive new business and certain industries as high-risk exists and hence an overweighing of risk associated with SMEs will follow as their perceived potential of loss is high (Ondolos et al., 2021). The behavioral aspect of decision-making in banking and specifically in SME credit lending must be understood in more depth as it influences the subjective portion of the credit risk evaluation process and in term may provide insight into why access to finance from the bank has been a persistent challenge for SMEs in South Africa and globally.

Figure 1: Conceptual Framework of Bounded Rational Bank Officer’s Credit Decisions (Ondolos et al., 2021)



2.5. Conclusion

In conclusion, academic literature shows that SME bank finance is constrained by their internal credit risk evaluation standards and credit risk appetite driven by frameworks such as Basel II, market imperfections such as information asymmetry, and global crises such as the 2008 global crisis and the recent COVID-19 pandemic. There is evidence that the use of soft information (non-financial) and hard information (financial information) leads to more accurate default risk predictions which can ultimately increase the number of SMEs with access to bank finance. SMEs rely primarily on banks as a formal source of financial support, therefore, bridging the gap between borrowers (supply-side) and lenders (demand-side). Due to the limited information, high default risk, and uncertain nature of SMEs, heuristics can be used as an adaptive decision-making strategy to positively influence SME finance decision-makers who already make use of judgment in the credit risk evaluation.

3. Research Questions

The study aims to understand the challenge SMEs face with access to finance by gaining insights into the bank lending process underpinned by SME default risk evaluation from the supply side (lender perspective). In addition, the study intends to investigate how the appropriate decision-making tools available to SME lending decision-makers can influence their lending decisions to increase access to bank finance for SMEs despite their high-risk nature and information opaqueness.

The following research questions have been formulated by the researcher to breakdown the above aim of the study:

Research Question 1. Why do SMEs in South Africa experience constraints in accessing finance from commercial banks from the SME credit lenders' perspective?

Research Question 1 aims to identify the foundation of the SME challenge that is well documented in the literature and SME-specific reports from the SME perspective. This is the perspective of the demand side (borrower), however, there is little research on this challenge from the supply side (lender or commercial banks). Insights from the supply side are important because they are the gatekeepers to formal lending to SMEs.

Research Question 2. What high-risk credit lending factors affect SMEs' access to commercial bank finance?

Research Question 2 aims to understand the nuances of the high-risk factors that affect SMEs' access to lending. The high-risk factors are often generally referred to and perceived as understood when accessing SMEs however the underlying nuances are not clearly articulated.

Research Question 3. What decision-making strategies do bank SME lenders use to inform their SME lending decision?

Research Question 3 aims to establish the existing decision-making strategies that SME lenders use as this will provide insights on how SMEs can position themselves in line with the critical aspects of their business (financial or non-financial) that affect the decision to approve or decline their credit applications.

Research Question 4. Can heuristics be used as an adaptive decision-making strategy to enhance SME finance's credit risk evaluation process?

Considering the time constraints and the cost of information for the SME segment, that by nature, is deemed to lack financial information and credit history then research question 4 aims to investigate a decision strategy (heuristics) that makes use of less information and still achieves accurate decisions depending on the fit of the environment in which the decision must be made.

With these questions, the study aims to contribute to existing literature and business practice a richer sense of direction on how to increase access to lending for SMEs while accounting for the risk factors that govern the lender decision-making.

4. Research Methodology

4.1. Introduction

The focus of this chapter was to discuss the research methodology adopted in this study. The overarching methodology was qualitative, and an exploratory research design was used together with an inductive approach to data sampling, gathering, and analysis. The data was collected electronically via Microsoft Teams in the format of semi-structured one-on-one interviews with SME credit decision-makers from various commercial banks in based in Johannesburg and Cape Town, South Africa. The chapter ends with the quality controls and limitations of this study.

4.2. Research Methodology and Design

An exploratory research design aligned best with the purpose of the research problem, research questions, and the supporting literature. Sauders & Lewis (2018) described an exploratory study as one in which the focus of the research was to ask new questions, gain new insights, and evaluate subjects from a new perspective. This research design choice aligned with this study as the literature on SME lending was primarily focused on financial lending criteria rather than non-financial lending criteria. In addition, there was limited literature on subjective lending decision-making by commercial banks and the underlying decision-making influences. Therefore, the study aimed to evaluate SME lending criteria from a non-financial lending perspective with the interest of the study based on the heuristics that influence SME lending decision-making. The study intended to gain new insights that will lead to better SME lending decision-making. Due to the exploratory nature of the research, the researcher conducted a qualitative study. Qualitative studies use qualitative research methods that include non-numeric data gathering and analysis in the form of verbal and/or visual data rather than numeric data to explore and gain in-depth insights into issues experienced by individuals (Long & Godfrey, 2004).

Interpretivism as a research philosophy was relevant in the field of organizational behavior as the business context had a particular set of individuals and situations interacting at a set time to create a unique social phenomenon (Saunders & Lewis, 2018). The research study aimed to understand the heuristics that influence financing decision-making for SMEs in South Africa. Lenders from various organizations are faced with different contexts under which they base their decision to lend or not lend.

Therefore, to investigate the research questions, the appropriate philosophy was interpretivism as it supported the need to understand the nuances between individuals in their roles in a particular context (Saunders & Lewis, 2018). Following the interpretivism philosophy choice, an appropriate research approach was an inductive approach. The inductive approach was appropriate because it also aimed to understand the research context closely and allowed for flexibility to investigate more than one research context (Saunders & Lewis, 2018). In this study, the researcher aimed to understand SME lending decision-making from multiple lenders' perspectives and investigate what role the different business contexts had on the heuristics applied.

The research strategy that was selected initially was a case study that was suitable for research questions such as "How" and "What" and it is appropriate for exploratory research (Shiva & Sadeghi Moghadam, 2018). However, the limitation of a case study strategy would have been accessing the right participants in a highly restricted commercial banking context. The research strategy selected, thereafter, a narrative study that was suitable for research questions that seek to gain insights into a lived experience over some time and more suitable in terms of access to the right interview participants (Creswell et al., 2007). Furthermore, narrative research provided flexibility to the researcher because it can take on various forms and this research focused on narrative research based on a spoken account of one or more actions/events that are chronologically connected (Creswell et al., 2007). This strategy was chosen since the insights on SME credit lending decision-making and the heuristics used by credit lenders will be obtained through semi-structured interviews, based on the interviewee’s specific lived experience over the life cycle of making an SME credit lending decision. The purpose of the study was to gain a deep contextual understanding of how heuristics influence lending decision-making which forms part of the subjective non-financial aspect of credit lending. Hence the flexible, storytelling and semi-structured nature of narrative research further emphasized why this strategy was more appropriate for this study (Creswell et al., 2007). The dominant fields of study associated with narrative research were humanities and social disciplines however it was also useful for different disciplines such as psychology which was aligned with decision-making as it focused on the storytelling element that underpins narrative research (Creswell et al., 2007). Clandinin et al., (2008) described narrative research as a way of intimately understanding lived experiences from the individual's perspective in the context of larger institutional narratives That aligned with the study since the insights are bounded in the larger institutional context of commercial banks' credit lending to SMEs, and the stories were based on more than one credit lender across institutions.

A cross-sectional time horizon was most applicable as it provided a snapshot study that was conducted with a particular sample at a particular time rather than studying changes over time (Saunders & Lewis, 2018).

The methodological choice was primarily mono-method qualitative to collect data in the form of semi-structured interviews with SME lenders to gain insights into how heuristics influence their SME lending process. The researcher also used secondary quantitative data from credible SME reports supporting the triangulation of data in the study. The triangulation of data allowed the researcher to corroborate the research findings and establish the credibility of the research findings (Saunders & Lewis, 2018).

4.3. Population

Saunders & Lewis (2018) described the population as the entire set of group members and detailed that this is not limited to people but also includes organizations, complete listings, and places. This study's population was all the SME decision-makers from the big commercial banks in South Africa, as discussed in Chapter 1 commercial banks are the main lenders to SMEs. The main suitability criteria were that the decision-maker has to have made SME lending decisions in the current or previous role and is based at a commercial bank in South Africa. Interview guide questions 1 to 3 were introductory questions that prompted the participant to specify if they meet the criteria.

4.4. Unit of Analysis

Creswell et al., (2007) stated that the unit of analysis that was appropriate in a narrative research study was one or more individuals. Therefore, the unit of analysis for this study was at an individual level and included more than one individual. The individuals of interest were a sample of SME lending decision-makers in South Africa which only included commercial bank-based credit lenders. The researcher purposefully chose the unit of analysis to be multiple individuals to gain insights from different perspectives and get the lived experiences from different lending contexts (Creswell et al., 2007). This allowed the researcher to a gain rich and in-depth understanding of the heuristics used in the SME credit lending decision-making process from different credit lenders.

4.5. Sampling Method and Size

The list of the whole population was not known and access to it was limited hence non-probability sampling was the appropriate sampling technique. The chance of each member of the population being chosen was also unknown due to the complete list of the population being unknown and the researcher could not select the required sample from that population at random (Saunders & Lewis, 2018). The researcher, therefore, used their judgment to select the sample base on the main criterion that they must be a direct decision-maker for SME credit lending based in a commercial bank in South Africa and therefore applied the purposive non-probability sampling technique. Purposive sampling was useful when selecting a particularly small sample for qualitative research and allowed the choice of the participants that would best be able to answer the research questions (Saunders & Lewis, 2018). The purposive sampling method also aligned with the researchers' use of a narrative research design as the intent was to gain an in-depth understanding of SMEs' access to finance within the bounded system of commercial banks and specifically focused on the SME lending decision-makers (Creswell et al., 2007)

The insights, meaningfulness, and validity of qualitative research were determined more by the richness of the information in the selected stories and the analytical ability of the researcher rather than the actual sample size (Shiva & Sadeghi Moghadam, 2018). The sample size in qualitative research depended on the nature of the qualitative study and access to the rich data or insights required (Sim et al., 2018). One measure that determined the adequacy of the sample size was data saturation when the researcher had reached information redundancy and no new themes were raised from the interviews (Sim et al., 2018). The research was set out to have a sample size in the range of 12 - 16 participants which was the minimum suggested number of interviews (Myres, 2022). However, due to the strict nature of commercial banks and the schedules of SME credit decision-makers, the researcher was able to achieve 10 interviews from 3 commercial banks across Johannesburg and Cape Town. This sample size was sufficient for the research based on the quality of the information, the access limitation, and data saturation. Sim et al. (2018) described four methods to determine sample size, one of which was the conceptual models that argued that the nature of the topic, the quality of data, and the scope of the research questions could be used to determine sample size. Therefore, a focused topic where the purpose of the research was to discover rich insights through lived experiences based on narrow-scoped research questions, then a smaller sample size was justified and saturation can be achieved within 12 interviews (Sim et al., 2018). In a recent article, Aguboshim (2021) adds that sample size was not the focus of qualitative research but rather data saturation can be justified through sample adequacy. The intent of this research was not for generalization but to gain deeper insights into a globally known but not well-understood topic of access to finance for SMEs from commercial banks (formal lending).

4.6. Data Collection Process

The primary data collection method was semi-structured interviews as these were relevant for studies that require in-depth purposeful and insight-seeking discussions based on a set of open-ended questions arranged according to the topics of interest (Saunders & Lewis, 2018). Interviews were one of the appropriate data collection methods for the narrative research strategy and the interviews were generally open-ended and semi-structured which allowed the researcher to probe areas that came up in the interview while maintaining consistency between interviews (Braun & Clark, 2006; Creswell et al., 2007). The researcher did not conduct any face-to-face interviews as the participants predominately work from home in Johannesburg and others located in Cape Town. The interviews were conducted online via Microsoft Teams which was most suitable for all the participants. Saunders & Lewis (2018) further expressed that a semi-structured interview was useful to gain insights from the participants' individual lived experiences or situations which was directly aligned with the purpose of the study to gain the SME lenders' experience insight on how and what heuristics influence them in their SME financing process.

4.7. Measurement Instrument

To prepare for the interview, the researcher made use of an interview guide with credible and validated questions which were arranged according to the themes of interest: how heuristics influence SME lending decision-making; what heuristics influence SME lending decision-making, and which environments suit which heuristic when making SME lending decisions (Saunders & Lewis, 2018). The researcher developed and requested the necessary consent for all the participants as well as consent for the interviews to be recorded. The recordings were filed in the researchers' private Google Drive which is password protected and were used solely for this research (Saunders & Lewis, 2018). Lastly, the researcher conducted a pilot test before the interviews were conducted to ensure that the questions were understandable, that they did not lead the participants, and that the answers provided the data required for this study (Saunders & Lewis, 2018). The pilot interview was conducted with a commercial bank employee as they were based suited to understand the concepts but not the targeted participant because they did not make SME finance decisions. The pilot interview responses and recordings were therefore discarded and not included as part of the research.

4.8. Data Analysis

For narrative research, the appropriate analysis approach was to draw insights from elements of the story and to “restorying” the collective stories using emergent themes (Creswell et al., 2007). The researcher used the Microsoft Teams recordings and transcripts of these interviews to code the data into themes and conduct a thematic analysis. Braun & Clark (2006, pp. 5) described a thematic analysis as "a method for identifying, analyzing, and reporting patterns (themes) with data". This method was particularly useful to identify and group the insights gained into the heuristics that influence SME lending decision-making in SA. There were three steps followed to conduct the thematic analysis as described by Sauders (2018) which included (i) meaningful code development that described the data; (ii) categories were generated based on batched codes and (iii) categories were sorted according to common themes and sub-themes. No codes were developed before the data analysis however the emergent codes were named and adapted according to the literature review. Therefore, the codes were developed inductively as they were not based on predetermined codes, but rather new codes surfaced in the data analysis process (Gioia, 2013).

The transcripts data were first “cleaned” and a consistent format was ensured before the transcripts were uploaded onto the qualitative data analysis tool. The researcher used the qualitative data analysis software called ATLAS.ti as it was a tool that assisted in code and linking the finding in a semantically meaningful manner (in themes) and the findings were represented in a visual way (Atlas.ti, 2022). The thematic analysis approach was a foundational method of analysis in qualitative research and allowed the researcher flexibility to interpret the in-depth interview data into detailed and rich information (Braun & Clarke, 2006).

The researcher cleaned and coded all 10 interviews in batches as the interviews were conducted over three months. Atlas.ti was useful as it allowed the researcher to upload the transcripts in Word format and clean the transcripts on the platform while identifying the emergent codes which were later grouped into themes and sub-themes. Since all the transcripts were formatted in the same manner, Atlas.ti in addition allowed the researcher to extract a useful visual representation of the code, themes, and sub-themes.

Confidentiality was maintained as the participant names and any mention of company names were cleaned out of the final transcripts. Participants were referred to as Participant x Lender x and company names were replaced with references to their industry for example financial services or retailer. The company names that remained were when the participant was making a general example to illustrate an important point. No demographics of the participants were recorded, for example, their age, race, or educational levels as that was not relevant to the research. The experience of the participant was included to understand if that played a role in the heuristics used to influence decision-making for SMEs.

4.9. Quality Controls

The "yardsticks" to maximize quality control were associated with construct validity as well as internal and external validity (Shiva & Sadeghi Moghadam, 2018). Construct validity referred to making use of various credible sources, and information from highly ranked articles that occurred during the data collection phase (Shiva & Sadeghi Moghadam, 2018). Validity in qualitative research was dependent on the researchers' ability to show the trustworthiness of the data collected and the thematic findings from the interviews (Golafshani, 2003). The researcher therefore audio recorded and transcribed the interviews verbatim and used established reliable applications, Microsoft Teams. In addition, various key quotes from all participants were included in the research to eliminate researcher bias. This was in line with demonstrating internal validity which was referred to in the data analysis phase where the Atlas.ti software assisted with coding the transcript data to establish valid themes with minimal manipulation by the researcher (Shiva & Sadeghi Moghadam, 2018).

Furthermore, internal validity was influenced by researcher bias. Due to the subjective nature of exploratory research and the influence of the researchers' perspectives, it is important to acknowledge the potential researcher bias (Saunders, 2018). The researcher has extensive experience in the financial services industry specifically in commercial bank lending to SMEs. In addition, the research was subject to sampling bias based on purposive sampling (Tucker, 2004). As a result, 70 percent of the participants are from Lender 1 which was a result of access to the participants.

External validity was established by interviewing multiple individuals from different commercial banks to gain different insights that are not biased toward a single case (Golafshani, 2003). In the exploratory phase of the study, the researcher made use of multiple sources of data on SME lending decision-makers to ensure that the research was grounded in theory to ensure the reliability of the research. Reliability in qualitative research was crucial for the trustworthiness and credibility of the research (Golafshani, 2003). The research made use of an interview guide and maintained semi-structured interviews to ensure consistency in the data collection. Furthermore, the researcher conducted pilot interviews with 2 participants selected at random to test for leading questions and assess the researcher's influence on the participant responses. The outcome of the pilot interviews was informative and necessitated changes to the research interview questions leading questions were reworded and the interview approach was altered to ensure that the researcher did not influence the participants' responses. The data from the pilot interviews were thereafter disregarded from the research.

4.10. Limitations

Queirós et al (2017) stated the limitations of qualitative research strategy include:

- difficulty to generalize the findings as they were based on a small sample size that was not fully representative of the population and was purposively chosen

- confidentiality was crucial for ethical purposes and for the participants to provide deep insights however becomes a limitation for credibility and reliability

In addition, the research was subject to some sampling bias as described by Tucker (2004):

- sampling bias which was bias based on how the sample was chosen to fit the purpose of the study and that the researcher used their judgment to select the participants

- logistics and practicality bias occurred due to the time limitations of the study and the willingness/availability of the participants

- this in addition meant that the insights gained from the willing and available participants may not necessarily reflect those who declined or were unable to participate

5. Results

5.1 Introduction

The results are derived from the one-on-one interviews conducted to gain insights into the underlying decision-making strategies that SME credit lenders use to make financing decisions for SMEs. It was important for the researcher to gain insights from the commercial bank lenders' perspective as the dominant lenders to SMEs and the gatekeepers to the challenge of access to finance for SMEs.

This chapter presents the key finding based on the thematic analysis of the qualitative data collected through semi-structured interviews. The description of the sample provides the context of the findings and the validity and fit of the sample are addressed under sample suitability based on the sample criteria specified in chapter 3. The emergent key themes are presented according to the corresponding research questions as stated in Chapter 4 including triangulation to demonstrate a holistic understanding of the results that is contrasted again relevant existing data from credible sources.

5.2 Sample Description

The researcher intended to conduct a minimum of 12 interviews up to the point of data saturation however a total of 10 interviews were conducted due to the availability and access of the targeted participants. Access to information in commercial banks is restricted and the access that the researcher was able to achieve was from the lender of their employment and personal networks. All 10 participants are individuals who make or have made SME finance decisions in their role as SME credit decision-makers. Data saturation was achieved by the 10th interview as no substantially new information was heard, therefore given the information captured by that point and the fact that any additional respondents were concentrated from Lender 1, the researcher concluded the interviews. It is important to highlight that although saturation was achieved early in the interviews, the insights and nuances provided on existing information warranted 10 interviews. The anonymity of the individual and their place of employment was maintained, and the participants were referred to as Participant x Lender x.

Table 2. Sample Description provides an overview of the 10 participants. 70% of the participants were from Lender 1, 20% were from Lender 3, and 10% were from Lender 2.

Table 2. Sample Description

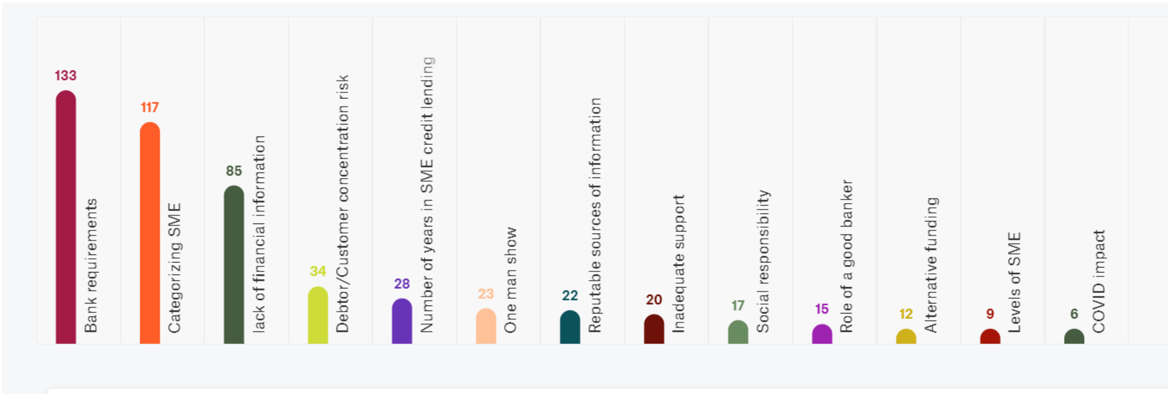
Participant	Lender	Gender	Role	Experience in SME Credit Lending (years)	Interview Length (min)
1	1	Male	Head of Credit Sectors	14	80
2	1	Male	Credit Manager SME	30	43
3	2	Female	Credit Manager Intuitive Credit	5	57
4	1	Female	Credit Manager Private Bank and SME Relationship Banking	29	40
5	3	Male	Business Credit Manager	2.5	54
6	1	Female	Credit Manager SME	20	36
7	1	Female	Credit Manager SME	18	60
8	3	Female	Credit Consultant Private Bank and SME	12	60
9	1	Male	Credit Manager SME	22	58
10	1	Male	Credit Manager Medium Business	9	44
			Average	16	53
			Total	161.5	532

There was a 50:50 spread across male and female participants for the diversity of insights on the topic. Their total years of experience in SME Credit Lending is 161.5, which averages to 16 years making SME-specific credit lending decisions across various SME finance credit requests. The highest number of years of experience was 30 years and the lowest was 2.5 years. The interviews were conducted over a period of three months with multiple interviews rescheduled to allow for the participant's availability. The interviews took 53 minutes on average and a total of 532 minutes (approximately 9 hours). All of the interviews were conducted face to face and the researcher applied persistent effort to secure the interviews even with the number of interviews being rescheduled. The participants expressed enthusiasm for the topic and were engaged throughout the interview. The distinct remark throughout the interviews was how not enough time is dedicated internally (within their respective commercial banks) to such an important topic even though there is a consensus that the challenge of access to finance for SMEs exists.

5.3 Data Saturation

Data saturation was reached by the 10th interview as the researcher identified that there were no new insights provided. By definition, data saturation is reached when additional interviews (inputs) do not generate new insights that will provide a new understanding of the research topic (Aguboshim, 2021). The visual representation of the data saturation is presented in Figure 2: Data Saturation. The same adequacy is not determined by sample size but rather justified by data saturation (Aguboshim, 2021). The purpose of the research was to gain deeper insights from the credit lenders' perspective based on the lived experience of SME credit lending decision-makers. Therefore, saturation was reached when the researcher identified information redundancy by the 10th interview. Sim et al. (2018) describe meaning (insights) saturation is often reached by the 9th interview for concrete notions like in the case of the access to finance for SMEs. The quality of the dialogue in the interviews from these very specific participants based on a focused research topic meant that the research would have a smaller sample size and further justifies how meaning saturation was used to describe sample adequacy.

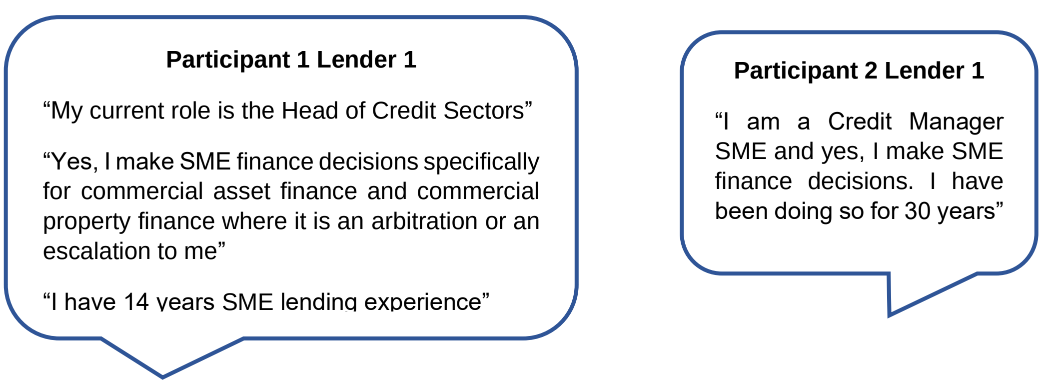
Figure 2: Data Saturation



5.4 Suitability of sample

The purposive sampling method used was appropriate to ensure the suitability of the sample. The researcher needed a specific sample of participants for this qualitative research which purposive sampling allows (Saunders & Lewis, 2018). The research intends to gain an in-depth understanding of SMEs' access to finance within the bounded system of commercial banks and specifically focused on SME lending decision-makers (Creswell et al., 2007). The first three questions of the interview guide were introductory questions that allowed the researcher to prompt the participants to confirm that they meet the criteria of being direct SME credit decision-makers based in commercial banks in South Africa. Questions one to three were open-ended interviews that allowed the participant to describe their current role, direct exposure to SME credit lending, and the number of years making SME-specific credit lending decisions. The below illustrations, Figure 3, reflect the quotes from the participants on questions one to three.

Figure 3: Responses from Participants confirming sample suitability



Participant 3 Lender 2

"I am a Credit Manager: Intuitive Credit and yes, I do work a lot with SMEs, and I do make financial decisions in the same space.

"I started working with SMEs directly in 2017"

Participant 4 Lender 1

"I'm a Credit Manager Private Bank and SME Relationship Banking"

"Approximately, 29 years in SME lending"

Participant 5 Lender 3

"Previously I was a Business Credit Manager and currently an external consultant"

"Yeah, I made SME finance decisions in my previous role, and I mean, even in the current one"

"I have been in these type of roles for about 10 years"

Participant 6 Lender 1

"I'm a Credit Manager for SME"

" I have been in the role for about 20 years"

Participant 7 Lender 1

"I am a Credit Manager SME"

"I have been in the role for about 18 years"

Participant 8 Lender 3

"Credit Consultant in Private Bank and SME. My role involves making credit decisions for individuals and for the companies'"

"I spent like 2 years at one of the other financial institutions doing purely SME finance and I've been doing my current role for 10 years. So, all in all, 12 years"

Participant 9 Lender 1

"I am a Credit Sanctioner"

"That's correct, my role directly deals with SME finance decisions"

"I have been in the role for 22 years"

Participant 10 Lender 1

"Credit Manager for Growth segment"

"Yeah, part of it is SME finance. But remember, growth now is businesses with turnover from R20m to R50m"

"OK, it's now 9 years"

5.5 Presentation of Results

The overarching purpose of the research is to understand how heuristics influence SME credit lending decision-making from the lender's perspective and how those insights can provide solutions to the challenge of limited access to finance faced by SMEs. The results from the interviews have been clustered according to research questions one to four and their corresponding interview questions. Research question 1 corresponds with interview questions 4 to 8, research question 2 corresponds with interview questions 9 to 16, research question 3 corresponds with interview questions 15 to 17, and research question 4 corresponds with interview questions 18 and 19. Table 3: Consistency Matrix provides an overview of the research questions, the corresponding interview questions, and the associated literature.

Table 3: Consistency Matrix

Research Questions	Literature Review	Data Collection Tool	Analysis
1. Why do SMEs in South Africa experience constraints in accessing finance from commercial banks from the SME credit lenders' perspective?	Brei, M., Gadanecz, B., & Mehrotra, A. (2020) Choudhury, M., & Goswami, C. (2019) Jude, F. A., Penn, C. C., & Adamou, N. (2021) Van Klyton, A., & Rutabayiro-Ngoga, S. (2017)	Interview Questions 4 - 8	Thematic Analysis

2. What high-risk credit lending factors affect SMEs' access to commercial bank finance?	Ciampi, F., Giannozzi, A., Marzi, G., & Altman, E. I. (2021) Roy, P. K., & Shaw, K. (2021) Shi, B., Zhao, X., Wu, B., & Dong, Y. (2019).	Interview Questions 9 - 14	Thematic Analysis
3. What decision-making strategies do bank SME lenders use to inform their SME lending decision?	Ondolos, N. K., Tuyon, J., & Mohammed, R. U. (2021) Palazuelos, E., Crespo, Á. H., & del Corte, J. M. (2019) Wasiuzzaman, S., & Nurdin, N. (2018) Wasiuzzaman, S., Nurdin, N., Abdullah, A. H., & Vinayan, G. (2020)	Interview Questions 15 - 17	Thematic Analysis

4. Can heuristics be used as an adaptive decision-making strategy to enhance SME finance's credit risk evaluation process?	Gigerenzer, G. (2008) Gigerenzer, G., & Gaissmaier, W. (2011) Kozyreva, A., & Hertwig, R. (2021) Luan, S., Reb, J., & Gigerenzer, G. (2019) Rauwerda, K., & De Graaf, F. J. (2021)	Interview Questions 18 - 19	Thematic Analysis

5.5.1 Triangulation

Ondolos et al. (2021) researched SME lending and the bounded rationality of the bank officer's credit decision-based in Malaysia. This was a quantitative study with a focus on the supply side of credit lending to SMEs. The research suggests that the issue of biased decision-making does not benefit the lender (bank) and the borrower (businesses or individuals) and it could be one of the unknown underlying root causes behind the limited access to finance challenges faced by SMEs (Ondolos et al., 2021).

The conceptual framework in Figure 1 developed by Ondolos et al. (2021) provides triangulation to the qualitative results of this research. The decision-making is broken down into two aspects: fundamental and behavioral decisions. Fundamental decisions are positively related to the 5Cs of credit risk evaluation which are the fundamental factors (Ondolos et al., 2021). Behavioral decisions are positively and/or negatively related to behavioral factors such as intuition and loss aversion (Ondolos et al., 2021). This relationship is also moderated by human capital factors in a positive and/or negative manner such as credit experience and emotional intelligence (Ondolos et al., 2021). The framework provides triangulation for this research as it contextualizes the relationships between the decision-making theories and the human capital theory which is relevant to the purpose of the research. For example, the insights gained from the interviews with credit decision-makers provide the nuances to the moderating influence that credit experience (human capital theory) has on intuition (behavioral factor under intuitive decision theory) and behavioral decision (bounded rationality theory).

5.5.2 Thematic Analysis

2 themes with 2 categories each emerged from the thematic analysis based on the interviews conducted with 10 credit decision-makers from 3 Lenders from commercial banks based in Johannesburg and Cape Town. This section will discuss the 2 themes and the 2 subthemes together with the corresponding codes. Appendix 6 provides an overview of the codebook. Thereafter, deeper insights will be provided in the next section supported by key quotes from the participants. The themes are discussed holistically first, and the quotations are provided per research question. The researcher made use of Atlas.ti as advised in Chapter 3 to clean the transcripts and code the data. The software was difficult to navigate effectively, and the researcher manually grouped

the codes into 2 dominant themes and 2 categories. These themes are adapted from Ondolos et al. (2021) conceptual framework ad presented in Chapter 2 Figure 1.

Tables 4 and 5 below provide a summary of the thematic analysis.

Table 4: Thematic Analysis 1

Theme 1: Financial Factors			
Category 1: Financial Information		**Category 2: 5Cs of Credit**	
Code	*Key Phrases*	*Code*	*Key Phrases*
Bank Requirements	"We must prove repayment ability and sustainability"; "We categorize SMEs by turnover"; "Affordability assessment is our primary objective"; "we must protect the banks' position"; "Internal customers have a risk grading"	COVID Impact	"We had to be stricter in COVID times"; "Business goes through trying time, COVIID is a good example"; "risk in COVID, if SME owner was hospitalized then business stands still"; "COVID some industries more which affected already vulnerable SMEs"
Debtor Concentration Risk	"One main contract"; "Only supply XY products"; "Collection of debt means cashflow issues"; "They don't dictate the terms"	Categorizing SME	"Collateral is low"; "Should grow according to their cash flow"; "Bad account conduct"; "Inconsistent fluctuations on bank statements"

Lack of Financials Statements	“Quality of financials is poor”; “They use a cheapie accountant”; “They often don’t have financials”; “Thin balance sheet”	Inadequate support	“Jack of all trades”; “Don’t have a finance department”; “no technical skills or no qualifications”; “no network for mentorship/coaching”
		One man operation	“Character is very important”; “He can’t pay his debt”; “They are highly indebted”; “They think turnover is their salary”

Table 5: Thematic Analysis 2

Theme 2: Behavioral Factors			
Category 3: Credit Decision-Maker		**Category 4: SME Owner(s) (Jockey)**	
Code	*Key Phrases*	*Code*	*Key Phrases*
Role of a good banker	“Refer to sender”; “They provide information”; “It’s their responsibility to advise the SME”	Role of a good banker	“Banker-SME relationship” “They should be the SME’s financial advisor”; “relationship-lending”
Social responsibility	“Assisting an SME helps absorb unemployment”;	Alternative funding	“Easier to get a personal credit card/personal loan”;

	“SME as a matter of livelihood”; “South Africa needs SMEs”; “many people rely on that SME “		“Government should do more”; “they should use patient funds at start-up phase”
SME credit experience	“Maturity in credit”; “in my experience”; “what I have seen”; “collective experience from credit committee”; “I can see there’s a deal”	Reputable source of information	“ITC or credit bureau”; “Bank Statements”; “Deeds Search”; “Contract”
Level of SME	“Micro”; “Start-ups”; “Professionals”; “Entrepreneurs”	One man operation	“Not accountable to anyone”; “Use personal debt to start a business”; “Intermingles income/expenses”; “Jack of all trades”; “Doesn’t have the technical skills”

5.5.2 Results for Research Question 1

Research Question 1: Why do SMEs in South Africa experience constraints in accessing finance from commercial banks from the SME credit lenders' perspective?

The purpose of research question 1 was to gain insights on the constraints to access to finance faced by SMEs in South Africa from the perspective of the lender. Interview questions 4 – 8 were designed to uncover how SME credit decision-makers describe SMEs and how they frame the challenge of limited access to finance. This was important as the literature revealed that there isn't a unified definition of an SME and how SMEs are categorized. Therefore, the challenges faced may be nuanced depending on how one defines and categorizes SMEs. Furthermore, it was important to understand how far the lenders perceived the existence of the challenge and where it emanates from.

5.5.2.1 SME Definition and Category

The following definitions and categorization of SMEs were provided by the participants, majority of them defined and categorized SMEs according to their business financial structure, for example, the turnover, the size or strength of their balance sheet, and the level of exposure or total finance with the lender.

Participant 1 Lender 1: "*Revenue is not necessarily a driver because SME customers can run into over R50 million in terms of revenue, but that money is not theirs. For example, some specific attorneys have trust accounts and hold money on behalf of customers, which is moved back and forth. So that's not a real determinant of an SME. I would think the asset base, the capital base, the type of customers that they have, and the type of contract that they have is a better determinant of an SME".*

Participant 3 Lender 2: "*An SME has got very limited offerings. You know it's niche or they just supply XY products. They have very linear, very little hierarchy in terms of the business structure, and also the number of employees. So, the normal standard that banks look at, it's the turnover and the number of employees.*"

Participant 4 Lender 1: "*SME clients are those who want to start a business, but they only have a business plan and he's got no other supporting factors. He's got no assets* *in his name and in the business to offer as collateral. They don't have any money saved up in personal or business capacity to contribute as a deposit*."

Participant 7 Lender 1: "*An SME is usually a business that has got up to 15 people working for them or a family business with three people in the business: the husband, wife, and the son or something like that*."

Participant 5 Lender 3: "*Generally the SME customers we look at are businesses with a better track record by a better mean anything between two- and three-years track record and that they've been running a turnover of at least R20 or R30 million and above and their balance sheet should be strong enough to support an R5 million loan*".

Participant 10 Lender 1: "*SMEs are often one-man companies and remember SMEs include medium-sized businesses which we term the growth segment. The small business part of SME is based on a turnover of up to R20 million whereas the growth (medium) segment includes turnovers of R20- to R50 million. The main way to describe and categorize them for me is turnover, exposure with the bank, and the type of ownership*"

5.5.2.2 Access to Finance Challenge

The participants provided the following responses when addressing their perception of the constraints faced by SMEs when they approach the bank for credit lending. This also reveals whether the participants believe the challenge exists, to what extent, and what are the contributing factors.

Participant 3 Lender 2: "*Yeah, there are definite constraints. And there's a number of them. One of the main ones is there are a lot of small SMEs that are unbanked. You know, if you look at the number of people with bank accounts, there are a lot of them, but we have to understand that SMEs can also be broken down into, survivalists and businesses. So, there are a lot of survivalists which are the people that have opened up businesses as a matter of survival, creating a source of income for everyday livelihood. The survivalist in most cases is unbanked, right? And it's very difficult for those guys to grow their business and to extend credit to them*."

Participant 10 Lender 1: "*The owner himself (jockey), has a poor credit profile therefore it becomes a problem. How do I then extend facilities to this person while he can't manage his credit*?"

Participant 8 Lender 3: "*Indebtedness is a problem, which is the existing debt because what we find is in some instances, especially in the entrepreneurial phase a lot of the guys will go and take out loans, quite expensive loans. Then when they approach us as a bank to start helping them with other facilities and other services it becomes difficult to lend to them because of the structure of the loans that they've got in place. A lot of the time in their personal capacity to start that same business or luxuries*."

Participant 7 Lender 1: "*The biggest challenge is the lack of financials because they (SMEs) are not required by law to have audited financials that are standardized. The laws are not as stringent as how their financials are prepared. And that's the biggest challenge, the financial information they can or are willing to give is vague*."

Participant 2 Lender 1: "*The lack of own contribution to supporting the lending is an issue. They cannot start a business by lending the full amount or by high gearing (debt to equity ratio) that is not affordable. Normally any lending above 50% gearing leads to the business failure on affordability. And the other issue is a lack of security to offer as collateral. The constraint with SMEs is they expect the bank to take the full risk over their lending*."

5.5.3 Results for Research Question 2

Research Question 2: What high-risk credit lending factors affect SMEs' access to commercial bank finance?

The purpose of research question 2 was to gain insights on the high-risk factors specific to SME credit applicants, understand what tools lenders use to measure these high-risk factors, and advise if these measures of risk are suitable for SME applicants or whether the measuring tools themselves influence the risk outcome. Literature alluded that these measuring tools are not designed to access SME credit risk and due to the type of information they require, more often than not is information that SME applicants do not have or have not provided. Interview Questions 9 – 13 were designed to uncover the detail behind SME high-risk factors and the tools used to measure this risk. In addition, question 12 goes deeper to understand whether or not the various measures have equal weighting when assessing SME high-risk factors. These insights will provide a rich understanding of the nuance in the lending criteria that SME customers need to meet to increase their access to finance from banks.

5.5.3.1 High-Risk Factors

Participant 2 Lender 1: "*The high-risk factors are lack of own contribution; gearing too high affecting affordability; lack of financial knowledge to manage the cash flow; lack of mentorship and lack of security*."

Participant 5 Lender 3: "*Bank always lends against your balance sheet right, so the business' balance sheet has to be a strong balance sheet to match the lending request. The risk comes that your smaller size companies, normally have very thin balance sheets like there is very small equity within that balance sheet to lend against. This increases the risk of lending. And the reliability of their financial information, its integrity*."

Participant 3 Lender 2: "*The high-risk factor for me starts with the jockey who is sort of the jack of all trades but doesn't have the skills to run the business in general, make sales, run the accounting function, and so forth. It becomes a one-man show. This is high-risk in lending because they lack the knowledge of how the cash flow in the business works, and how to manage it better. A non-financial risk for me is that they also have a strong platform, like a digital footprint to increase customer potential. That then limits their potential to grow because the business is very stationary*."

Participant 1 Lender 1: "*There are several high-risk factors. For example, they don't own the premises where they operate so in the case of asset finance, the landlord could try to take those assets if they don't pay rent or damage their premises. If the bank is made aware in time, then we mitigate that risk with a landlord waiver noting that the asset belongs to the bank. Another high-risk factor is the type of contracts that these guys get. For example, we had an application for an SME who wanted to get finance for a truck based on a contract with a big alcohol manufacturer. After legal vetted the contract, it was revealed that the alcohol manufacturer can cancel the contract at any point in time. This is the risk faced by many SMEs and their contracts which I don't think the SMEs understand. If the contract is canceled and it was your only source of* *repayment, then your probability of default is extremely high which ultimately will cost the bank."*

Participant 4 Lender 1: "*SMEs typically have high concentration risk in terms of their debtors – source of income and repayment-ability, maybe they have one main debtor. So if something goes wrong with your contract with that main debtor and you need more funds again because you don't have your funds, it's going be difficult to get additional funding. The business is therefore not sustainable which means on a 5-year contract, we must prove that the source of income will last that long and if it won't the business will be able to pay regardless. That's the risk in SMEs, you can never be certain*."

Participant 8 Lender 3: "*External factors, for example, sanctions and those sorts of things that come into play that have nothing to do with the operation itself. If the company is in logistics, imports, and exports then it affects them a lot. The external factors in the environment around the industry that the company operates in affect its credit risk. Because you trying to manage the risk of long-term debt to that industry, which is uncertain, the bank's risk appetite for that industry will be low.*"

5.5.3.2 Risk Measurement Tools

The participant provided insights as to what risk measurement tools are available to them to measure SME risk in the risk evaluation process and they also provided insights on whether or not each of the tools had equal weighting. Some insights were provided on their view of the suitability of these risk measurement tools to accurately represent SME risk.

Participant 8 Lender 3: "*Everything has got its different models, not one for specific customers. The models are based on the lending product. So, we'll consider what is relevant to that SME then you would back it up with the individual behind the business. We work with professionals and high-net individuals who have businesses therefore as much as the PD, the probability of default, for the SME is high. There's an individual behind it whom we can place reliance on because they are the guarantor and can stand security. We can then call on that guarantee in the event of default or hard times in the business that individuals have got a very low probability of default.*

Participant 4 Lender 1: "*On existing clients and we use an internal triad risk calculation that gives you a rating for the probability of default. And then you can also capture financials on the system to get a DG – default risk grading. Then you can categorize the risk as lower, medium, or high risk from DG 1 – 21 (where 1 is low)*. *The DG is based on financial ratios that are measured against industry norms to access the probability of default of the SME against the industry which is inclusive of all business segments. Triad is a behavioral scoring so that's just on existing clients, so it's a behavioral thing. By behavior I mean, if your conduct is exemplary and very good, you'll get a lower risk rating, then your probability of default will be less because your internal records are very good. And the other one is on the financials, default grading, and that takes only financials into account, no exterior factors.*"

Participant 2 Lender 1: "*We use behavior risk models (it's a system-generated triad risk grade) based on conduct of (business) account and (level of) debt, in addition, it's based on past excess and arrears over last 12 months on the business account. A new start-up is seen as high risk with no measurement except the business plan or CVs*. *This tool is specifically for SMEs to consider their behavior, but larger business only uses financials to determine their risk grading*. *So, there is a difference in how SME is measured versus other businesses*."

Participant 7 Lender 1: "*We have internal models, but we also use external sources to measure or assess risk. A lot of sources that you can use that will give you a real picture for example deeds office searches and you can draw information on the business/individuals behind the business on the credit bureau. That for me is a holistic risk view not just on their internal conduct but what about everywhere else where they have exposure*."

Participant 3 Lender 2: "*We purely base our decision (risk assessment) on various other things like behavior account conduct, if It's an existing client it's even easier because we have the account conduct records on our system, but even for external clients, we do extend finance to on an intuitive basis by looking at their bank statements, we look as ITC (credit bureau), how long the business has been in operation and the strength of the jockey.*"

5.5.4 Results for Research Question 3

Research Question 3: What decision-making strategies do bank SME lenders use to inform their SME lending decision?

The purpose of research question 3 was to gain insights into the decision-making strategies that SME lenders use as the basis of the research is on investigating the heuristics that influence credit decision-making specifically for SMEs. There are underlying human behavior-related decision-making strategies that some literature considers the irrational aspect of decision-making. The rational factors generally come from hard information, for example, financial information, and the irrational factors generally come from how an individual interprets soft information such as insights into the character of the SME owner. Interview questions 14 – 17 probe how the risk evaluation process works and requests the lenders to provide detail on how they approach the SME credit application from beginning to end. The beginning refers to when they receive a credit request application (including its supporting documents) and the end is when they make one of three decision outcomes to approve, decline or request additional information. Understanding the credit risk evaluation process each lender follows provides insights into how each individual decision-maker rationalizes the information provided, how much information is sufficient to come to an outcome, and whether or not they believe that the process is an enabler for SME applicants.

Participant 6 Lender 1: "*The possible decisions that I give are an approval or decline, or a refer it back to the branch (banker) to get more information. When we refer an application back to the banker to ask for more information, in most cases we will do the deal, we want to help the clients in growing their business, but we need more information to do that*."

Participant 5 Lender 3: "*Our risk evaluation process isn't based on one person's decision. We will discuss it, not just the people working on it but everyone. The role of the consultant (banker) who works on it is to understand the business and its numbers and then you go to a formal credit process which is the credit committee then says yes or no*. *Depending on the deal size and the complexity it might require you to go to a bigger forum (committee), and it might require you to have a certain number of mandate* *holders I'm signing off. As part of the committee, we could say yes or no, in addition, we could say we think we can support the business, but there are a few things that we need to understand."*

Participant 8 Lender 3: "*A lot of the time I go back to the client with an alternate option or alternate funding option (instead of declining) because the client thinks they need a certain product, but it turns out that's not what the business needs. Without proper advice upfront (from a banker or consultant), one could just decline the application due to a mismatch between the product requested and the actual need for the business. If I can see there is a deal or potential to approve, then I decide to align the lending to what I have assessed as the actual need or I request more information to confirm that I understand the need correctly*."

Participant 1 Lender 1: "*Firstly, I would like to highlight that these are people's pension funds that we are lending out so that context is important to understand the weight of the decision. Then we are working from a relationship banking perspective, we are in the business of building relationships with our customers, including SMEs. So, we often back the jockey. It would need to be a person of integrity, a person who has come in (provide collateral or deposit) on the transaction. I think for me it would be the character of the person that you're going to fund (part of the 5C's). We would need to go over who this person is, whether they are persons whom we can place reliance on, understand what the objective is in getting this finance and what are they trying to achieve. A good grasp of what the SME wants to achieve informs my decision to lend because I know from experience how important it is to match the lending to the need, which decreases the probability of default.*"

Participant 4 Lender 1: "*If everything ticks the boxes and there are just minor differences, then I will probably approve. You know the likelihood is good that you approve the funds if everything else is in line. Then the other possible outcomes are a decline, or the application can be returned to the sender (banker) for more information. So, on a return to sender, you want more information. Maybe there's information missing or you're not in agreement with the cash flows or some documentation that was submitted, or something. Then you ask for that information to make a final decision. But if you're going to decline it in any event with the additional information, then you're not* *going to ask for more information. Other times, the customer cannot provide that additional information because either it will reveal other insights, or they just don't have it. Then by default, that request is declined, and the customer feels we want too much information to make a final decision. Something that has happened a lot in the past was customers could no longer pay their debt and if the bank couldn't show in court how they proved affordability, that would be a loss to the bank and regarded as reckless lending. That is why we must make certain of affordability and the supporting information."*

5.5.5 Results for Research Question 4

Research Question 4: Can heuristics be used as an adaptive decision-making strategy to enhance SME finance's credit risk evaluation process?

The purpose of research question 4 was to specifically gain deeper insight into the heuristics used in the credit risk evaluation process. Interview questions 18 and 19 probes into how the credit decision-makers communicate the final decisions and how they reach a final decision on SME applications that are borderline. The reference to borderline suggests that there is more than 1 justifiable outcome and it is at the credit decision-makers' discretion as to which outcome they conclude with and the motivating factors that make the credit decision-maker lean towards one outcome versus another. Based on the human behavior element of decision-making, any 2 decision-makers can assess a borderline application one could conclude approval and the other could decline. The purpose of question 19 is to understand the difference or nuances between the rationalization process of credit decision-makers on borderline SME applications.

Participant 7 Lender 1: "There are several considerations that are also taken and then I normally bounce it off someone else also for a second opinion. I know that our bank is one of the few banks where we have individual mandate holders still, in most other banks, all decisions are made in committee. So, bouncing it off someone else and having them listen to my outcome resembles that collection credit committee decision-making. That's where experience also comes in, the collective experience of the team. But, for borderline cases these days. I give the people the benefit of the doubt. Having been so long in credit, my gut also starts to play a role and says listen. Overall, you can always refer it to a higher mandate holder. That's also the motto of the bank, if you're not comfortable and you need a second opinion, make the phone call.

In addition, Participant 7 Lender 1 provided a different understanding of their view of the impact of credit decisions for SMEs. They provided a big-picture perspective that is important to highlight.

Participant 7 Lender 1: "*In all honesty. the older you get, the more experience you get, and the more you're willing to put it out there and say listen let's give them the benefit of the doubt. Looking at South Africa at this point, it's not easy for someone to start up a business. Now you know what the first three years are the toughest. If he makes the first three years, kudos to him or her. Unemployment is rough, people or families are going to be affected by your decision. That's why I sometimes say let's review in six months and advise the SME that you have to do this and that, then I will consider the loan. Remember, not everything that you will approve is going to be successful. You'll have to understand that because then you also say no to way too many applications that could have made it*."

Participant 3 Lender 2: "*Ultimately, in my view, it is a gamble here but it's almost like the unspoken thing that everyone knows. Granted it's a calculated gamble and not just a roll of the dice. I mean, there are a lot of deals that go bad across all the banks and all the segments. This happens when you were given information and we thought this deal could not go bad and it does because we are dealing with humans at the end of the day things change sometimes overnight. Maybe the clients had a contract and then the next thing the contract is terminated for whatever reason, and everything goes belly up. The pandemic was a good example of how quickly changes happen. There are so many moving parts and so many interconnected variables, but you only assess them with the information that you're provided. It's a snapshot of the business at that time and what you think may happen 2-3 years down the line. Then consider that some of these credit facilities extend for 10 and up to 20 years. That is why supporting tangible security is important in borderline deals as a fallback position and the jockey's behavior. Can I trust that the jockey will do everything he can to repay the debt even in bad times and remain transparent with the bank, if I cannot get a sense of that then my decision will probably be to decline*?"

Participant 8 Lender 3: “*For us, we would collaborate with somebody else, or we'd go to a credit forum. We'll take borderline deals to the forum. So, you'll get more than one voice around the deal. And that's when you would be able to pick up from somebody who's had the experience, who knows the industry or knows a similar client in the same industry who can then provide that background to say no or yes it does make sense. They can provide useful insights into the nature of their businesses.*”

Participant 6 Lender 1: “*I’d like to add that normally, the decline ratio in SMEs is quite low, say between 5% and 7% or so that means if we have the information to make a decision, normally we try hard to make a deal of it*.”

5.6 Conclusion

The participants provided comprehensive insights that specifically address research questions 1 to 4. There were additional insights that provided the context of why accurate and reliable information is so important when assessing credit risk for SMEs, especially in the absence or lack of financial information. It was evident that all the participants had in-depth knowledge of the SME segment. The subliminal message that came across from the interviews was that the credit risk decisions they make take into consideration various factors and include the perspective of the lender and the borrower.

The following chapter will discuss these results in detail and contextualize them based on the literature.

6. Discussion of Results

6.1 Introduction

This chapter focuses on the discussion of the results presented in Chapter 5. These results were gathered based on the qualitative methodology described in Chapter 4. The purpose of this research is to gain insights into the challenge faced by SMEs in South Africa with access to finance from commercial banks. The research aims to understand this challenge from the lender's perspective through the lens of the decision-making theory of heuristics. The supporting literature in Chapter 2 details the various factors that influence and impact SMEs' access to finance including financial and non-financial factors. Therefore, to position the focus of this research, 4 research questions are proposed in Chapter 3 to collectively address the problem identified in Chapter 1 and to contribute to academic literature and provide recommendations for SMEs and banks which will be discussed in Chapter 7.

6.2 Discussion of Results for Research Question 1

Research Question 1: Why do SMEs in South Africa experience constraints in accessing finance from commercial banks from the SME credit lenders' perspective?

The purpose of research question 1 was to understand how lenders define and categorize SMEs as well as the lender's perspective on the constraints faced by SMEs in accessing finance from commercial banks.

The participants broadly defined and categorized SMEs based on their turnover, the number of their employees, the size of their balance sheet, the complexity of the business structure, and the quantum of their credit requests. Each of the participant's understanding of what constitutes an SME applicant varied and it was evident that there isn't a consistent and definite description. The nuance that was unearthed was that there are levels of SMEs and their credit needs and available information differs. Participant 3 Lender 2 described how there are survivalists and businesses, where survivalists open businesses to survive each day and they are often unbanked. Participant 1 Lender 1 described that the SMEs in the R2,5m – R7,5m are businesses that often rely on a single tender or contract. This segment within SMEs faces debtor concentration risk as they have one main source of income for which the terms are dictated to them. Participant 1 Lender 1 also advised that the SMEs below that, the ones with turnovers between R0 – R2,5m are the most difficult to finance and they form a significant portion of SMEs. Participant 10 Lender 1 introduced that the small business portion has a turnover of up to R20 million and often the medium (growth) segment is forgotten with turnovers of between R20- to R50 million.

All of the participants, in their nuanced ways, understand that the constraint of accessing finance from commercial banks for SMEs exists however since the banks are governed by strict regulations to prove affordability and sustainability, the onus is for SMEs to position themselves better within the banking rules of engagement. Some participants highlighted that an SME business is often a one-man show and the jockey plays the role of the salesperson, the accountant, human resources, and finance all in one. These jockeys are often not skilled to take on all these roles and the fundamental skills that lead to access to finance constraints include financial and business acumen. All the participants highlighted that the jockey doesn't understand the financial operations of their business and they know how to read their financials. Therefore, when the bank requests insights into their balance sheet or cash flow then the jockey is unable to address this adequately and their relationship with the banker is not adequately leveraged as support or guidance. Lastly, Participant 7 Lender 1 recognizes the social responsibility that the banks have in the growth of SMEs in South Africa and describes SMEs as the future of South Africa in terms of employment and people's ability to be self-sufficient.

Jude et al. (2018) acknowledge the challenge of access to finance for SMEs as a persistent problem and argue that banks play an indirect role to stimulate economic growth by opening up the financial resources channel via access to bank credit to SMEs. Brei et al. (2020) recognize that access to finance for SMEs is a vital factor for their growth and access to working capital and SMEs are disproportionately affected by credit constraints. SMEs' constraint to access to finance, therefore, hinders their ability to play an important role in economic growth (Brie et al., 2020). Research by Choudhordy & Goswami (2019) represents various studies on the financing gap experienced by SMEs from 2005 – 2016 and it reveals that in emerging markets, over 50% of formal SMEs and up to 72% of informal or micro-enterprises globally struggle with access to credit.

Information asymmetry, poor credit history, lack of expertise in financial statements and the ability to provide collateral contribute to the credit constraints faced by SMEs (Brei et al., 2020). The issue of a lack of hard information (such as cash flow projections, business transaction track record or credit history, financial statements, experience in their field of business, and resources to support the lending) is described by Van Klyton & Rutabayiro-Ngoga (2017) as a “formidable” barrier and it emanates from the informal and stand-alone nature of SMEs. This implies that the nature of SMEs compared to larger enterprises could be the reason behind the continued inability to provide the hard information required by banks which facilitates transaction-based lending. As a mechanism to overcome information asymmetry, banks make use of relationship-based lending which is more suitable for SMEs to gain qualitative (soft) information through the relationship between the bank employee and the SME business owner (Van Klyton, 2017). This soft information, although useful, is difficult to quantify or give credit risk-related weighting therefore it is subject to interpretation as it moves through the communication structures of the bank (Van Klyton, 2017). The lenders perspective is important to assess as the bank employee, in relationship-based lending, must be able to extract the right information (hard or soft) and accurately communicate that information through the structures within the bank to return a holistic response to the borrower and this is often ignored by literature (Jude et al., 2018). Therefore, there is a rising consideration of how SMEs are a source of people’s livelihood, especially since the private and government sectors have been unable to absorb the growing demand for employment (Choudhordy & Goswami, 2019). Jude et al. (2018) state that in Africa, SMEs have the potential to play a key role in lessening poverty and contributing to economic growth.

Therefore I conclude, there is alignment in the insights provided by the participants on the existence of constraints to SMEs’ access to finance from the bank however they did not explicitly connect the impact back to the important role SMEs play in the greater economic climate in South Africa or the indirect role that banks play in stimulating economic growth through SME credit finance. Except for 1 participant who explicitly mentioned the social responsibility role they play. Therefore, in answer to research question 1, SMEs in South Africa experience constraints in accessing finance from commercial banks firstly because of the informal and stand-alone nature of SMEs.

Secondly because of the high information asymmetry that exists with SMEs. Bank finance from the lender's perspective and supported in literature is fundamentally based on hard information to assess credit risk and the probability of default. The lack of financial information and bad credit history of the jockey, lack of own contribution or collateral to share the risk all contribute to the resultant constraint to credit finance. Lastly, the distance in the relationship between the bank employee and the SME owner (jockey) as well as the quality of information shared in this relationship contributes to the constraint to finance since this is a source of soft information that can support the lack of hard information which is well considered by SMEs.

6.3 Discussion of Results for Research Question 2

Research Question 2: What high-risk credit lending factors affect SMEs' access to commercial bank finance?

The purpose of research question 2 was to technically understand what the lender deems as high-risk factors for SMEs.

Interview questions 9 to 13 aim to address research question 2 by questioning what the high-risk factors are and how the lenders measure these risk factors for SME applicants. Particularly, what tools lenders use to measure SME high-risk factors.

The responses to these questions were similar to those provided in the preceding questions related to research question 1. The factors that were used to describe why SMEs face constraints are the same factors that the participants used to describe the high-risk factors that affect SME credit lending. The key factors highlighted include the "one-man show" and the "jack-of-all-trades" characteristics of the SME owner; their inability to provide collateral or cash deposit to lower the risk associated with the credit lending; the thin capital base or balance sheet to lend against, the concentration of one main source of income (contract/debtor) and the limited control they have over that contract/debtor. The participants provide insights on how these factors are high-risk factors. For example, the "jack-of-all-trades" characteristic means that the SME is playing multiple roles in their business however they do not have the skills to do it all, specifically they do not have the skills to manage the cash flows and finances of the business. This is described as high risk by the participants since the repayment-ability of credit lending is based on the current or future cash flows of the business therefore the SME must articulate this in the application to address adequate repayment-ability. If the credit lender cannot prove repayment ability, this increases the probability of default. Similarly, the inability to provide collateral or provide a cash deposit is a high-risk factor because the SME cannot share the risk of default with the lender. Participant 4 Lender 1 states that should anything happen that affects the SMEs' source of income, the risk of the business not surviving is high since they do not have a fallback position in collateral or capital in the business to sustain the business and cover the liabilities. Participant 1 Lender 1 references how an SME often rents a premise under the rules of the landlord, therefore should the SME not be able to pay their rent or damage the landlord's property then that landlord will have first recourse to any assets on the premises even if they are under finance or if they have been provided as collateral. Therefore, the risk of losing the fallback position in the tangible assets is high. The consensus among the participants is that several high-risk factors affect SME credit lending, the high risk is in the SMEs' ability to meet the debt obligation on time every time for the duration of the debt.

The tools used to measure credit risk or predict default risk for SMEs are different from those used for larger enterprises. The difference is that there is a reliance on the SME owner and the business behavior which is evident through bank statements, financial statements, credit bureau inquiries, and other reputable sources of information. That forms the quantifiable data that informs the behavioral risk grading. This risk grading is system generated particularly based on internal data for SMEs who bank with that lender in conjunction with the external data sources. When the internal conduct is good, Participant 6 Lender 1 stated that they are more likely to approve the credit application as the system will generate a low-risk grading. The relationship the SME has with the bank can work in their favor and increase access to lending when the credit decision-maker has cited good internal conduct: how the business and personal bank account is conducted, cash flow fluctuations in the business account, no evidence of unpaid or returned debit orders and no arrears on existing debt. If the SME does not have a business account with that lender, their bank statements reveal the same conduct in a limited view as the bank requested the latest statements over some time. Most of the internal default risk prediction models based on behavior look at a trend over a period of 12 months. In addition, should there be no internal behavioral risk grading then the SME must provide their latest annual financial statement so that the bank can calculate the default grading (DG). The DG ranges from DG 1 – 21, where DG 1 is low and limited lending is provided for customers DG 16 – 21 as these are viewed as customers with a high probability of default based on the latest financial statements of the business. The financials are assessed based on financial ratios which are compared to industry norms when the SMEs' financial ratios are higher than the industry norms then the risk of credit lending is high and the resultant DG will be high.

The absence of information or the information asymmetry that exists between SMEs (borrowers) and the banks (lenders) leads the SMEs to be viewed as high-risk by the bank (Shi et al., 2018). The accurate calculation of the probability of default risk for SMEs is difficult to obtain due to insufficient financial information available, hence it is challenging for lenders to make credit lending decisions based on limited available data (Roy & Shaw, 2021). The limited information provided by SMEs is predominately incomplete, inaccurate, or inconclusive, and therefore credit risk is by default high as it is difficult to measure (Shi et al., 2018). The interest of the credit decision-maker is the ability to distinguish between bad and good applications supported by the relevant information, in the absence of that information credit decision-makers often opt for the safer decision to decline risky enterprises to avoid the high probability of default (Shi et al., 2018; Roy & Shaw, 2021). A single-person-owned enterprise is also more likely to experience bankruptcy and is subject to a higher probability of default as the owner is not accountable to other stakeholders regarding the business conduct or performance (Waisiuzzaman & Nurdin, 2018). Waisiuzzaman et al. (2020) provide the perspective of the lenders and state that the inability to provide collateral, the lack or poor credit history, and the lack of supporting financial documentation create the challenge for banks to assess the creditworthiness of SMEs. As a result, they are perceived as high-risk as they are viewed as un-creditworthy (Waisiuzzaman & Nurdin, 2018; Waisiuzzaman et al., 2020).

Banks make use of credit scoring models that are driven by quantitative data, particularly financial ratio-based data however financial data alone is insufficient to accurately predict default risk for SMEs (Roy & Shaw, 2021). Hence, banks also place reliance on relationship-based lending and various reputable source do information to inform their probability of default predictions (Roy & Shaw, 2021). Roy & Shaw (2021) suggest multi-criteria decision-making models (MCDM) that simultaneously and systematically assess non-financial and financial information with the available data. Since credit lending is based on credit scoring models, an MCDM model will allow credit decision-makers to asses SMEs' repayment ability better as the risk evaluation process requires careful evaluation (Roy & Shaw, 2021). An important determinant of credit lending behavior can be attributed to the bank's risk appetite at a point in time (Roulet, 2018). Therefore, in difficult economic times when there is a credit crunch, the economy faces high credit risk as the borrower's probability to fail to meet their debt obligations rises. Hence, banks will respond by lowering their risk appetite in sectors (such as SMEs) that are perceived to experience the highest probability of default as they do not have a fallback position in the form of capital or collateral compared to larger entities (Roulet, 2018).

Therefore I conclude that the high-risk factors that constrain SMEs' access to credit lending from banks are the same factors that make up an SME: the business structure is flat and often a one-man show with a jockey who plays multiple roles in the business; the financial information is limited and the balance sheet has low capital or tangible assets to provide as collateral and their source of income is often concentrated on one debtor or contract where the terms are dictated to the SME. Furthermore, poor recordkeeping and inconsistent data from reputable sources lead to inconclusive evidence to prove repayment ability and creditworthiness therefore SMEs default to being regarded as uncreditworthy which results in the perception of high risk. These are the factors from the lenders' perspective that result in the constraint SMEs face regarding access to finance from the bank. Important to note is that both financial and non-financial data are used by the banks specifically for the SME segment and the relationship-lending model can be better utilized by SMEs to communicate their creditworthiness and by banks to decrease the probability of default for SME customers

6.4 Discussion of Results for Research Question 3

Research Question 3: What decision-making strategies do bank SME lenders use to inform their SME lending decision?

The purpose of research question 3 was to gain insights into decision-making strategies used in the risk evaluation process to inform their SME lending decision.

All the participants advised that there are broadly 3 possible outcomes to the lending decision (across segments) and they are approved, declined, or referred back sender for additional information. The first 2 were more straightforward to understand but the “refer back to sender” outcome seemed to be more nuanced. It was evident that the information that the credit decision-maker received to make the final decision is based on information from the banker and not directly from the customer. Therefore, the chain of communication starts with the banker-customer interaction. This then highlights the insight gained in research question 2 of relationship-based lending and the SMEs’ ability to leverage that relationship. The quality of the information that the decision-maker received, by implication, is based on the quality of the exchange of the information in the banker-SME relationship. Some of the participants stated that they often “refer back to sender” for additional information as there is potential to approve the deal, otherwise if they know there is no potential in the deal then they will outright decline it. It was interesting to hear this notion of the ability to “see” when they can “make” a deal work that the participants alluded to. This provides insights that although there is a standardized risk evaluation process that takes into account hard and soft information, there are human capital factors by the individual that influence the final decision.

The credit risk evaluation process for SMEs has limited information for the credit decision-makers to use to make the final decision. They make use of a standardized process of the 5Cs of credit to assess the applicant, together with the behavioral risk grading and default grading models. The 5Cs of credit as discussed in chapter 2 include capacity, character, and collateral which seem to be the most important aspects of the credit risk evaluation process. The participants emphasized the character of the jockey is significant, proving the capacity to meet all the debt obligations now and for the duration of the loan is critical and the SME’s ability to share the credit risk through collateral or cash contribution are all part of the considerations in credit risk evaluation. The individual decision-maker evaluated the 5Cs subject to their lens, meaning that this information is subject to interpretation. The first layer of interpretation occurs when the banker presents the SMEs application to the credit decision-maker (together with the available supporting documents) and the second layer of interpretation occurs when the decision-maker evaluates the 5Cs together with all the supporting documentation. Credit experience and intuition influence the participants on average had 17 years of SME credit decision-making experience and they referred to the ability to “see” if a deal is going to work or not, there is a gut feeling that they have based on previous exposure to SME credit lending and the experience of past decisions. This then potentially leads to loss aversion which influences whether or not they will lend to an SME customer who has similar characteristics to a past SME customer whose default risk was high or with whom the bank experienced a loss.

In the early stages of a business life cycle, it is common for businesses to fail due to poor internal conduct and in this stage, the business has minimal retained earnings to build a capital (equity) base therefore the need for external lending is high (Waisiuzzaman & Nurdin, 2018). Typically, SMEs in their start-up or early stages there require external lending from banks to support their growth and sustainability (Waisiuzzaman & Nurdin, 2018). The SME ownership structure is predominantly a sole proprietor or a single shareholder however banks may find this ownership structure unattractive and perceive it to have a high probability of default because it often results in the intermingling of resources where it is difficult to differentiate between personal and business resources (Waisiuzzaman & Nurdin, 2018). Information asymmetry affects the credit risk evaluation process and leads to adverse selection since the borrower who has higher credit risk is more likely to need and request external lending and the consequence of which is a moral hazard where they have a lower willingness to repay the loan (Waisiuzzaman & Nurdin, 2018). Yet, the lack of public or formal records, limited formal business controls, and limited credit history is not unusual for SMEs (Palazuelos et al., 2018). Since banks use the information to reduce uncertainty, then the availability of useful information from other reputable sources plays an important role in the credit risk evaluation process (Palazuelos et al., 2018). The reliance on the “character” component of the 5Cs of credit means that the business owner’s personal credit history influences the credit lending decision outcome of the business, therefore a no or bad credit history increases the chance of a decline outcome as that infers a behavior trait to predict the probability of default risk by the SME applicant (Waisiuzzaman & Nurdin, 2018). Furthermore, Waisiuzzaman et al. (2020) add that banks are less likely to lend to SMEs due to their low capital structure, high mortality rate, and low asset base hence there is a need to find mechanisms to lower the risk of default through requesting additional information and placing reliance on collateral, the prospect of future income or cash contribution (deposit) (Waisiuzzaman et al., 2020). The natural response from a credit decision-maker is to seek additional information to lessen the uncertainty of the applicants' probability to meet their loan obligations (Palazuelos et al., 2018). The quality of the information provided upfront influences the credit decision-makers' perception of risk and uncertainty (Palazuelos et al., 2018). Therefore, when the SME provides useful information upfront and in response to additional information, this is taken as a signal of transparency and a commitment to remain honest with the bank by the SME (Palazuelos et al., 2018). This increases the credit lender's confidence in the information provided and decreases uncertainty in the decision-making process will more likely result in a loan approval for the SME (Palazuelos et al., 2018). Ondolos et al., (2021) frame the credit decision-making process as one that is influenced by rational and irrational factors. Rational factors are related to the financial documentation as well as the standardized process of evaluation through the 5Cs of credit and irrational factors are unique to the individual's human capital and behavioral factors such as credit experience, intuition, and loss aversion (Ondolos et al., 2021).

Therefore I conclude that the decision-making strategies that the credit decision-maker go through are analytical in nature and there is a considerable amount of data gathering internally and externally together with an extensive weighing of alternatives to reach the final decision of approval, decline, or refer back to the sender. The use of hard information, specifically financial information, is a critical part to reduce uncertainty and the probability of default risk but the use of soft information and the interpretation of which is subjective plays a significant role in the outcome. The SME's character, business acumen, and financial literacy form part of the considerations that influence credit lending to the point where it seems like that information has the potential to influence a positive decision outcome.

6.5 Discussion of Results for Research Question 4

Research Question 4: Can heuristics be used as an adaptive decision-making strategy to enhance the SME credit risk evaluation process?

The purpose of research question 4 is to gain insights into how heuristics can be used as an adaptive decision-making strategy to enhance the SME credit risk evaluation process. Interview questions 18 and 19 were used to find out how credit decision-makers communicate the final decisions and how they choose in the case of borderline deals.

All the participants advised that they provide reasons for all the final decision outcomes and they must qualify the outcome given back to the banker to communicate with the SME customer. What most of them highlighted is that often an approval may be the outcome however the credit request may not be approved as presented or the approval comes with conditions of grant. The credit-decision maker has the discretion to evaluate the request and conclude that there is an alternate manner to meet the SME customer's need. Therefore, using the limited information provided, they can assess the SME need based on their industry knowledge, credit experience, and prior SME exposure to determine the best manner to solve the credit request. How the final decision is adapted depends on various factors and the environment of that specific request, there is no blanket approach. The participants advised that when the decision is borderline, there are 2 justifiable outcomes, they reach out to a credit colleague or higher mandate holder for collective knowledge and expertise. This also means there's a collective decision which lessens the pressure to justify the outcome alone.

Participant 7 Lender 1 emphasized that not all approvals will be successful and that is the nature of the role of a credit decision-maker. With experience in the role, one can give the customer the benefit of the doubt as long as you find risk-mitigating mechanisms. The consequence of responding with too many declines means that we worsen the constraint to access to finance for SMEs because we fear making the wrong decision. Participant 3 Lender 2 went as far as stating that in the SME space there is an unspoken gamble, a calculated gamble because one never knows with SMEs. This implied that if there are enough factors to say yes and you can mitigate against the factors to say no then proceed with approval as the outcome. There is a greater responsibility to grow SMEs while protecting the positing of the bank.

Overall, the participants stated that there is a low percentage of declines as they try their best to make a deal work, the onus is on the SME to provide all the available information and insights about the business and how the requested finance will assist the business to grow and how they intend to meet their loan obligations. They also emphasized the role of the banker to communicate and advise customers from a financial perspective.

Decision-makers make use of cognitive strategies in judgment tasks and fast and frugal heuristics refer to the task-specific simple decision strategies that form part of those cognitive strategies (Rauwerda & De Graaf, 2021). Gigerenzer (2008) describes the mind as an adaptive toolbox in which individuals choose between various heuristics consciously and unconsciously to make decisions, especially in the presence of high uncertainty. Luan et al., 2019) state that effective decision-makers adapt and select the appropriate decision strategy based on the structure of the environment. The strategy is deemed ecologically rational when it achieves the goal, for example, accurate predictions, for a specific type of task. Therefore, ecological rationality challenges the perspective that heuristics are second best and argues that better decisions can be made using less information and that “less can be more” especially in judgment tasks in uncertain environments (Luan et al., 2019).

In an uncertain context, simple heuristics may result in faster and better decisions (Rauwerda & De Graaf, 2021). Based on bounded rationality, individuals make decisions within the cognitive limitations of the time available and the mind (Rauwerda & De Graaf, 2021). Credit decision-makers make use of their intuition, and unconscious use of heuristics, during their risk evaluation process as the basis of a judgment (Ondolos et al., 2021). Intuition is when an individual makes use of less hard information but rather experience and perceptions of knowledge to reach a decision, hence subjective judgment includes impressions and gut instinct (Ondolos et al., 2021). Gigerenzer (2008) describes intuition as a fast judgment whose mechanism is unconscious but is strong enough to act on. The more conscious heuristics include recognition heuristics which is how one places a higher value on the alternative that is recognizable as opposed to the one that is not recognizable (Gigerenzer, 2008). The other is the take the best heuristics strategy when one is faced with 2 alternatives then search for cues in order of legitimacy and stop once they have found a contradictory cue and make the final decision based on the contradictory cue (Gigerenzer, 2008). Heuristics decision strategies are neither bad nor good but rather “rules of thumb” that individuals use adaptively based on the decision-makers’ experience or knowledge and their accuracy is dependent on the context of use (Rauwerda & De Graaf, 2021).

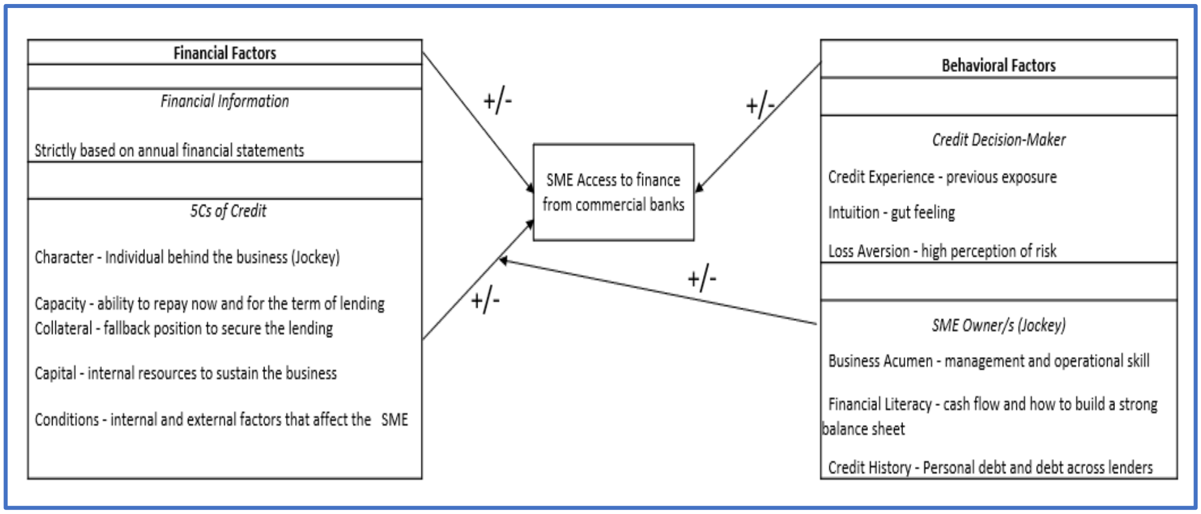
Therefore I conclude that heuristics can be used as an adaptive decision-making strategy to enhance the SME credit risk evaluation process. The main hindrance from the participants' perspective and based on supporting literature is that SMEs provide very limited information and often minimal reliance can be placed on the information provided. Thus, fast and frugal heuristic decision-making can lead to faster and better decisions with less information when used in the correct context or environment. It is evident that heuristic strategies such as recognition and "take the best" are already used in the credit risk evaluation process as well as intuition based on credit experience or knowledge. The question worth further investigation is whether these heuristics are used adaptively and in the correct context to increase the likelihood of better decision-making.

6.7 Conclusion

Based on the discussion of the results of all 4 research questions and adapted from Ondolos et al. (2021) Conceptual Framework of Bounded Rational Bank Officer's Credit Decisions the resultant conceptual framework of SMEs' Access to Finance from Commercial Banks, Figure 4, was developed by the researcher. The conceptual framework aims to demonstrate the various factors that influence SMEs' access to finance from commercial banks from the perspective of the lender. The insights from the interviews highlighted that the SME owner (jockey) plays a critical role over and above the hard and soft information. Their credit history, financial literacy, and business acumen influence the character, capacity, and collateral component that is fundamental to the lending decision. This was a qualitative study and therefore the relationships between the constructs can have a positive or negative influence as well as direct and indirect impact. A quantitative study would be required to test the statistical significance and accurate direction of these relationships which was outside the scope of this research.

Figure 4: Conceptual Framework of the SMEs' Access to Finance from Commercial Banks

Adapted from Ondolos et al. (2021)


Financial Factors
Financial Information
Strictly based on annual financial statements
5Cs of Credit
Character - Individual behind the business (Jockey)
Capacity - ability to repay now and for the term of lending
Collateral - fallback position to secure the lending
Capital - internal resources to sustain the business
Conditions - internal and external factors that affect the SME
+/-
+/-
SME Access to finance from commercial banks
+/-
+/-
Behavioral Factors
Credit Decision-Maker
Credit Experience - previous exposure
Intuition - gut feeling
Loss Aversion - high perception of risk
SME Owner/s (Jockey)
Business Acumen - management and operational skill
Financial Literacy - cash flow and how to build a strong balance sheet
Credit History - Personal debt and debt across lenders

7. Conclusions and Recommendations

The important role of SMEs globally has been emphasized in academic literature and one of the main hindrances to SMEs reaching their potential is access to finance from formal institutions such as banks (Choudhury & Goswami, 2019). To quantify this challenge, up to 55% of formal SMEs and up to 72% of micro and informal SMEs do not have access to finance which amounts to up to 315 million enterprises according to a McKinsey & Co. and IFC study cited in Choudhury & Goswami (2019). In 2015, the global value of unmet SME credit demand was approximately $5 trillion mainly due to a lack of collateral and credit history (UNSGSA, 2018). Access to finance is not directly one of the SDG goals however, on an individual and business level it has the potential to accelerate progress in SDGs 1 – 9 (UNSGSA, 2018; Kara et al., 2021). Some of the SDG 8 targets address access to finance including encouraging growth and formalization of SMEs through access to financial services and increasing access to banking for all through strengthening the capacity of financial institutions (UNDESA, n.d.). Furthermore, SDG 9 targets aim to grow access of small-scale enterprises, specifically in developing countries to affordable credit and financial services (UNDESA, n.d.).

The challenge faced by lenders, particularly banks is that SMEs have limited collateral, have bad or no credit history in their personal or business capacity, cannot provide quality financial statements due to poor record keeping and overall information asymmetry exist between the borrower (SME) and the lender (banks) (Brei et al., 2020). This is a challenge from the lenders' perspective and access to finance constraints from the SMEs' perspective. The research aimed to explore a nexus between these two worlds through the decision-making theory of heuristics. Heuristics are 'rational' decision-making strategies in unpredictable markets and be more effective compared to cognitive demand, information-intensive approaches (Luan et al., 2019). Credit decision-makers are faced with the critical decision to lend or not to the unpredictable and dynamic SME market. In that role, credit decision-makers have limited human mental capacity to consider all the alternatives of the complex decision to lend or not to SMEs and therefore rely on behavioral factors or human capital to simplify the decision-making process with limited SME information (Ondolos et al., 2021).

The complex interconnected and interdependent nature of SME credit lending is a wicked problem that the research aims to understand through the lens of the lender focused on research questions 1 – 4 as presented in Chapter 3 and discussed in Chapters 5 and 6. The following sections will address the principal conclusions based on these research questions, the theoretical contribution of this research, and implications for management and other stakeholders. Thereafter, Chapter 7 will close off with limitations of the research and suggestions for future research.

7.1 Principal Conclusions

7.1.1 Research Question 1

Banks play an indirect role to stimulate and drive economic growth by alleviating the constraints faced by SMEs as they are the main sources of financial resources for SMEs (Jude et al., 2018). In South Africa, SMEs experience constraints in accessing finance from commercial banks firstly because of their informal and stand-alone nature. The financial issues of SMEs are subject to their legacy of informality, especially in sub-Saharan countries (Van Klyton & Rutabayiro-Ngoga, 2017). Lenders, specific banks, make use of credit risk models that are fundamentally based on hard information to predict the probability of default which informs the credit risk of SMEs. The lack of financial information and bad credit history of the jockey, lack of own contribution or collateral to share the risk all contribute to the resultant constraint to access to finance (Van Klyton & Rutabayiro-Ngoga, 2017).

Thus, information opaqueness is a key constraint for SMEs and their lack of resources or experience limits their ability to provide the required hard information to unlock their access to finance from the bank (Van Klyton & Rutabayiro-Ngoga, 2017). As a result and through recognition by the banks of this constraint, provision for soft information through the banker and SME relationship is permitted (Van Klyton & Rutabayiro-Ngoga, 2017). Therefore, the distance in the relationship between the banker and the SME owner (jockey) as well as the quality of information shared in this relationship contributes to the constraint to access finance and can be used more effectively by the bank and the SME to increase access to finance. Jude et al. (2018) emphasize that a "good" relationship between banker and SME is based on the closeness of the relationship which enables an SME better access to bank facilities and the embeddedness of an SME in terms of transactional banking which enables more competitive interest rates

(Jude et al., 2018). Furthermore, the role of the banker is significant to extract useful information from the SMEs and accurately communicate that information across the communication channels that lead to the credit decision-maker (Jude et al., 2018).

Therefore considering the unprecedented global changes of the financial crisis in 2007 – 2009 and the recent COVID-19 pandemic which affected all enterprises significantly, especially SMEs due to their financial vulnerability, then the credit risk model used to predict the probability of default for SMEs must also change to accurately measure SME credit risk in a manner that accounts for SME characteristics (Van Klyton & Rutabayiro-Ngoga, 2017; Ciampi et al., 2021). In addition, a better focus needs to be placed on the relationship between the bank and the SME by banks and the SME to increase access to finance (Jude et al., 2018).

7.1.2 Research Question 2

Credit risk for SMEs is difficult to measure and often leads to unsecured lending, which makes SMEs high risk (Shi et al., 2019). The high-risk factors that constrain SMEs' access to credit lending from banks are the same factors that make up an SME: the business structure is flat and often a one-man show with a jockey who plays multiple roles in the business; the financial information is limited and the balance sheet has low capital or tangible assets to provide as collateral and their source of income is often concentrated on one debtor or contract where the terms are dictated to the SME. The basis of credit risk models was first proposed in 1974 by Merton as cited in Shi et al. (2019) and they used listed company financial data to determine the probability of default which is the point in time probability that the enterprise's assets are greater than the liabilities. Therefore, if the assets are less than the liabilities, there is a high risk of default. SMEs by nature has a low asset base which means their capacity to lend (increase liabilities) is low, therefore structurally their access to finance based on balance-sheet lending will be low (Shi et al., 2019). These models do not take into account external non-financial factors of the probability of future income or macroeconomic conditions. In their study, Shi et al., (2019) were able to prove that nonlinear multi-criteria decision-making models are effective in accurately calculating the probability of default and loss given default based on farmers in China. This implies that the current credit risk models can be improved and this will encourage banks to seek advanced ways to verify SME credit ratings and so increase their risk appetite for the SME sector. Roy & Shaw (2021) state that their proposed multi-criteria decision-making model is robust, simpler to use, cost-effective to implement, and useful particularly in unpredictable financial situations.

However, SMEs may find that their loan application may be declined despite the availability of collateral because of the low confidence the bank has in the SME owner (jockey) (Jude et al., 2018). Banks make use of the 5Cs of credit to evaluate credit risk and to inform their lending decision and "Collateral" is only one aspect of that evaluation process (Ondolos et al., 2021). Some literature and feedback from the participants highlight that "Character" plays a significant role in lending decisions (Ciampi et al.,2021; Ondolos et al., 2021; Roy & Shaw, 2021). This implies that an SME customer may provide financial information that supports the "Capacity", "Capital" and "Collateral" aspects but if there is evidence of a bad credit record, behavior of unpaid debit orders, or arrears on existing debt then the loan will be denied as the "Character" aspect of the 5Cs is not satisfactory.

Bank makes use of both financial and non-financial data specifically for the SME segment and the relationship-lending model can be better utilized by SMEs to communicate their creditworthiness and by banks to decrease the probability of default for SME customers. The weight of negative soft information against the SME (such as a bad credit record) seems to be higher than positive soft information however this was not explicit in the literature or the responses from the participants.

7.1.3 Research Question 3

The decision-making strategies that the credit decision-maker goes through are analytical in nature and there is a considerable amount of data gathering internally and externally together with an extensive weighing of alternatives to reach the final decision of approval, decline, or refer back to the sender. From the interviews there was an expression of a desire to approve more applications however without supporting information, it becomes extremely difficult. The credit-decision makers' intentions and perceptions are important to understand as it affects the cognitive risk evaluation process which influences the underlying decision to lend or not (Palazuelos et al., 2019).

The use of hard information, specifically financial information, is a critical part to reduce uncertainty and the perception of risk but the use of soft information and the interpretation of which is subjective also plays a significant role in the final decision outcome. The credit decision-makers' risk evaluation process has a component of a standardized process with the use of the credit risk models or tools and assessment using the 5Cs of credit. The other component of the risk evaluation process is based on the subjective interpretation of information that confirms or reduces the credit decision-makers' perception of risk for the SME. When SMEs provide useful information to the bank upfront or promptly, the perceived risk of default reduces (Palazuelos et al., 2019).

The reduction in the perceived risk of default results in an increased willingness by the credit decision-maker to lend to that SME. Waisiuzzaman & Nurdin (2018) provide a perspective of the borrower's (SME) perception of risk and state that SMEs with various financing options are likely to request finance from banks however there is also evidence that SMEs with a bad credit record are likely to request finance from banks regardless of their negative credit history. Therefore, it is for the bank to differentiate between these two SMEs in the credit risk evaluation process. That process of differentiation is based on rational and irrational factors and moderated by human capital factors as presented in Figure 4 (Ondolos et al., 2021). Important to highlight in terms of irrational factors is the role intuition and loss aversion have in the risk evaluation process and these factors are often overlooked. These irrational factors are positively or negatively moderated by the credit decision-makers' credit experience, emotional intelligence, and financial education (Ondolos et al., 2021). Emotional intelligence and financial education were not explicitly monitored in this research however credit experience was monitored. The average experience of the participants was 17 years, the highest level of experience (in the number of years) was 30 years and the lowest was 2.5 years. The participants advised that with experience one can give the SME borrower the benefit of the doubt and one can see what will make an application work. This confirms the subjective judgment that influences the credit risk evaluation process and informs the decision to lend or not.

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7.1.4 Research Question 4

Kozyreva & Herwig (2021) argue that the principle of more information is ineffective in situations of high unpredictability or uncertainty and instead "less is more" is an ecologically rational approach that is more effective and can lead to better predictions and decisions. Furthermore, low levels of uncertainty occur when the environmental structures are predictable and familiar, and unexpected external shocks do not disrupt the decision-making process (Kozyreva & Herwig (2021). Based on the responses from the participants and supported by literature, the SME environmental structures are dynamic and are exposed to high degrees of uncertainty since important information is often unknown (due to information asymmetry and opaqueness) when the lending decision needs to be made (Ciampi et al., 2021; Kozyreva & Herwig, 2021; Roy & Shaw et al., 2021).

The decision-making theory of heuristics is described by Gigerenzer & Gaissmaier (2011) as a strategy that ignores some of the information to make decisions quicker, frugally, and more accurately than complex statistical methods. Heuristics can be used as an adaptive decision-making strategy to enhance the SME credit risk evaluation process. The understanding of the ecological rationality of heuristics results in the ability to understand how to use heuristics in an adaptive way (Gigerenzer, 2008). For example, fast and frugal heuristic decision-making can lead to faster and better decisions with less information when used in the correct context or environment, when ecological rationality is applied. Heuristics are often made up of building blocks that can be adjusted and adapted to suit new situations (Gigerenzer, 2008). The "take the best" heuristics strategy could be useful for credit decision-makers and the building blocks involve include the search rule (looking for valid information), then the stopping rule (stop at the first cue that distinguishes between two or more alternatives), and finally the decision rule (choosing the alternative that the distinguishing cue favors) (Gigerenzer, 2008). These rules are already similar to the risk evaluation process described by the participants however it is used in a rigid manner and instead of reaching the decision rule, credit-decision makers stop at the stopping rule and request additional information in the presence of a distinguishing cue. The distinguishing cue can be positive or negative and when it is positive, then additional information is required however when it is negative, the decision to decline is taken. The stopping rule is robust and does allow for confirming reasons as the order of the cues is uncertain and it depends on the weight assigned to the cues (Gigerenzer, 2008). The argument is that negative cues (bad personal credit record) seem to hold more weight than positive cues (good debt repayment in the business). For example, SME applicants that are “too good to be true” must prove that the information they provide is indeed true and for SME applications that have a combination of good and bad nuances, the bad is highlighted. The “less is more” heuristics decision strategy makes use of the available information and aims for a “good enough” outcome rather than an “optimal” outcome (Luan et al., 2019). In situations of uncertainty, based on the theory of bounded rationality by Simon (1955, 1990) as cited by Luan et al. (2019), individuals are faced with cognitive limitations and already make use of simple heuristics such as recognition or similarity to reach a decision.

7.2 Theoretical Contribution

This gap in research on SMEs’ access to finance is described by Ondolos et al. (2021) as an issue neglected in the practices and policies applied in bank lending, even though is a persistent interest and the role of which is well documented. Specifically, there is limited research on SMEs’ access to finance from the supply side, the credit lenders’ perspective (Jude et al., 2018) and there is limited research on the subjective aspects that influences access to bank finance for SMEs in South Africa. A study by Choudhury & Goswami (2019) reviewing literature for the period 2005 to 2016 on the finance gap in SMEs reflects most of the literature is based in the Indian (41%) and European (34%) geographic areas while studies based in Africa accounts for 11%. Specifically, the context of South Africa is important, like in several emerging economies, as the SME sector has been identified as an area that could drive economic growth and inclusion which is a national and business imperative (International Finance Corporation, 2018).

Furthermore, the theoretical contribution of this study will be to add to the school of thought that under common conditions of uncertainty faced by decision-makers, the use of heuristics can and has been proven to result in more accurate decision-making. This research will also add to the body of research on understanding the underlying subjective and behavioral approach to SME lending by credit decision-makers in commercial banks under financial theory and credit risk theory. The study of heuristics is developing and based on the research by Gigerenzer and other rationality scholars the subject has mainly been in the psychology discipline (Gigerenzer, 2007; Gigerenzer & Gaissmaier, 2011). This research expands the theory of heuristics outside the psychology discipline and into the finance discipline to explore decision-making tools that can be integrated into credit risk tools to make quicker, frugal, and more accurate predicts of the probability of SME default risk and improve credit risk evaluations. The purpose of this is to increase access to finance for SMEs who have limited information available by combining behavioral bias theories in the psychology discipline with finance-based theories in the financial discipline. This research thus contributes to the behavioral finance approach to SME lending.

7.3 Implications for management and other relevant stakeholders

SMEs have the opportunity to change constraint factors that are in their control, such as building a good relationship with the bank. This can be done through opening a business account and exclusively using that account for business transactions as this builds an internal track record and displays the discipline of the SME owner(s) to decrease information opaqueness. SMEs can also increase their closeness to the business banker as an ally to communicate their personal and business behavior as part of the credit application process (Jude et al., 2018). Lastly, SMEs can make use of online and affordable mechanisms to upskill themselves in business and financial skills and obtain the relevant expertise that aligns with their business. SME information transparency and behavior have the potential to influence the banks’ trust and confidence in their enterprise which decreases the perceived risk associated with them and in turn increases their likelihood to gain access to finance (Jude et al., 2018).

Banks have the opportunity to increase the volume of banking activity by producing financial products that encourage SMEs to bank their funds, trust that their business model is understood, and the cost of banking is less than the cost of not banking. Furthermore, these products must be designed and built with SMEs’ daily operations in mind. Banks can also decrease their perceived risk for SMEs by ensuring that their services include bookkeeping assistance, business mentorship or coaching, business network opportunities, and financial management workshops as an exclusive benefit to their customers. Decreasing actual or perceived risk with complementary services to SMEs has the potential to decrease SMEs’ probability of default and so increase their access to finance. This increased access to finance can accelerate SME growth which means greater employment opportunities and inclusive economic growth (Jude et al., 2018).

Financial risk model developers have the opportunity to review the existing credit risk models for SMEs and critically analyze their appropriateness to accurately predict the probability of default for SMEs. That means, increasing the capacity for these credit risk models to accommodate SMEs' qualitative predictive variables such as the SME internal characteristics such as the intellectual capital (intangible asset), management ambidextrous capabilities of the jockey, bank-SME relationship, their ability to navigate business shocks and business innovation (Ciampi et al., 2021). The use of multi-criteria decision-making models (MCDM) is a robust approach that can simultaneously assess and provide equal weighting to non-financial (soft), and financial (hard) information which can lead to improved accuracy to SME probability of default prediction tools (Ciampi et al., 2021; Roy & Shaw, 2021). This has an important implication on the resultant credit risk gradings associated with SMEs and so the conditions of collateral and cost of lending that SMEs experience.

Kara et al. (2020. p 13) state that "Financial inclusion in general, and access to credit in particular, may play a key role in achieving the UN's SDGs in eliminating poverty, reducing hunger, achieving good health and well-being, fostering education, reducing gender inequality, providing clean water and energy, promoting full employment and innovation."

7.4 Limitations of the research

The research is subject to some limitations. These limitations include the generalizability of the results due to the qualitative nature of this research. In addition, the research is based on a small, concentrated sample size that is not fully representative of the population and was purposively chosen. The sample was chosen to fit the purpose of the study and the researcher used their judgment to select the participants. Logistics and practicality bias also occurred due to the time limitations of the research and the willingness/availability of the participants. Therefore, the insights gained from the willing and available participants may not necessarily reflect those who declined or were unable to participate.

The majority of the participants were from Lender 1 and predominately located in Johannesburg, therefore there is sampling bias and contextual nuance to the responses and insights provided. Furthermore, access to interview participants from commercial banks was limited hence the concentration on participants from Lender 1.

Secondly, information security is important but also served as a limitation to the research. Confidentiality was crucial for ethical purposes and for the participants to provide deep insights. In addition, specific examples of SME credit ratings or customer-sensitive information could not be provided due to the laws protecting the sharing of information.

7.5 Suggestions for future research

Suggestions for future research include firstly investigating the post-decision effects on SMEs over some time to investigate how the decision to lend or not lend has affected the SME. This will provide data that can be used to confirm or reduce the perceived risk associated with SMEs. Secondly, additional research should be conducted on the outcomes of credit decision-making based on multi-criteria decision-making models and their success rate. This will provide evidence of the usefulness of this tool to increase SME access to finance, existing literature suggests that there is empirical evidence of this. Lastly, due to the complex nature of the access to finance challenge, multi-stakeholder research should be conducted between SMEs, and Lenders (private or public sectors) and their suggestions on the possible solutions that and practical steps that each stakeholder can take. Complex challenges require an iterative process to understand the cause-and-effect relationship as it unfolds. Therefore, when the right stakeholders get a better sense of what the challenge is, they can continuously respond.

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Appendix 1: Ethical Clearance Approval

Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear Nosiphiwo Petros,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS Research Admin team.

Appendix 2: Interview Guide

Good day,

My name is Nosi Petros, and I will be conducting this interview as per the consent form. You are participating in this interview voluntarily and you may withdraw at any time without penalty. All data will be reported without identifiers to ensure confidentiality is maintained. For example, your responses will be referred to as responses from Participant 1 from Lender 1.

We will begin with some introductory questions:

1. Please confirm your current role
2. In your current role, do you make SME finance decisions?
3. How long in your career have you made SME finance decisions?

The following questions will be in line with the 3 key subsets of the research to gain insights from the lender's perspective of how SMEs in South Africa can gain increased access to bank finance. The 3 key aspects include SME formal finance constraints; SME high-risk factors and the decision-making strategies that influence the finance decision.

4. What are the key characteristics that describe an SME applicant?
5. How do you categorize an SME business?
6. What are the main constraints to access to bank finance for SMEs?
7. What are the main contributors to the constraints described in Question 6?
8. What are the available mechanisms that can overcome the constraints described in Question 6?
9. How would you describe high-risk in terms of SME bank finance?
10. List 5 key high-risk factors that are unique to SMEs
11. What tools do you use to measure default risk for SMEs?
12. Do the tools used to measure SME default risk have equal weighting?

    12.1 Please explain your yes/no response.

13. Do the tools used to measure risk for SMEs differ from those used to measure risk in larger businesses?

14. How would you describe the SME risk evaluation process?

15. How would you describe the SME finance decision-making process?

16. Does the SME finance decision-making process enable access for SME borrowers?

    16.1 Please explain your yes/no response.

17. What are the available decision outcomes for an SME finance application?

18. How do you generally substantiate each of the decision outcomes described in Question 17?

19. In scenarios where the finance decision is borderline between 2 outcomes, how do you select the final decision outcome?

Appendix 3: Consent Form

Gordon Institute of Business Science
University of Pretoria

Good day Participant

I am currently a student at the University of Pretoria's Gordon Institute of Business Science and completing my research in partial fulfillment of an MBA.

I am researching the influence of heuristics on SME finance by SME lenders in South Africa and I want to find out more about the subjective decision-making strategies that influence SME lending decision-makers.

Our interview is expected to last a maximum of one hour and it will help me understand how to increase access to financial support for SMEs from the lender's perspective.

Your participation is voluntary, and you can withdraw at any time without penalty. All data will be reported without identifiers to ensure confidentiality.

If you have any concerns, please contact my supervisor or me.

Our details are provided below:

Researcher Name Nosi Petros

Email 21828882@mygibs.co.za

Phone 072 485 9862

Research Supervisor Name Dr. Thembekile Ntshakala

Email thembie.ntshakala@gmail.com

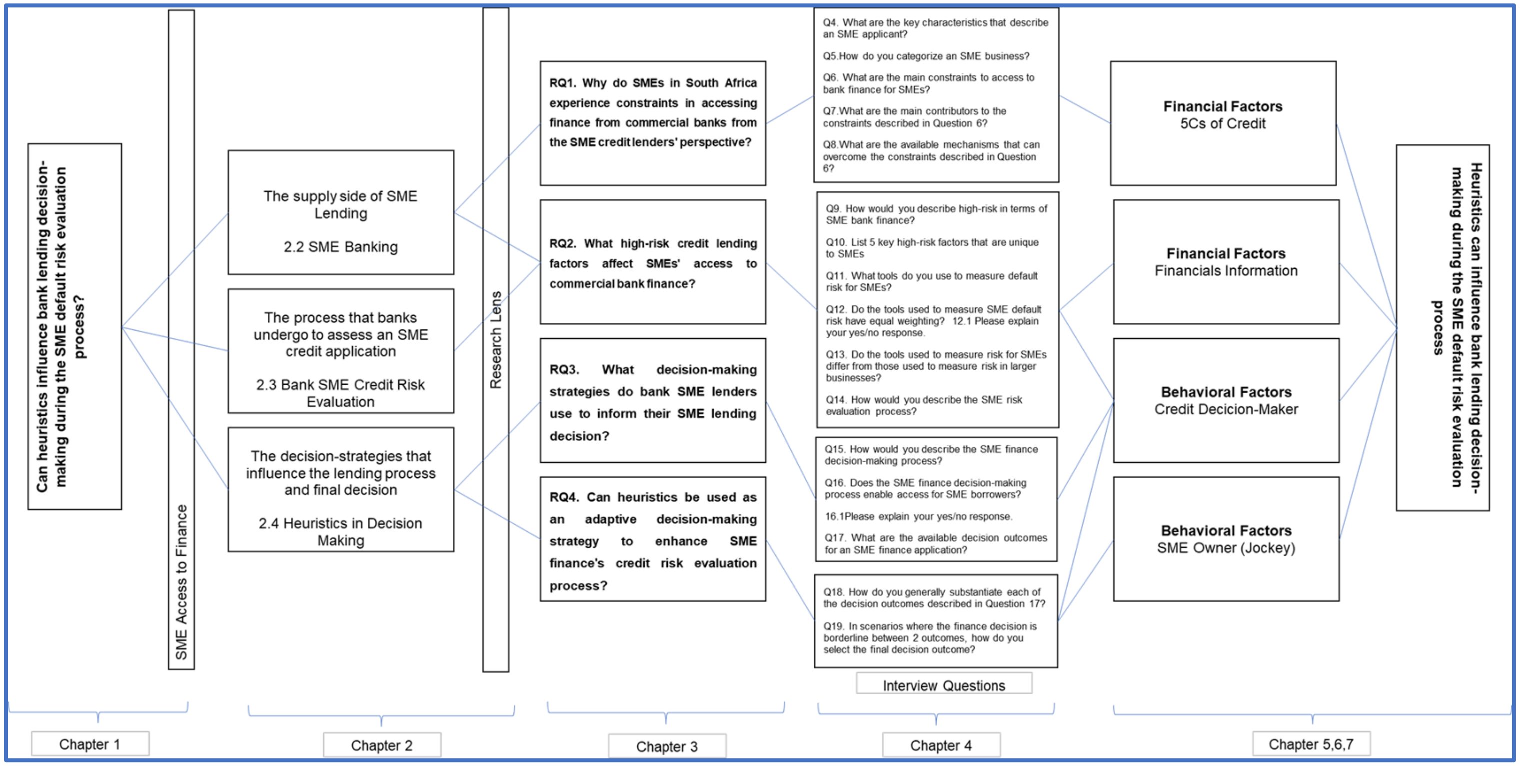
Signature of participant: ____

Date: _____________________________________

Signature of researcher: ____

Date: ___________________________________

Appendix 4: Golden Thread


Can heuristics influence bank lending decision-making during the SME default risk evaluation process?
SME Access to Finance
The supply side of SME Lending
2.2 SME Banking
The process that banks undergo to assess an SME credit application
2.3 Bank SME Credit Risk Evaluation
The decision-strategies that influence the lending process and final decision
2.4 Heuristics in Decision Making
Research Lens
RQ1. Why do SMEs in South Africa experience constraints in accessing finance from commercial banks from the SME credit lenders' perspective?
RQ2. What high-risk credit lending factors affect SMEs' access to commercial bank finance?
RQ3. What decision-making strategies do bank SME lenders use to inform their SME lending decision?
RQ4. Can heuristics be used as an adaptive decision-making strategy to enhance SME finance's credit risk evaluation process?
Q4. What are the key characteristics that describe an SME applicant?
Q5.How do you categorize an SME business?
Q6. What are the main constraints to access to bank finance for SMEs?
Q7.What are the main contributors to the constraints described in Question 6?
Q8.What are the available mechanisms that can overcome the constraints described in Question 6?
Q9. How would you describe high-risk in terms of SME bank finance?
Q10. List 5 key high-risk factors that are unique to SMEs
Q11. What tools do you use to measure default risk for SMEs?
Q12. Do the tools used to measure SME default risk have equal weighting? 12.1 Please explain your yes/no response.
Q13. Do the tools used to measure risk for SMEs differ from those used to measure risk in larger businesses?
Q14. How would you describe the SME risk evaluation process?
Q15. How would you describe the SME finance decision-making process?
Q16. Does the SME finance decision-making process enable access for SME borrowers?
16.1Please explain your yes/no response.
Q17. What are the available decision outcomes for an SME finance application?
Q18. How do you generally substantiate each of the decision outcomes described in Question 17?
Q19. In scenarios where the finance decision is borderline between 2 outcomes, how do you select the final decision outcome?
Interview Questions
Financial Factors
5Cs of Credit
Financial Factors
Financials Information
Behavioral Factors
Credit Decicion-Maker
Behavioral Factors
SME Owner (Jockey)
Heuristics can influence bank lending decision-making during the SME default risk evaluation process
Chapter 1
Chapter 2
Chapter 3
Chapter 4
Chapter 5,6,7

Appendix 5: Frequency Analysis

Participant	No. of Quotations	No. of Codes
1 Lender 1	122	10
2 Lender 1	32	7
3 Lender 2	64	9
4 Lender 1	34	7
5 Lender 3	38	8
6 Lender 1	35	8
7 Lender 1	58	10
8 Lender 3	40	9
9 Lender 1	55	10
10 Lender 1	52	11
Average	**53**	**8.9**
Total	**530**	**89**

Appendix 6: Code Book

Theme	Code	Frequency of code
Financial Factors: Financial Information	Lack of financial information	85
	Bank Requirements	132
	Debtors/Customer concentration risk	34
Financial Factors: 5Cs of Credit	COVID Impact	6
	Categorizing SME	115
	One man operation	23
	Inadequate support	20
Behavioral Factors: Credit Decision-Maker	Role of a good banker	15
	Level of SME	9
	Social responsibility	17
	Number of years in SME credit lending	25
Behavioral Factors: SME Owner (Jockey)	Reputable source of information	22
	Role of a good banker	15
	One man operation	23
	Alternative Funding	12