

MAKERERE UNIVERSITY

MAKERERE UNIVERSITY BUSINESS SCHOOL

ACCESS TO CREDIT FINANCE, ENTREPRENEURIAL COMPETENCY AND FINANCIAL PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN ARUA CITY.

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A RESEARCH DISSERTATION SUBMITTED TO MAKERERE UNIVERSITY BUSINESS SCHOOL (FACULTY OF GRADUATE STUDIES AND RESEARCH) IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER'S DEGREE IN BUSINESS ADMINISTRATION OF MAKERERE UNIVERSITY.

PLAN A

NOVEMBER, 2023

DECLARATION

I, Doreen Ayo declare to the best of my knowledge that, this dissertation is my original work which has never been published and/or submitted for any award in any other University/institution of higher learning.

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APPROVAL

This dissertation has been submitted with our approval as University supervisors and our signatures are appended against the respective names below:

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DEDICATION

I dedicate my dissertation work to God Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this program and on His wings only have I soared. I dedicate this work to my family (mum and siblings), thank you for your unconditional love, support and the good examples you have taught me to always work hard. I also dedicate this work to my course mates (group three discussion group) for your support and encouragement during the challenges of graduate school and life. I also dedicate this work to my two dissertation supervisors Dr. Wakaisuka Juliet-Isingoma and Assoc. Prof. Nyeko Sonny for all your guidance and support throughout the project, thank you. And finally, I dedicate this work to my colleagues at workplace (Linda Atiku, Sarah Acayo, Joseph Tendo Mpanga and Alice Kebita) for always supporting me and filling up the gap whenever I'm taken up at school, without your support, I would not have reached this far. May the Almighty God richly bless you.

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LIST OF ABBREVIATIONS

ADLG:	Arua District Local Government
FSDU:	Financial Sector Deepening Uganda
GDP:	Gross Domestic Product
GPFI:	Global Partnership for Financial Inclusion
MFPED:	Ministry of Finance, Planning and Economic Development
MSMEs:	Micro Small and Medium Enterprises
NPA:	National Planning Authority
OECD:	Organization for Economic Corporation and Development
SACCOs:	Savings and Credit Cooperative Organizations
SMEs:	Small and Medium Scale Enterprises
UBOS:	Uganda Bureau of Statistics
UCC:	Uganda Chamber of Commerce
UIA:	Uganda Investment Authority
URSB:	Uganda Registration Services Bureau
WENIPS:	West Nile Private Sector Promotion

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ABSTRACT

The purpose of the study was to determine the predictive power of access to credit finance and entrepreneurial competence on the financial performance of SMEs in Arua city. The researcher used quantitative, descriptive, and cross-sectional research design. A sample size of 140 SMEs was selected out of 220 SMEs in Arua city as guided by Krejcie and Morgan (1970) sample size determination table. Validity and reliability of the instruments showed that all variables under study were reliable with Cronbach's alpha statistic for all the variables measuring above 0.70- Nunnally, (1978). The researcher issued 280 questionnaires and received 218 questionnaires giving a response rate of 77.9%. The findings of the correlation analysis showed a significant positive association between access to credit finance and financial performance. It also indicated a positive relationship between entrepreneurial competency and financial performance of SMEs in Arua city implying that the level of access to credit finance and entrepreneurial competency is associated directly with financial performance of SMEs. The regression analysis showed that access to credit finance predicts financial performance by 62.6% while entrepreneurial competency predicts financial performance by 6.5%. The researcher concludes that access to credit finance is an important predictor of financial performance of SMEs in Arua city. The researcher recommends that; for SMEs to be successful, good access to credit finance and entrepreneurial competency are key.

CHAPTER ONE

1.1 Background of the study

In this recent time, scholars have examined the countless challenges facing the performance of small and medium enterprises (SMEs) in both developed and developing economies (Narada, Sisira, Ekanayake, Gaknj, Rasana, Jayasundara & Rajapakishe, 2019). According to Badara (2015) financial performance is a measure of how well a company can use its assets from its primary mode of business to generate revenues. SMEs play an important part in achieving sustainable development goals (SDGs) of a nation by promoting economic growth and providing employment (OECD, 2017). In addition to this, despite the enormous importance of the SMEs sector to the national economy, many of them are unable to realize their full potential due to the existence of different factors that inhibit their growth and performance (Oshora, Goshu, Eva, Maria & Zoltan, 2021). Several researchers have indicated that SMEs face a myriad of challenges across the globe and fail to live up to expectations (Njanike, 2019; Anand, Banerjee & Riaz, 2020; Mwihaki, 2015). For instance, in the United Arab Emirates, SMEs face various performance challenges which the owners have failed to solve (Anand, Banerjee & Riaz, 2020). Meanwhile in Africa, Okpara, (2011) found that the performance of SMEs is far below the world average and Mwihaki, (2015) conducted a study in Kenya and the results indicate that SMEs fail within the first few months of operation. Also, high business failure rate has been reported in Uganda (Eton, Mwosi, Mutesigensi & Ebong, 2017) although many are just struggling to survive (Mayanja & Mayanja, 2020). Meanwhile in Arua city, many SMEs suffer from fluctuating profits and sales that seriously constrain their effective day to day operations (Commercial Officer' report Arua City, 2020). They suffer from liquidity difficulties and their profitability levels are deficient that eventually lowers their resilience to risk (Mayanja & Mayanja, 2020**).** **N**otwithstanding, numerous scholars like Murugi, (2014); Farouk and Amandu (2020); Odongo

(2014); Kalenzi and Ongunya, (2019) have used different methods to measure SME financial performance but for this study, the researcher adopted measures developed by Ndemi & Mungai, (2018) namely profitability and liquidity to measure SME financial performance. Similarly, access to credit finance (Mathea, 2014; Oshora *et al.,* 2021) and entrepreneurial competency (Ahmad, Ramayah, Carlene & Liz, 2010) was used as explanatory variables to evaluate SME performance.

Access to finance is very critical to the growth and financial performance of SMEs (Chilembo, 2021) and yet, most of them find difficulties in accessing it (Pandula, 2015), thereby hindering their performance (Mazanai & Fatoki, 2012). Access to finance is the ability of individuals and enterprises to obtain external funding to enable them to ease their cash flow problems (Osoro & Muturi, 2013). It was developed from financial capital/liquidity theory which suggested that people with enough financial capacity have added value in acquiring resources to efficiently exploit entrepreneurial opportunities (Clausen, 2006). Credit processing by financial institutions is becoming too complex for SMEs in most growing economies and this hinders their expansion (Haron, Ibrahim, Nor & Ibrahim, 2013). Regardless of this, a flawless access to credit finance would allow SMEs to expand their business and acquire the best management, thus ensuring their competitiveness and sustainability (Mwangi, 2011).

Due to the prevailing unemployment issues, people are currently exploring different start-ups and although they might have orientation to be entrepreneurs, they largely lack the competencies to compete in the dynamic industry (Khan, Kashif and Muhammad, 2020). Competencies are referred to as specific set of knowledge, skills and abilities that are attained and learned through knowledge and experience (Volery, Mueller & Von, 2015) and can be enhanced using

technology (Lekovic, Vojinovic & Milutinovic, 2020). They were developed from the dynamic capabilities theory which proclaims that entity`s sustainable competitive advantage is based on the firm's acquisition of valuable, rare, inimitable, and non-substitutable resources (Teece, Pisano & Shuen, 1997).

Arua city was braving to realize prosperity through SME`s effectiveness in using skills and talents of the people without demanding high-level training, much capital, and sophisticated technology (UCC, 2020). However, evidence indicates that SMEs are facing a lot of challenges that hinder their profitability and sustainable growth; a number of them including Ozuu Brothers, RG & Brothers, Gaagaa Bus Company and Matonge Discotheque experienced liquidity and profitability challenges due to multitude of factors that eventually drove them out of business (Arua city commercial profile, 2021). Also, 50% of the businesses run out annually, leaving a lot to be desired (WENIPS, 2021). This pathetic state of SME performance in Arua city and Uganda at large needs to be addressed.

1.2 Statement of the problem

The government of Uganda has invested heavily in the growth of SMEs by designing a policy instrument to streamline SME activities; set up directorate in the Ministry of Trade, Industry and Cooperatives; and created a budget for industrial cluster program to enhance their financial performance (NPA, 2020). Despite these interventions: - 74% of SMEs in Arua City face serious liquidity constraints, forcing them to borrow from relatives or from family resources which are largely inefficient (WENIPS, 2021). It was also confirmed that over 72% of the SMEs have not registered any tangible profit margins in the last three years (The Commercial Officer's Report, 2021). These conditions inhibit the SMEs capacity to acquire or absorb new technologies that would make them compete, grow, and excel in financial performance (Okumu & Buyinza,

2020). This undesirable state could be attributed to constrained access to credit finance and entrepreneurial incompetency as extant research (Mbuva & Wachira, 2019; Nieuwoudt *et al.*, 2017) corroborate them to have a relationship with financial performance. However, no research has been conducted to predict the power of the relationship between access to credit finance and entrepreneurial competency on financial performance of SME in the local context. It is in the interest of addressing the above highlighted gap that the researcher undertook to determine the predictive power of access to credit finance and entrepreneurial competency on the financial performance of SMEs in Arua city, Uganda.

1.3 Purpose of the study

The purpose of this study was to determine the predictive power of access to credit finance and entrepreneurial competency on the financial performance of SMEs in Arua city.

1.4 Study objectives

The study is aimed at achieving the following objectives.

i. To examine the relationship between access to credit finance and the financial performance of SMEs in Arua city.

ii. To assess the relationship between entrepreneurial competency and the financial performance of SMEs in Arua city.

iii. To determine the predictive power of access to credit finance and entrepreneurial competency on the financial performance of SMEs in Arua city.

1.5 Research questions

To achieve the above objectives, the study was guided by the following questions.

i. What is the relationship between access to credit finance and the performance of SMEs in Arua City?

ii. What is the relationship between entrepreneurial competency and the performance of SMEs in Arua city?

iii. What is the predictive power of access to credit finance and entrepreneurial competency on the performance of SMEs in Arua city**?**

1.6 Scope of the study

The scope of the study includes the geographical scope, content scope and time scope.

1.6.1 Geographical scope

The study was carried out specifically in Arua central division, located at the Centre of Arua city. This location is chosen because it hosts the highest number of SMEs with a high failure rate (Arua District Investment Profile, 2019/ 2020). And the study focusses mainly on small businesses.

1.6.2 Content scope

The study was to establish relationship between access to credit finance (Collateral security, interest rate, financial inclusion and record keeping), entrepreneurial competency (strategy, conceptual thinking, opportunity, relationship, organizing and leading, technical, and personal competency) and the financial performance (liquidity and profitability) of SMEs in Arua City.

1.7 Significance of the study

The study will be significant to the following stakeholders.

i. The findings of the study will enable policy makers to set better strategies to improve on the financial performance of SMEs in Uganda.

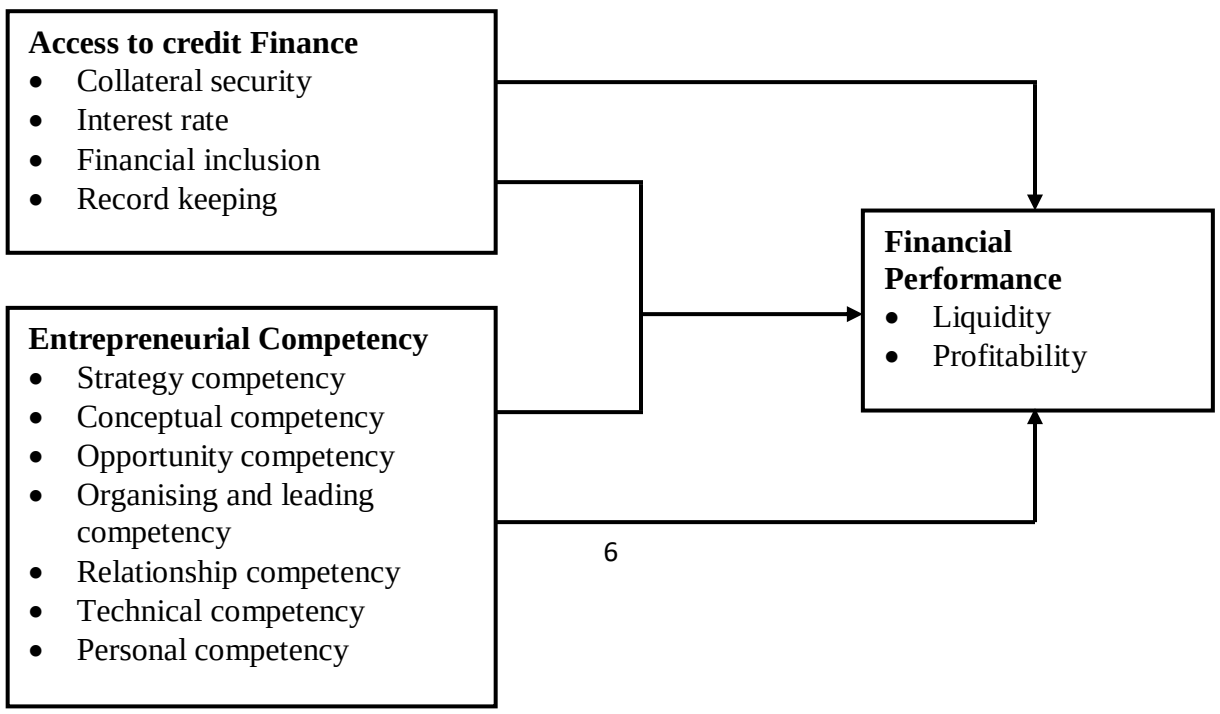
ii. The study will add to existing literature on financial performance of SMEs, access to finance and entrepreneurial competency which will help future researchers build on knowledge.

iii. The findings of the study will provide an opportunity for the lenders to evaluate their performance and realign their debt facilities to serve their clients well in the competitive environment.

iv. The study will enable the SMEs build on their capability and realign their strategies identify better capital opportunities in order to improve on their liquidity and profitability,

1.8 Conceptual framework of access to finance, entrepreneurial competency and Perceived financial performance.

Figure 1.1: The conceptual framework



Source: ***Adopted and modified from: Mathea (2014); Oshora, et al., (2021); Ahmad, et al., (2010) and Ndemi & Mungai (2018).***

Figure 1.1 was a conceptual framework for explaining the relationship between access to credit finance, entrepreneurial competence and financial performance. From the framework, it was assumed that a good access to credit finance could lead to a better financial performance. It was also envisioned that possessing a coherent entrepreneurial competencies would greatly improve financial performance. Furthermore, it was anticipated that combining good access to credit finance with array of entrepreneurial competencies in an enterprise would significantly influence its financial performance.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature related to the study variables in the conceptual model. The review concentrates on the concept of access to credit finance, entrepreneurial competency, and the perceived financial performance of small and medium enterprises in Arua City.

2.2 Theoretical Foundation

In this part, the theories that support and explain the independent variables- access to credit finance and entrepreneurial competency is reviewed. Their associated limitation in explaining the variables is also examined.

2.2.1 Financial Capital/Liquidity Theory

Financial capital/Liquidity theory was developed by Clausen (2006) who recommended that people with enough financial capacity have added value in acquiring resources to efficiently exploit entrepreneurial opportunities. Research shows that people are more able to recognize and exploit opportunities than others because they have better access to information and knowledge (Anderson & Miller, 2003). Therefore, access to credit finance variable as an important predictor of venture growth could have been developed from financial capital/liquidity theory. However, other studies contest this theory as it is demonstrated that most founders start new ventures without much capital, and that financial capital is not significantly related to the probability of being nascent entrepreneurs (Kim, Aldrich & Keister, 2003; Hurst & Lusardi, 2004).

2.2.2 Dynamic Capabilities Theory

Dynamic capabilities theory concerns the development of strategies for senior managers of enterprises to adapt to radical discontinuous change, while maintaining minimum capability

standards to ensure competitive survival. It was developed by Teece, Pisano & Shuen (1997) as both an extension to and a reaction against the resource -based theory. Thus, dynamic capabilities are processes that enable an organization to reconfigure its strategy and resources to achieve sustainable competitive advantages and superior performance (Abbas, Abdel & Ibrahim, 2018). It involves three dimensions: sensing; seizing and transforming business assets. Dynamic capabilities are therefore responsible for enabling organizations to integrate, marshal and reconfigure their internal and external competencies to address rapidly changing environments (Galvin, Rice & Liao, 2014). However, other studies contest this theory on grounds that: it lacks clarity about what constitutes its core concepts (Zott, 2003); nature of the term and difficulties in determining the merits of the outcome of the theory (Zahra, Sapienza & Davidson, 2006); difficulties in understanding the nature and absence of clear models to measure these capabilities (Abbas *et al.,* 2018).

2.3 Definition of key concepts

This section covers definition of key concepts such as perceived financial performance, access to finance and entrepreneurial competency.

2.3.1 Financial Performance

Financial performance is long-term, short-term decisions and techniques which have the same objective of enabling an organization's growth by ensuring that return on capital exceeds cost of capital, without making high financial risks (Pandey, 2010). Nandan (2010) defines financial performance as the measure of how well a firm can utilize its assets to develop revenues in its daily operations. Khan *et al.* (2020) defines financial performance as a measure of how well a company can use its assets from its primary mode of business and generate revenues. It can also

be defined as the accomplishment of specified business objectives measured against known standards, completeness and cost (Kalenzi & Ongunya, 2019). Financial measures of performance are derived from the accounts of a company or can be found in the company's profit and loss statement or the balance sheet and in addition, they are also referred to as objective measures because they can be individually measured and verified (Sakwa, Rambo & Osogo, 2019). In this study, the measures popularized by Ndemi & Mungai (2018) namely profitability and liquidity would be used to measure performance of SMEs in Arua City as under.

Profitability is a business's ability to produce a return on an investment based on its resources in comparison with an alternative investment (Melissa, 2021). Murugi (2014) defined it as the metric used to determine the scope of a company's profit in relation to the size of the business. According to Eton, Mwosi, Mutesigensi & Ebong (2017) profitability has been the most widely used and greatest measure of financial performance of businesses. One of the most frequently used tools of measuring profitability is financial ratios, which is a relative magnitude of two selected numerical values taken from the enterprise's financial statements and this includes gross profit margin, net profit, inventory turnover, return on investment and return on capital employed (Stobierski, 2020).

Liquidity refers to the degree to which debt obligations coming due can be paid from cash or assets that will be turned into cash (Otieno, 2014). It is the degree to which debt obligations coming due within 12 months can be paid from cash or assets that will be turned into cash. Teszler, (2001) asserted that a firm that is liquid is a good indicator of good financial performance. Therefore, Optimum level of liquidity guarantees a firm to meet their short-term debts and the proper management of flow can be promised by a profitable business (Agha *et al.*,

2014). Financial ratios are used to measure liquidity of a business and these include; current ratio, quick ratio, cash conversion cycle (Nugraha, 2020). A firm can use liquid assets to finance its activities and deal with unexpected contingencies when external finance is not available (Nugraha, 2020).

2.3.2 Access to Finance

The ease of access to finance for SMEs is of particular significance for the creation of new businesses, for growth and development of the existing ones, which in turn promote economic and social development of a country (Fitane, 2020). Credit accessibility refers to the ease or difficulty of acquiring credit by borrowers for purposes of enhancing business performance (Shirley & Namusonge, 2016) and to ensure sustainable existence in the future (Oshoru *et al.,* 2021). Ohn (2020) defined it as the availability of a supply of reasonable quality financial services at reasonable costs. It can therefore be described as the convenience of getting financial services from potential lenders. The Financial Capital/Liquidity Theory (Clausen, 2006) informs this study by agreeing that SMEs have individual-specific resources that facilitate the recognition of new opportunities to access finance for the emerging firm (Alvarez & Busenitz, 2001). The major global key problem affecting performance of SMEs is lack of access to credit/ finance (Mwihaki, 2015) and Fowowe, (2017) avowed that the ability and expertise of firm managers` entrepreneurial characteristics, structured plan and risk analysis are essential for sourcing finance. Improving and expanding access to financial services remains an important policy challenge in many countries and a rapidly growing literature across the globe continues to emphasize its positive significance for economic growth and sustainability of enterprises (Harith & Samujh, 2020). Various researchers (like Shirley & Namusonge, 2016; Ndungu, 2016; Fitane, 2020; Waithaka & Thaka, 2015) used different mix of approaches to measured access to finance

but for this study, the researcher will modify and use techniques developed by Mathea, (2014) and Oshora, Goshu, Eva, Maria & Zoltan, (2021) namely collateral security, interest rate and financial inclusion to measure access to finance in Arua City.

Collateral security seems to be the greatest hindrance to financial credit by SMEs. Collateral refers to security or guarantee for the loan borrowed (Harith & Samujh, 2020). In Uganda for example, the Bank of Uganda stipulates that all loans above a certain minimum must be adequately secured, with first-class guarantees or a bond over property as preferred by the security type (Calice, Chando, & Sekiou, 2012), which most SMEs do not have. Where the required security does not fit the needs of the target group, potential borrowers will not apply for credit even when it exists and when they do, they will be denied access. This implies that SMEs are likely to use their own or family funds to start and operate their businesses (Amornkitvikai & Harvie, 2016).

Interest rates can be defined as the premium received by the lender after a stated period of time, and from the borrower ‘s point of view, it is the cost of capital at the time of obtaining a loan (Karpowicz, 2014). The issue of high interest rates being charged on borrowers of funds has posed a great problem to SME owners who can only afford to borrow in small amounts which are insufficient to expand and sustain their businesses (Mathea, 2014). The amount of interest rate charged is sometimes intertwined with the security of the loan, the use for the loan, or the nature of the business and this pushes the SMEs to the micro finance institutions which also charge high interests on short term loans (Fitane, 2020). As interest payments come out of profits, unfavorable high costs of borrowing from financial institutions inhibit SME performance (Dabla, Yan & Filiz, 2015).

Financial inclusion refers to all initiatives that make formal financial services available, accessible, and affordable to all segments of the population (Oshora *et al.,* 2021). Kwanko and Kwanko, (2014) define financial inclusion as the process of access to and usage of diverse, convenient, affordable financial services. Kabakova and Plaksenkov, (2018) summarized its main characteristics as: uniform availability of financial service, regular usage, good quality of financial services, and potential for increased welfare. It plays significant role in creating conducive environment for new firm entry, an important engine of economic development, innovation and growth mainly for enterprises that are primarily excluded from the formal financial institutions due to lack of collateral requirements (Johnson & Arnold, 2012) so as to reach the unbanked and low-income society (Oshora *et al.,* 2021).

Many entrepreneurs invest a lot of time and effort into the running of their business and yet fail to realise the importance of maintaining good documentation. Peng (2019) defines record keeping as the formal systems in place to govern business information from the cradle to the grave regardless if it is paper or electronic. It is the act of keeping track of the history of a person's or organization's activities, generally by creating and storing consistent, formal records. For SMEs to access finance, keeping accurate and up-to-date records is vital to the success of any business as it helps to manage business accounts, interests, taxes and working costs effectively (Marshall, 2020).

2.3.3 Entrepreneurial Competency

Entrepreneurial competency is the skills of an entrepreneur and a combination of some competencies, such as self-esteem, particular knowledge regarding jobs, traits and social, managerial and networking competencies that help to enhance organisational performance Rehman, Elrehail, Nair, Bhatti & Taamneh, (2020). Phelon and Sharpley, (2012) refer to it as

behaviors that one demonstrates to meet the minimum performance standards. Mitchelmore and Rowley, (2013) stated that entrepreneurial competencies include a particular group of traits that ensure successful entrepreneurship. It can therefore be described as a set of demonstrable concepts used to improvement of entrepreneur's performance. These competencies may not be easily replicated by competitors and it is therefore imperative to understand and develop them for competitive advantage (Hwan, Choi & Shin, 2020). Dynamic capabilities theory plays vital role in shaping and enabling organizations to integrate, marshal and reconfigure their internal and external competencies (Galvin, Rice & Liao, 2014). The Dynamic capabilities theory (Teece *et al.*, 1997) informs this study by augmenting firm`s valuable, rare, inimitable and non-substitutable resources as driver of financial performance (Teece *et al.*, 1997). Entrepreneurial competencies play vital role in smoothening the operations of SMEs and can have an impressive impact on growth and sustainability of business (Hwan *et al.*, 2020). Man, *et al.* (2002) and Vijay and Ajay (2011) measured entrepreneurial competency using opportunism, organising, networking, relationship, commitment, executing and innovative thinking. The competencies considered in this study include strategic, conceptual, opportunity, organising and leading, relationship, technical and personal (Ahmad *et al.,* 2010).

Strategic competency involves directing entrepreneurs' actions and taking decisions more strategically to gain long term advantages and business success. Entrepreneurs develop strategies that allow them to transform recognized risks and opportunities into profitable outcomes (Stokes, 2006). In responding to risks, they learn from their environment, from mistakes they have made and from other people (Martini, Eddy, Elly & Wayan, 2020). They monitor progress toward strategic goals, prioritize work with business goals, identify long-term issues, align current actions with strategic goals, evaluate results, redesign business to better meet long-term

objectives by weighing costs and benefits in order to determine strategic directions (Muthoni, 2016).

Conceptual ability facilitates different thinking, so entrepreneurs can cope with ambiguities, and act on them in order to successfully run their businesses (Ahmad *et al.*, 2010). Conceptually, entrepreneurs must explore new ideas, take reasonable job-related risks, treat new problems as opportunities, monitor progress toward objectives in risky actions, and understand the broader business implications of ideas, issues and observations (Bianca, 2018). Once decisions are made, entrepreneurs then commit themselves to achieving their goals and objectives, and this requires them to combine resources appropriately and at times devise new ways of doing things (Hwang, Choi & Shin, 2020).

The opportunity competency is related to the ability of entrepreneurs to search, develop and evaluate high quality opportunities that are available in their market (Man, 2001). Opportunity recognition and exploitation entails entrepreneurs to act under a condition of uncertainty, which they must overcome in order to perceive the unmet consumer needs, seize high quality business opportunities, look for products or services that provide real benefit to customers and identify goods or services that the customer wants (Lekovic, Vojinovic & Milutinovic, 2020). Many recent studies have concluded that opportunity recognition and development is at the heart of entrepreneurial activities (Vindyani & Desiana, 2018; Aliyu, 2017; Sanchez, 2012).

The project manager role has changed from directing or managing to leading and therefore, a project manager needs to have requisite leadership competencies and skill (Ahmed, 2018). Leadership competencies represent a combined set of knowledge, skills, and abilities (KSA) that

constitute effective leadership within an organization (Hollenbeck, McCall & Silzer, 2006). Leadership competencies are leadership skills and behaviors that contribute to superior performance. The competency of project manager as leader has been recognized and one of the key reasons for failure of project is lack of leadership competency (Ahmed & Anantatmula, 2017).

Relationship skills are a combination of soft skills that a person applies to connect with others and form positive relationships. In the workplace, relationship building skills are essential for getting along with coworkers, contributing to a team and building an understanding between yourself and others. Good relationships are the key to getting things done and are essential when your success is dependent on others **(**Indeed Editorial Team, 2021**)**. Relationship competency is the capacity to develop and maintain a constructive working alliance with clients and is the foundation for all the other competencies in professional psychology (Polite & Bourg, 1992).

According to Indeed editorial team (2021) technical competency is the knowledge and ability required to apply specific technical principles and information in a job function or role. Technical competency describes an area of knowledge or skill that is useful in a particular industry's job responsibilities (Batruch, Autin, Batailard & Butera, 2018). Technical skills are the specific skills and factual knowledge intrinsic to a specific job. They are usually learned in an educational environment or on the job and are the "what" of performing a job and counselling is one example of a technical competency. Competency requires you to first build on the basic skills before developing technical ones (Craig, 2015). Ahmad *et al.* (2010) have considered the possession of technical competencies for instance the instruments and tools, machines, and their operational expertise, a requirement for entrepreneurial business success.

Personal competencies are personal traits and abilities that affect your results in the workplace and in life which include self-awareness, drive, relationship skills and confidence (Down, 2021). Davis, (2021) defines personal competencies as skills broadly applicable to almost all professions; they create the foundation that enables a person to effectively use technical skills. Personal competencies include high expectations, love of learning, active listening, ability to adapt to novel situations, empathy, cultural sensitivity, positive regard for students, and good time management.

2.4 Access to credit finance and financial performance

The accessibility of financing positively impacts the growth and performance of SMEs as follows: - Firstly, Chepsang, Iraya and Okiro, (2018) evaluated the effects of access to credit on financial performance of SMEs in Nairobi County and result revealed a strong and positive relationship between the two variables. Secondly, Eton et *al.*, (2017) examined the role of credit financing on performance of SMEs and the findings indicated that extending credit to SMEs enables them to access essential resources, increase business diversification and increase productivity levels. Thirdly, Mbuva and Wachira, (2019) investigated the effect of access to finance on financial performance of a processing SMEs and the result indicated that financial performance is positively correlated with the access to finance. Furthermore, Murugi, (2014) carried out a study on the effect of financial access on the financial performance of SMEs and established that financial access has positive and significant effect on SMEs financial performance. Additionally, Otieno, (2015) on analyzing the factors influencing performance of SMEs deduced that improved access to credit by SMEs leads to their survival, increased sales, higher profitability and low cost of doing business.

On contrary note, Musinguzi, (2014) examined the effect of access to finance on the performance of SMEs and found out a weak relationship between the two. Also, Bandar, (2016) examined financial accessibility and its impact on performance of SMEs in Saudi Arabia and the results revealed that some firm specific to macroeconomic factors impeded SME`s access to finance and constrain their performance.

This is in line with the viewpoint of Cowling, *et al.* (2016) and Fraser *et al.* (2015) where they claimed that the firms could improve their performance when they have access to finance, while Zhou (2015) concluded that the constraints in access to finance adversely impacted the performances of Chinese SMEs.

Access to finance is very important in assuring the growth of a firm (Cowling *et al.,* 2018). A strong positive link between financial status and the economic growth of a country has in fact been reported by a number of studies. Kerr and Nanda (2009); Smolarski and Kut (2011) and Tsoukas, (2011) affirmed that the probability of investment and employment is increased by financial status. In Jordan as well as in other developing countries, SMEs are plagued by numerous growth constraints aside from possessing less access to formal sources of external finance including banks (Hassanein and Adly, 2008; Al-Hyari *et al.,* 2012; Al-Hyari, 2013). According to Abdesamed and Wahab (2014) the proportion of SMEs indicating access to finance as their most pressing problem is substantial and broad, whereas only 10% of large firms consider access to finance as their most pressing issue.

Beck *et al.,* (2006) indicated financial access as a crucial determinant of the enterprises' performance due to the working capital that the access provides; it also promotes better firm

innovation and dynamism, improves entrepreneurship, stimulates asset allocation that is more efficient and gives the firm better capacity in exploiting growth opportunities. Poor access to finance among firms is caused by the information problems, weaknesses in financial and legal systems, high default risk and insufficient financial facilities (De Maeseneire & Claeys, 2012; Beck, 2007).

2.5 Entrepreneurial competencies and financial performance

Moving on to the relation between entrepreneurial competencies and perceived performance, a study conducted on Spanish entrepreneurs found that EC plays an important role in escalating the enterprise performance (Sánchez, 2012). Literature reveals that entrepreneurial competencies are associated with the growth and sustainability of organizations (Sajilan & Tehseen, 2015). Similarly, Tehseen and Ramayah, (2015) selected 153 SME owners to conduct a study on entrepreneurial competency and performance; results indicated a positive significant relationship between the two variables. Furthermore, a study conducted on 197 SMEs by Al Mamun *et al.*, (2016) revealed a significant relationship between entrepreneurial competencies and performance. Also a study conducted to find the direct relationship between entrepreneurial competencies and performance relationships through innovation capability revealed that the indirect relationships through innovation were stronger than the direct effects between competency and performance (Hwang *et al.*, 2020). More so, Martini *et al.* (2020) sought to determine the effect of competency dimensions on performance in Indonesia, and results disclosed a significant positive effect on employee commitment and performance while work commitment also had a significant positive effect on performance. A significant number of studies (Ahmad *et al.*, 2018; Aliyu, 2017; Zizile & Tendai, 2018) have shown positive relationships between entrepreneurial competencies and performance of SMEs, demonstrating

that enhancing the skill set of entrepreneurs improves performance in a dynamic industry. Twesigye (2019) investigated the effect of entrepreneurship skills on the financial performance of SMEs and the findings show that there is a significant relationship between management skills and financial performance of SMEs. The study to establish the effect of entrepreneurial competencies on business performance resulted into positively and statistically significant relationship (Kimeu, 2017).

2.6 Access to credit finance, entrepreneurial competencies and financial performance

Rita and Huruta, (2020) examined the influence between access to financing and performance via the mediation of entrepreneurial-oriented finance in SMEs and found positive relationship between financing access and entrepreneurial oriented finance as well as entrepreneurial oriented finance and SME performance. Also according to Barney (1991) accessibility to resources and competencies are two mutually dependent factors as resource acquisition and configuration constitute indicators of a firm ‘s capability to perform better. Similarly, Sharmilee and Muhammad, (2016) identified the internal and external factors affecting the performance of SMEs. The results revealed that management competency and access to finance as internal factors have significant association with the performance of SMEs. Additionally, Basat, Noor & Mohammad, (2020) sought to provide empirical evidence about the effect of financial literacy and each sub-dimensions of entrepreneur competencies (EC) on SMEs financial performance in the Sultanate of Oman. The result among others established that financial literacy, entrepreneurial competencies and resource availability have significant positive relationship with financial performance of SMEs. Furthermore, Omar *et al.,* (2016); Tehseen & Ramayah, (2015) claim that the success of any business is dependent upon availability of finance and entrepreneurial competencies.

On the contrary, Rita and Huruta (2020) examined the influence between access to finance and performance through the mediation of entrepreneurial-oriented finance in Batik SMEs, in Indonesia. Findings revealed a positive relationship between financing access, entrepreneurial oriented-finance and SME performance but no positive influence was found between finance access and SME performance. Similarly, Sanchez (2011) avowed that accessibility to valuable resources does not guarantee on its own a superior firm ‘s performance as firms differ in their capabilities of utilizing the resources to attain superior performance.

2.7 Summary of literature review and knowledge gap

According to the literature reviewed, access to credit and acquisition of significant entrepreneurial competencies have positively impacted on the financial performance of SME businesses. Despite these findings, research on the prediction of financial performance of SME in the local context using access to credit finance and entrepreneurial competency is still lacking. It is in the interest of addressing the above highlighted gap that the researcher undertakes to determine the predictive power of access to credit finance and entrepreneurial competency on the financial performance of SMEs in Arua city, Uganda.

CHAPTER THREE

METHODOLOLGY

3.1 Introduction

This chapter includes the research design, study population, sample population, unit of analysis, and unit of inquiry, data sources, data collection instrument, measurement of research variables, validity, and reliability of the instruments and data analysis. Ethical issues are also included.

3.2 Research Design

A research design refers to the overall strategy that is used to integrate the different components of the study in a coherent and logical way with the aim of effectively addressing the research problem logically and as unambiguously as possible (De-Vaus, 2006). A cross-sectional survey design with a quantitative approach was adopted for this study. This enabled the researcher to collect data from many respondents of diverse background at a particular point in time.

3.3 Study population

Allan & Emma (2003) defined population as basically, the universe of units from which the sample is to be selected. The study population comprises of 220 SMEs registered with Uganda registration services bureau in Arua City (URSB, 2020). The unit of analysis in this study constituted SMEs in Arua city. This is because Arua City has quite a big number of SMEs with financial performance challenges. The researcher studied the owner/manager and accounts staff from each SME as unit of inquiry.

3.4 Sample Size and sampling Procedure

Sekeran, (2003) describes sample as a subset of the population. A sample size of 140 SMEs in Arua city were selected from a population of 220 business enterprises using Krejcie and Morgan,

(1970) sample size determination table. Simple random sampling was used to pick the 140 SMEs for data collection purposes. The unit of inquiry consisted of two respondents (manager/owner and accountant/cashier) from each of the 140 SMEs, making a total of 280 respondents.

3.5 Source of Data

Primary source was the first hand original data that was collected using structured questionnaire. According to Creswell (2014) primary data is helpful as it is collected for a particular purpose it was initially meant for.

3.5.1 Primary Data

3.6 Data Collection Method

A self-administered questionnaire which was designed in line with the study objectives were used to collect data from large number of respondents in variety of businesses. A pre-tested questionnaire were issued to the respondents in order to get their responses. The responses was measured on a 6-point Likert scale where 1=completely disagree & 6= completely agree. A Likert scale of 6 -point is preferred because the scale can do better in gathering more accurate data.

3.7 Measurement of Variables

Measurement of variables was based on theoretical and conceptual framework; access to finance was measured by its constructs of collateral security, interest rate, financial inclusion and record keeping Mathea, (2014); entrepreneurial competency was measured by its constructs of strategic competency, conceptual competency, opportunity competency, organizing and leading competency, relationship competency, technical competency and personal competency (Ahmad,

et al., 2010) and financial performance was measured using profitability and liquidity (Ndemi & Mungai, (2018).

3.8 Validity and reliability

Validity is concerned with the extent to which an instrument measures what is intended to measure whereas reliability is concerned with the ability of the instrument to measure consistency (Polit & Hungeler, 1993; Tavakol & Dennick, 2011). To control the quality of the research instrument, the researcher endeavored to achieve reliability and validity coefficient of at least 0.7. Nunnally, (1978) and Field, (2009) recommend acceptable limit of 0.7 or better for a valid research. The research instrument was pretested and discussed with the two supervisors and eight experts in this field against the questionnaire whether it would measure what was meant to measure or not in relation to the research objectives and content validity index was computed. The study used cronbach's alpha coefficient with the help of statistical package for social scientist (SPSS) version 26 to determine the internal consistency of the scale that was used to measure the reliability of the variables of the study. The questionnaires were given to 30 managers/accountants to give their opinion regarding the relevancy of the questions using a 6-point Likert scale.

Table 3.1: Reliability coefficient for each variable

Variables	Cronbach's Alpha	Number of items
Financial performance	.851	16
Access to Finance	.920	27
Entrepreneurial competency	.902	53

Source: Primary data

According to Nunnally (1978) and Field (2009) recommended a cut-off alpha coefficient of 0.7 is sufficient to prove that the instrument is reliable. Therefore, the reliability coefficients of the research instruments were higher than 0.7, implying that the instrument was reliable.

The content validity index test was computed using the formula $\mathrm{CVI} = \frac{K}{N}$, where N = Total number of items in the questionnaire and K = number of items in the questionnaire declared valid; and the results are tabulated below.

Table 3.2: Validity of the instrument

Variable	Total number of Items (N)	Total number of item valid (K)	CVI=K/N
Financial performance	16	13	0.813
Access to Finance	27	21	0.778
Entrepreneurial competency	53	48	0.906

Source: Primary data

From the Table 3.2 above, the computed content validity index for all the constructs range between 0.778 and 0.906 which are above the minimum internal consistency coefficient of 0.7 (Singh & Masuku, 2014). Thus, the variables under each construct are relevant and accurate to measure the constructs.

3.9 Data Analysis

All the variables in the quantitative data were coded and entered into the computer using the SPSS version 26 software for analysis. Factor analysis was done to obtain items or variables that would explain the pattern of correlations and regressions within set of observed variables. Pearson's product moment correlation was used to evaluate the association between access to credit finance, entrepreneurial competency and financial performance of SMEs in Arua City.

Descriptive statistics was used to describe the sample characteristics of the respondents, regression analysis to assess the predictive power of the independent variables (access to finance and entrepreneurial competency) towards the dependent variable (financial performance) of SMEs.

3.10 Ethical Considerations

Ethics is a moral philosophy that deals with individual conduct shaping up one's behavior (Mugenda & Mugenda, 2003). The researcher received an introduction letter from Makerere University Business School to be presented to the SMEs for seeking permission for data collection. Maximum respect was accorded to the respondents by seeking their consent, phone call appointments made due to Covid-19 pandemic, and the researcher meets them at their preferred time. The respondents were informed the questionnaire survey or study was for academic purpose and the information obtained from them will be confidential.

CHAPTER FOUR

ANALYSIS, PRESENTATION AND INTERPRETATION OF THE FINDINGS

4.1 Introduction

This chapter covers the analysis, presentations and interpretation of the findings. The purpose of the study was to investigate the relationship between access to finance, entrepreneurial competency and performance of SMEs in Arua city. Therefore, the presentation of the findings was guided by the research objectives.

4.2 Factor Analysis

Factor analysis was carried out for all the variables that comprised of factors to identify their factor structure. Specifically, the analysis established the hierarchy of importance of the components of the major constructs and the indicators of the constructs that best explain the constructs by virtue of the factor loadings associated with them. Besides, factor analysis was also used for data reduction by only retaining factors with factor loading above 0.5 for the subsequent analysis. Using the varimax method for principal components measurement, only those factors with an Eigen value greater than 1 were retained according to Guttmann-Kaiser rule.

From the results of analysis below, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO = 0.540 > 0.5), and the Bartlett's Test of Sphericity with Approx. Chi-square = 215.392; Degree of Freedom (df) = 66 and P-value = 0.00 < 0.01 meet the requirement in completing factor analysis.

Table 4.1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.540
Bartlett's Test of Sphericity	Approx. Chi-Square	215.392
	Df	66
	Sig.	.000

Source: Primary data

Table 4.2: Factor Structure of financial performance

Rotated Component Matrix[a]		
	Component	
	Profitability	**Liquidity**
Our business revenue has covered the operating costs for the last three years	.774	
Our business realized adequate revenue for the last three years	.726	
Our business used profits to fund its growth	.705	
Our business generated profits last year three years	.670	
Our business liquid assets can be converted into cash		.886
The firms current assets exceed current liabilities		.840
Our liquidity position is frequently assessed		.811
Our business suppliers are paid in time		.775
Our enterprise has sufficient cash flow in the last three years		.711
Our debtors fulfill their commitments as promised		.692
The business has enough cash to purchase assets		.674
Our business meets its financial obligations as they fall due		.670
Eigen value	***3.909***	***3.464***
Variance (%)	***32.574***	***28.865***
Cumulative Variance (%)	***32.574***	***61.439***
Extraction Method: Principal Component Analysis. ***Rotation Method: Varimax with Kaiser Normalization.***		
a. Rotation converged in 3 iterations.		

Source: Primary data

From the Table 4.2 above, of the two constructs of financial performance (profitability and liquidity) as depicted in the conceptual framework, profitability (Eigen value = 3.909, Variance = 32.574%) was the more prominent explaining 32.574% and liquidity (Eigen value = 3.464,

Variance = 28.865%) contributes 28.865%. Notable is the fact that both factors explained approximately 61.439% of financial performance, which is evidence of considerable level of validity of the items captured in the factor structure. The magnitude of importance of each item is illustrated by the factor loadings, where a higher value indicates a higher magnitude. To this effect, items with factor loadings below 0.5 were eliminated and as shown in table 4.11, all items loaded above 0.6, which signifies considerable validity of measurement.

Table 4.3: Factor Structure of Access to finance

Rotated Component Matrix[a]				
	Component			
	Collateral security	**Interest Rate**	**Financial inclusion**	**Record Keeping**
SMEs must present collateral security before approval of loans	.823			
The enterprise`s assets are regularly appraised by qualified experts recognized by a credit supplier	.762			
Lenders rate the securities we offer highly from records	.739			
The loan our business borrows meets bank of Uganda minimum standard	.649			
Our securities are still in good condition	.621			
Our securities are comprehensively insured	.583			
Our business has enough assets to offer as security	.557			
Our secured loans attract lower interest rates		.898		
Our lenders educate us on the interest rates they charge before we borrow		.728		
Our business searches for lenders who charge fair rates		.700		
Our business accesses cheap source of finance regularly			.772	

We have a formal financial services available to our business			.768	
Our business can easily access the required finances			.760	
Our business has access to affordable finance			.618	
The business attachment is widely adopted by businesses			.731	
We have a diverse source of finance for our business			.533	
We receive regular training on use of borrowed funds to finance our business			.514	
Our transactions are computerized				.880
Loans are given upon updating previous records				.820
Transactions are captured timely				.799
We have competent staff to record transactions				.732
Business records are well stored for easy retrieving				.685
The past records show interests charged are relatively low				.656
Our business records are stored for the last ten years				.612
Every business transaction is recorded				.508
Eigen value	***6.236***	***4.019***	***3.460***	***3.016***
Variance (%)	***24.944***	***16.077***	***13.840***	***12.065***
Cumulative Variance (%)	***24.944***	***41.021***	***54.861***	***66.926***
Extraction Method: Principal Component Analysis. **Rotation Method: Varimax with Kaiser Normalization.**				
a. Rotation converged in 6 iterations.				

Source: Primary data

The factor structure of access to finance is such that, collateral security (Eigen value = 6.236, Variance = 24.944%) was the better measure explaining 24.944%, interest rate (Eigen value = 4.019, Variance = 16.077%) contributes 16.077%, financial inclusion (Eigen value = 3.460, variance = 13.840%) explains 13.840% and record keeping (Eigen value = 3.016, variance = 12.065% measure 12.065%. Noteworthy is the fact that all four factors explained approximately 66.926% of access to finance, which is evidence of considerable level of validity of the items

captured in the factor structure. The results further summarize the items that measure each of the components of access to finance in their order of significance. The level of importance of each item is illustrated by the factor loadings, where a higher value indicates a higher magnitude. To this effect, items with factor loadings below 0.5 were eliminated and as shown in the table above, all items loaded above 0.6, which signifies considerable validity of measurement.

Table 4.4: Factor Structure of entrepreneurial competency

Rotated Component Matrix[a]							
	Component						
	Strategy competency	Conceptual competency	Opportunity Competency	Organising and leading competency	Relationship competency	Technical competency	Personal competency
We usually carry cost-benefit analysis of each strategy	.845						
I have well defined concepts for the business	.826						
My strategy evaluation mechanisms are effective	.776						
I identify long-term business issues annually	.756						
I have effective plan of conceptualizing mechanisms	.639						
I promptly redesigns plans to address deficiencies	.624						
I routinely align the current issues with strategic goals	.593						
I have reliable measures to detect deficiencies early enough	.553						
I have capabilities to develop new ways of doing business		.882					
I carefully monitor the progress towards business goals		.856					

I take reasonable business-related risks		.784					
I have appropriate mix of resources for new ideas		.728					
I aggressively explore new ideas and markets		.630					
I usually evaluate the business implications of new ideas		.562					
I'm aware of the uncertainty in the business environment			.856				
I highly embrace information technology (IT)			.696				
I vigorously strive to identify the unmet customer needs			.687				
I have good market analytical skills			.684				
I'm abreast with the dynamics in the industry			.552				
I maintain a constructive working alliance with clients				.815			
I build an understanding between myself and others				.810			
I relate well with government agents				.785			
I relate well with business partners				.751			
I contribute so much to the team members				.737			
I do my work with confidence						.759	
I use specific technique relevant to this business						.727	
I have expertise in functional areas						.714	
I have good basic knowledge in my business area						.607	
I utilise technical knowledge relevant to the business						.509	
I listen carefully to the people I interact with before giving my views							.551
I have positive regards to all the stakeholders in our business environment							.882
I am good at time management							.856
I'm committed to my work							.856

I love learning new things in the business environment							.659
I have the ability to adapt to novel situations							.627
I interpret issues presented to me before acting							.590
Eigen value	***8.604***	***6.447***	***5.015***	***3.529***	***3.359***	***3.217***	***3.153***
Variance (%)	***19.555***	***14.652***	***11.397***	***8.021***	***7.634***	***7.311***	***7.166***
Cumulative Variance (%)	***19.555***	***34.207***	***45.604***	***53.625***	***61.259***	***68.57***	***75.736***
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 11 iterations.							

Source: Primary data

The factor structure of entrepreneurial competency is such that, strategy competency (Eigen value = 8.604, Variance = 19.555%) was the better measure explaining 19.555%, conceptual competency (Eigen value = 6.447, Variance = 14.652%) contributes 14.652%, opportunity competency (Eigen value = 5.015, variance = 11.397%) explains 11.397%, organizing and leading competency (Eigen value = 3.529, variance = 8.021% measure 8.021%, relationship competency (Eigen value = 3.359, variance = 7.634%) explains 7.634%, technical competency (Eigen value = 3.217, variance = 7.311%) explains 7.311% and personal competency (Eigen value = 3.153, variance = 7.166%) explains 7.166%. Remarkable is the fact that all seven factors explained approximately 75.736% of entrepreneurial competency, which is evidence of considerable level of validity of the items captured in the factor structure. The results further summarize the items that measure each of the components of entrepreneurial competency in their order of significance. The level of importance of each item is illustrated by the factor loadings, where a higher value indicates a higher magnitude. To this effect, items with factor loadings below 0.5 were eliminated and as shown in the table above, all items loaded above 0.6, which signifies considerable validity of measurement.

4.3 Response Rate

The researcher issued out questionnaires for 140 SMEs and a total of 109 SMEs were duly filled and returned their questionnaires representing a response rate of about 77.9%, which is suitable to draw valid and reliable conclusions. This response rate is a good representation of the whole population since it falls between 30 and 500 (Field, 2006).

4.4 Demographic characteristics of respondents

The demographic characteristics of the respondents consisted of the respondents' features that included gender, age bracket, level of education, job position, time frame in this position, year of existence of SME, nature of SME and source of financing SME.

Table 4.5: Gender of Respondents

		Frequency	Percent	Cumulative Percent
Valid	Male	128	58.4	58.4
	Female	90	41.3	100.0
	Total	218	100.0	

Source: Primary data

From Table 4.5, 58.4% were male respondents and 41.3% were female respondents. This implies that the study was male dominated. However, this did not influence the findings of the study because the study was not gender sensitive.

Table 4.6: Age bracket of the respondents

		Frequency	Percent	Cumulative Percent
Valid	18- 24 Years	1	.5	.5
	25 - 35 years	71	32.6	33.0
	36 - 45 Years	112	51.1	84.4
	46 - 55 years	33	15.1	99.5
	Above 55 years	1	.5	100.0
	Total	**218**	**100**	

Source: Primary data

From The table 4.6, 51.1% of the Arua city SMEs' managers and accountants fall between 36 - 45 age brackets, 0.5% of them fall between 18 and 24 and above 55 years of age respectively.

From the above statistics, the majority of the SMEs' managers and accountants are between 36 - 45 years of age who participated in the study. This is in accordance to Uganda Bureau of statistics 2020 findings which indicate that the working-age population is the population aged 14-64 years.

Table 4.7: Education level of respondents

		Frequency	Percent	Cumulative Percent
Valid	Certificate	57	26.1	26.1
	Diploma	96	44.0	70.2
	Bachelor Degree	51	22.9	93.1
	Master's Degree	15	6.9	100.0
	Total	**218**	**100.0**	

Source: Primary data

From the Table 4.7, 44.0% of the respondents were diploma holders and 6.8% of them were master's holders. This education profile indicates that the respondents were highly educated, which profile is typical of the people who are unemployed and are trying to create employment for themselves.

Table 4.8: Job position

		Frequency	Percent	Cumulative Percent
Valid	Owner/Manager	92	42.2	42.0
	Accounts Staff	126	57.8	100.0
	Total	**218**	**100.0**	

Source: Primary data

From the Table 4.8, 57.8% of the SMEs' staff were accountants and 42.2% were the owner/manager of the SMEs in Arua city. Implying that there was no biasness in data collection between owner/manager and accountant.

Table 4.9: Time duration taken in the position as manager or accountant

	Frequency	Percent	Cumulative Percent

Valid	Less than 4 years	21	9.6	9.6
	5-8 years	53	24.3	33.9
	9-12 years	25	11.4	45.4
	Over 13 years	119	54.3	100.0
	Total	**218**	**100.0**	

Source: Primary data

From the Table 4.9, 54.3% of the respondents have been in the position of manager or accountant for over 13 years and 9.6% as the least number of years in the position. This implies that the majority have been in the position for over 13 years that is long enough to gain knowledge in the area.

4.5 Organizational Characteristics

Table 4.10: Year of Existence of SME

		Frequency	Percent	Cumulative Percent
Valid	Less than 5 years	30	13.8	13.8
	5-10 years	71	32.6	46.3
	10 and above years	117	53.7	100.0
	Total	**218**	**100.0**	

Source: Primary data

The findings show that most of the SMEs have existed for less than 5 years are few than that have lasted for 10 and above years was 13.8%. This is in accordance to data of Uganda Bureau of statistics 2020, which shows that most of SMEs in Uganda are relatively young enterprises; a majority (69%) of them are aged between one and ten years old.

Table 4.11: Source of financing of business

		Frequency	Percent	Cumulative Percent
Valid	Loan	46	21.1	21.1
	Owners capital	59	27.1	48.2
	Friends and Family	113	51.8	100.0
	Total	**218**	**100.0**	

Source: Primary data

The findings indicate that most of the SMEs derive their finances from friends and family in Arua city (51.8%). This in line with UBOs report, (2019) SMEs are less likely to be able to obtain bank loans than large firms; instead, they rely on internal funds, or cash from friends and family, to launch and initially run their enterprises.

4.6 Correlation Analysis

The Pearson correlation coefficient was used to test the relationship between the observable independent variables (access to finance and entrepreneurial competency) and dependent variable (financial performance).

Table 4.12: Pearson Correlation analysis

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Collateral Security (1)	1.000													
Interest rate (2)	.593**	1.000												
Financial Inclusion (3)	.629**	.695**	1.000											
Record Keeping (4)	.280**	.453**	.479**	1.000										
Access to finance (5)	.784**	.861**	.865**	.692**	1.000									
Strategy (6)	.249**	.381**	.400**	.600**	.509**	1.000								
Conceptual strategy (7)	.257**	.247**	.303**	.221**	.320**	.536**	1.000							
Opportunities (8)	-.013	.082	.065	.047	.056	.174**	.477**	1.000						
Organizing and Leading (9)	.022	.092	.056	.006	.055	.132	.388**	.638**	1.000					
Relationship (10)	-.009	.066	.081	.054	.059	.162*	.409**	.508**	.505**	1.000				
Technical competency (11)	.068	.069	.037	.066	.076	.248**	.346**	.567**	.525**	.471**	1.000			
Personal competency (12)	.076	-.014	.042	.003	.032	.108	.519**	.631**	.504**	.518**	.646**	1.000		
Entrepreneurial competence (13)	.141*	.197**	.212**	.223**	.241**	.508**	.748**	.785**	.724**	.703**	.749**	.780**	1.000	
Financial performance (14)	.473**	.480**	.583**	.527**	***.642****	.444**	.224**	.036	.037	.088	.066	.098	***.216****	1.000

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

**. Correlation is significant at the 0.05 level (2-tailed).*

Source: Primary Data

4.6.1 Access to Finance and financial performance

The first objective of the study was to examine the relationship between access to finance and financial performance of SMEs in Arua city. As seen in Table 4.12 above, there was positive significant relationship between access to finance and financial performance of SMEs ($r = .642$, $p<.01$).

4.6.2 Entrepreneurial competency and financial performance

The second objective of the study was to establish the relationship between entrepreneurial competency and financial performance of SMEs in Arua city. As indicated in Table 4.12 above, there was positive insignificant relationship between entrepreneurial competency and financial performance ($r =.216$).

4.7 Regression Analysis

A regression analysis was carried out in order to establish how the variation in access to finance and entrepreneurial competency individually and in combination affect the variation in the financial performance of the SMEs in Arua city in Uganda. Regression analysis also helps us to determine the extent of the relationship between the variables and thus helps in making predictions. The results are summarized in the Table 4.15 below; the degree of freedom explains about 41.1% of the changes in financial performance. The value for the disturbance term is .58397.

Table 4.13: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.870	.380		2.293	.023		
	Access to finance	.673	.058	.627	11.696	.000	.942	1.062
	Entrepreneurial competency	.119	.098	.065	1.237	.229	.942	1.062

a. Dependent Variable: Financial performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.645[a]	.417	.411	.58397	.417	77.141	2	216	.000

a. *Predictors: (Constant), Entrepreneurial competency, Access to finance*

Source: Primary Data

The results from the table 4.13 above showed that access to finance in the regression model had significant positive effect on financial performance in Arua city (beta = .627, p value =.000). This implies that access to credit finance impacts on financial performance. Therefore, it implies that there is statistical evidence that access to credit finance impacts the financial performance of SMEs in Arua city. Further, the results indicated that entrepreneurial competency had insignificant positive effect on financial performance of SMEs in Arua city (beta = .065, p value =.000). The constant was not significant and this implies that choice of the independent variables was not appropriate. We can conclude that there is sufficient statistical evidence to suggest that access to credit finance impacts on financial performance of SMEs in Arua city. However, from the model summary, the variables under study predicted 41.1% of the variance in financial performance of SMEs in Arua city. This implies that financial performance is not only explained by access to finance and entrepreneurial competency, but also by other variables that explain it by 58.9% not included in this study.

From the Table 4.15 above, the correlation coefficient denoted as R of 0.645 indicates that access to finance and entrepreneurial competency have positive correlation with financial performance.

Moreover, relationship is moderate since the correlation coefficient of 0.645 is greater than 0.5. The coefficient of determination denoted as R Square of 0.417 implies that the explanatory variables (access to finance and entrepreneurial competency) account for 41.7% of the changes in the financial performance of SMEs in Arua city at a constant when adjusted for the degrees of freedom.

Furthermore, the multi-collinearity test was carried out by running regression model in table 4.17 in which the variance inflation factor (VIF) and tolerance values were generated. The results of the multicollinearity test suggest that there is no problem of collinearity in the model. The statistical standard is that the VIF must be less than 10 and the Tolerance value must be greater than 0.1 and from the table above all the VIF are less than 10 and the tolerance values are all greater than 0.1. Also, the two independent variables have the same VIF of 0.942, this implies that the two variables were highly correlated. The implication was that tools used in the two independent variables were somehow similar.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the discussion, conclusion and recommendations derived from the findings of the study in chapter four presented in order of objectives.

5.2 Discussion of the Findings

The study focused on the predictive potential of access to credit finance and entrepreneurial competency on financial performance of SMEs in Arua city as discussed below;

5.2.1 Access to finance and financial performance

The results of Pearson correlation coefficient reveal that there was a significant positive correlation between access to finance and financial performance. This implies that an improvement in access to finance such as collateral security, interest rate, financial inclusion and record keeping are associated with positive changes in the financial performance in terms of profitability and liquidity of the SMEs.

The findings of the regression model indicated that access to credit finance was significant and greater predictor of financial performance of SMEs in Arua city. This suggests that if more efforts were invested in collateral security, interest rate, financial inclusion and record keeping of SMEs, this would produce better financial performance. Therefore, the findings of this study are in agreement with Chepsang, Iraya and Okiro, (2018) who studied effects of access to credit on financial performance of SMEs in Nairobi County. Their results indicated a strong and positive relationship between the two variables. Eton, *et al.*, (2017) examined the role of credit financing on performance of SMEs and the findings indicated that extending credit to SMEs enables them

to access essential resources, increase business diversification and increase productivity levels. Mbuva and Wachira (2019) investigated the effect of access to finance on financial performance of processing SMEs and the result indicated that financial performance is positively correlated with the access to finance. Furthermore, Murugi, (2014) carried out a study on the effect of financial access on the financial performance of SMEs and established that financial access has positive and significant effect on SMEs financial performance. Additionally, Otieno, (2015) on analyzing the factors influencing performance of SMEs deduced that improved access to credit by SMEs leads to their survival, increased sales, higher profitability and low cost of doing business.

On contrary note, Musinguzi, (2014) examined the effect of access to finance on the performance of SMEs and found out a weak relationship between the access to finance and financial performance. Also, Bandar, (2016) examined financial accessibility and its impact on performance of SMEs in Saudi Arabia and the results revealed that some firm specific to macroeconomic factors impeded SME`s access to finance and constrain their performance.

According to the researcher, it was found that for SMEs to improve on their financial performance they must acquire loans with low interest rate, recruit competent staff who can record all transactions. This would help them to tract backward all transactions that have been taking place and all money lending institutions must educate borrowers on the interest rates being charge before they borrow. The dynamic theory argues that SMEs have individual-specific resources that facilitate the recognition of new opportunities and the assembling of new resources for the emerging firm. Therefore, access to finance variable is an important predictor of venture growth.

5.2.2 Entrepreneurial competency and financial performance

The results of Pearson correlation coefficient reveal that there was an insignificant positive association between entrepreneurial competency and financial performance. This meant that changes on the elements of entrepreneurial competency like strategy, conceptual, opportunity, organising and leading, relationship, technical and personal competency led to insignificant improvement in financial performance of SMEs in Arua city.

The regression model evaluated the relationship between entrepreneurial competency and financial performance of SMEs in Arua city. The study findings revealed a positive but not significant relationship between entrepreneurial competency and financial performance. This therefore means that entrepreneurial competency cannot enhance financial performance of SMEs in Arua city.

This finding concurs with a study conducted by Sajilan and Tehseen, (2015) which reveals that entrepreneurial competencies are associated with the growth and sustainability of organisations. Similarly, Tehseen and Ramayah, (2015) selected 153 SME owners to conduct a study on entrepreneurial competency and performance; results indicated a positive significant relationship between the two variables. Furthermore, a study conducted on 197 SMEs by Al Mamun, *et al.,* (2016) revealed a significant relationship between entrepreneurial competencies and performance. Also a study conducted to find the direct relationship between entrepreneurial competencies and performance relationships through innovation capability revealed that the indirect relationships through innovation were stronger than the direct effects between competency and performance (Hwang, *et al.*, 2020). More so, Martini, *et al.,* (2020) sought to determine the effect of competency dimensions on performance in Indonesia, and results

disclosed a significant positive effect on employee commitment and performance while work commitment also had a significant positive effect on performance. A significant number of studies (Ahmad, *et al.,* 2018; Aliyu, 2017; Zizile & Tendai, 2018) have shown positive relationships between entrepreneurial competencies and performance of SMEs, demonstrating that enhancing the skill set of entrepreneurs improves performance in a dynamic industry. Twesigye, (2019) investigated the effect of entrepreneurship skills on the financial performance of SMEs and the findings show that there is a significant relationship between management skills and financial performance of SMEs. The study to establish the effect of entrepreneurial competencies on business performance resulted into positively and statistically significant relationship (Kimeu, 2017).

According to the researcher, it was found that SMEs should routinely align the current issues with strategic goals, monitor the progress towards business goals, have positivity in regard to all the stakeholders in our business environment, relate with government agency and perform cost-benefit analysis of each benefit. The findings are further supported by the dynamic Dynamic capabilities theory and therefore responsible for enabling organizations to integrate, marshal and reconfigure their internal and external competencies to address rapidly changing environments.

5.2.3 Access to finance, entrepreneurial competency, and performance of SMEs

The results in the model Table 4.13 showed that overall access to credit finance and entrepreneurial competency explain financial performance, that is, the variables under study of SMEs in Arua city, Uganda. This implies that financial performance is not only explained by access to finance and entrepreneurial competency, but also by other variables which call for the future study.

The findings of this study concur with Rita and Huruta, (2020) examined the influence between access to financing and performance via the mediation of entrepreneurial-oriented finance in SMEs and found positive relationship between financing access and entrepreneurial oriented finance as well as entrepreneurial oriented finance and SME performance. Also according to Barney (1991) accessibility to resources and competencies are two mutually dependent factors as resource acquisition and configuration constitute indicators of a firm ‘s capability to perform better. Similarly, Sharmilee and Muhammad (2016) identified the internal and external factors affecting the performance of SMEs. The results revealed that management competency and access to finance as internal factors have significant relationship with the performance of SMEs.

5.3 Conclusion

The purpose of this study was to determine the predictive power of access to credit finance and entrepreneurial competency on the performance of SMEs in Arua city. The objectives of this study were to; examine the relationship between access to credit finance and the financial performance, assess the relationship between entrepreneurial competency and the financial performance and determine the predictive power of access to credit finance and entrepreneurial competency on the financial performance of SMEs in Arua city.

The research concluded that loans are not readily available and accessible to SMEs in Arua city. The SMEs expressed their worry that the banks were reluctant to offer them long term investments to boost the firms. Also, the study concluded that the interest capping policy by the government should be adhered fully by financial institutions to the interests of the SMEs in Arua city. Moreover, research concluded that the major source of finance for the SMEs is the loans from the financial institutions, business savings, and donations from family and friends.

The study concluded that enhancing the skill set of entrepreneurs improves financial performance of SMEs through use of the strategy, conceptual, opportunity, organising and leading, relationship, technical and personal competency.

The study concluded that the SMEs had a superior financial performance. SMEs need to improve the pre-requisites to access to credit finance (collateral security, interest rates, financial inclusion, record keeping) since a positive and significant relationship was noted. Further, the research concluded that competitive advantage was not applied by the SMEs to edge out their competitors which hindered their profitability index. Additionally, it was concluded that the better decisions were made due to proper financial performance by SMEs which translated reduced agency problems in the SMEs. Finally, the study concluded that over the past 3 years, the SMEs had realized downward growth in the total revenue as a result of COVI-19.

5.4 Recommendations

Since the study found access to finance to be a key driver of financial performance, it was recommended that SMEs should improve on their access to credit finance through provision of credible collateral security, borrowing from low interest loan houses, keeping proper transaction records, and embracing financial inclusion. Also, the management of financial institutions should create infrastructure to allow for better access to finance that could trigger improved financial performance thus creating job opportunities to the youths. Government should come up with sound financial and regulatory policies such as interest capping to enhance accessibility of finance for SMEs

5.5 Limitations to the study

The study was faced with non-response of respondents who chose not to fill the questionnaire due to time constraint. This was mitigated by appointing a research assistant who distributed and collected the duly filled in questionnaires after the agreed time. The respondents provided incomplete information because of their busy work schedule. This was minimized by making phone call reminders and suggesting time frame for completing the questionnaire. The researcher measured responses on a 6-point Likert scale where 1=completely disagree & 6= completely agree which did not accommodate respondents who were neutral in the case of an odd five-point Likert scale. This was minimized by selecting survey questions for which respondents would not select the neutral option very easily. Some respondents were reluctant in receiving the questionnaire due to the fear of being infected with COVID 19 and this was minimized by sanitizing the questionnaires before distribution and the research assistant putting on a mask.

5.6 Areas for further study

Future research can focus on the longitudinal research with qualitative approach to underpin the effect of temporal changes in the environment. This would help to establish the correct sequence of events, identify changes over time and provide insight in to cause and effect relationships. Another study can be done on financial performance of SMEs using entrepreneurial competency as a mediating variable with access to credit finance as an independent variable. There is need to find out the other predictors of financial performance of SMEs since access credit finance and entrepreneurial competency predict 41.1% of the variance in financial performance of SMEs in Arua city, Uganda.

REFERENCES

Abdesamed, K. H. & Wahab, K. A. (2014). Financing of small and medium enterprises (SMEs) in Libya: Determinants of accessing bank loan. Middle East Journal of Scientific Research, 21(1), 113-122.

Ahmed, R. (2018). Leadership competencies affecting projects in organization. Doi: 10.5772/interchopen.80781.

Abaho, Aarakit, Ntayi, & Kisubi (2016). Firm capabilities, entrepreneurial competency and performance of Ugandan SMES.

Abbas, B., Abdel, H. A. & Ibrahim, S. B. (2018). Dynamic capability theory: Pinning down a shift concept. *Academy of Accounting and Financial Studies Journal*, 22(2), ISSN 1528-2635.

Ahmad N.H., Ramayah T., Carlene W. & Liz K. (2010). Is entrepreneurial competency and business success relationship contingent upon business environment? A study of Malaysian SMEs. *International Journal of Entrepreneurial Behavior & Research*, 16(3), 182-203, Emerald Group Publishing Limited 1355-255.

Ahmad, N. H.,Suseno, Y., Seet, P., Susomrith, P., & Rashid, Z. (2018). Entrepreneurial competencies and firm performance in emerging economies: A study of women entrepreneurs in Malaysia. *In Knowledge, learning and innovation*, 5-26.

Al Mamun, A. & Fazal S. A. (2018). Effect of entrepreneurial orientation on competency and micro-enterprise performance. *Asia Pacific Journal of Innovation and Entrepreneurship*, 12 (3), 379-398.

Aliyu M. S. (2017). Entrepreneurial Competencies and the Performance of Small and Medium Enterprises (SMEs) in Zaria Local Government Area of Kaduna State. *International Journal of Entrepreneurial Development, Education and Science Research*, 4(2), 116-138.

Alvarez, S., & Busenitz, L. (2001). The entrepreneurship of resource based theory. *Journal of Management*, 27,755-775.

Anand, T., Banerjee, A. & Riaz, S., (2020). Factors leading to sustained growth of SMEs in the U.A.E: A concept. DOI: 10.47631/jareas.v1i2.85.

Anderson, A., & Miller, C. (2003). Class matters: human and social capital in the entrepreneurial process. *The Journal of Socio-Economics*, 32, 17-36.

Apolot, S. (2012). Organizational learning, innovation and small and medium enterprise (SMEs) performance in Uganda. M.Sc. *Dissertation*. Kampala, Uganda: Makerere University.

Bacigalupo, M., Kampylis, P., Punie, Y., & Van den Brande, G. (2016). EntreComp: the entrepreneur- ship competency framework. Luxembourg: publication office of the European Union; EUR 27939 EN; doi: 10.2791/593884.

Badara, M., (2015). Empirical Evidence of Performance Measurement of Internal Audit Functions on its Effectiveness. *Academic Journal of Management Science Research*, 7(9), 22-98.

Bandar, W. (2016). Access to finance by Saudi SMEs: Constraints and the impact on their performance. *Ph. D. thesis*. Melbourne, Australia: Victoria University.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Strategic Management*, 32(1), 1-14.

Basat, H., Noor F. A. & Mohammad, I. (2020). The Conceptual Framework of SMEs Financial Success in Sultanate of Oman. *Journal of Governance and Integrity*, 3(2), 17 – 36.

Beck, T., Demirgüç-Kunt, A., Laeven, L. & Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance*, 25(6), 32-952.

Bird, B. (1995). Towards a theory of entrepreneurial competency. *Advances in Entrepreneurship*. Firm Emergence and Growth, 2, 51-72.

Blanchflower, D., Oswald, A., & Stutzer, A. (2001). Latent entrepreneurship across nations? *European Economic Review*, 45,680-691.

Calice, P., Chando, V. M., & Sekioua, S. (2012). Bank financing to small and medium enterprises in East Africa: *findings of a survey in Kenya, Tanzania, Uganda and Zambia*.

Campbell, K. L., Zimerman, S., Healey, M. K., Lee, M. M. S., & Hasher, L. (2012). Age Differences in Visual Statistical Learning. Psychology and Aging. Doi: 10.1037/a0026780.

Craig, K. 2015).Understanding general and technical competencies. Indeed Editorial Team (2021). 10 Types of Technical Competency and Examples *Career guide*.

Creswell, J.W. (2014). Research Design: Qualitative, Quantitative and Mixed Methods Approaches (4th Ed.). *Sage, Los Angeles.*

Chilembo, T. (2021) A Study of the Factors Affecting Small and Medium Enterprises (SMEs) Access to Finance. A Case of Lusaka Based SMEs. *American Journal of Industrial and Business Management*, **11**, 437-460.

Clausen, T. H. (2006). Who identifies and Exploits entrepreneurial opportunities. Retrieved from www.ccsr.ac.uk. *Economics*, 31(1), 72-83.

Commercial officer (2021). Arua City Commercial officer report. Progress and Challenges in 2020.

Cowling, M., Liu, W. & Zhang, N. (2018). Did firm age, experience, and access to finance count? SME performance after the global financial crisis. *Journal of Evolutionary Economics*, 28(1), pp.77-100.

Dabla N. E., Yan Ji R. T. & Filiz U. (2015). Identifying Constraints to Financial Inclusion and Their Impact on GDP and Inequality: A Structural Framework for Policy. *International Monetary Fund*: IMF, 15–22.

Davis, B. (2021). What is personal competencies and skills? - MVOrganizing

Demirguc-Kunt A., Leora K., Singer D., Saniya A. & Jake H. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Washington, DC: World Bank.

De Maeseneire, W. & Claeys, T. (2012). SMEs, foreign direct investment and financial constraints: The case of Belgium. *International Business Review*, 21(3), pp.408-424.

Eton, M., Mwosi, F., Mutesigensi, D., & Ebong, C. D. (2017). Credit financing and performance of SMEs in Lira municipality, Uganda. *Research Journal of Finance and Accounting*, *8*(8), 121-127.

Evans, D., & Jovanovic, B. (1989). An Estimated Model of Entrepreneurial Choice under Liquidity Constraints. *The Journal of Political Economy*, 97, 808-827.

Farouk, U. & Amandu, Y. 7(2) (2020). External business environment and financial performance of small and medium enterprises in Arua municipality, Uganda. *Islamic University Multidisciplinary Journal IUMJ*, 7 (2), 60-82.

Fatoki, O. O., & Smit, A. V. A. (2011). Constraints to credit access by new SMEs in South Africa: A supply-side analysis. *African journal of business management*, *5*(4), 1413-1425.

Field, A. (2009). Discovering statistics using SPSS. (3rd ed.). Los Angeles: Sage.

Fitane G. (2020). Factors Affecting Business Performance of Small and Medium Size Enterprise in Ethiopia. *PhD dissertation*, Addis Ababa University, Ethiopia.

Fowowe, B. (2017). Access to finance and firm performance: Evidence from African countries. *Review of Development Finance*, 7(1), 6-17.

Fraser, S., Bhaumik, S. K. & Wright, M. (2015). What do we know about entrepreneurial finance and its relationship with growth*? International Small Business Journal,* 33(1), pp.70-88.

Galvin, P., Rice J. & Liao T.S (2014). Applying a Darwnian model to the dynamic capabilities view: Insights and issues. *Journal of Management and Organization*, 20(2), 250- 263.

Harith S. & Samujh R.H. (2020). Small Family Businesses: Innovation, Risk and Value. *Journal of Risk and Financial Management* 13: 240.

Haron, H., Said, S. B., Jayaraman, K., & Ismail, I. (2013). Factors influencing Small Medium Enterprises (SMES) in obtaining Loan. *International Journal of Business and Social Science*, 11-12.

Hassanein, A. A. & Adly, S. W. (2008). Issues facing small Egyptian construction firms: The financing barrier. *Journal of Small Business & Entrepreneurship,* 21(3), pp.363-376.

Hurst, E., & Lusardi, A. (2004). Liquidity Constraints, Household Wealth, Entrepreneurship, *Journal of Political Economy*, 2,112.

Johnson S. & Arnold S. (2012). Inclusive Financial Markets: Is Transformation Under Way in Kenya? *Development Policy Review* 30: 719–48.

Kabakova O. & Plaksenkov E. (2018). Analysis of factors affecting financial inclusion: Ecosystem view. *Journal of Business Research* 89: 198–205.

Kalenzi, A. Ongúnya, G. O. (2019). Procurement performance and profitability in foam mattress firms in Uganda. *African Journal of Business Management* 13(18):630-635.

Kamunge, S. K. NJeru, A, & Tirimba, O. I. (2014). Factors affecting the performance of Small and Microenterprises in Limuru Town Market of Kiambu County Kenya. *International Journal of Scientific and Research Publication* 4(12):1-20.

Karpowicz M. I. (2014). Financial Inclusion, Growth and Inequality: A Model Application to Colombia. IMF: pp. 14–166.

Kerr & Nanda, R. (2009). Democratizing entry: Banking deregulations, financing constraints, and entrepreneurship. *Journal of Financial Economics,* 94(1), pp.124-149.

Khan, M. A., Kashif, R. & Muhammad, A. S. (2020). Entrepreneurial Orientation and Performance of SMEs: Mediating effect of Entrepreneurial Competencies. *Pakistan Journal of Commerce and Social Sciences,* 14(2), 508-528.

Kihimbo, B. W., Ayako, B. A., & Omoka, K. W. (2012). Collateral requirements for financing of small and medium enterprises (SMEs) in Kakamega municipality in Kenya. *International Journal of current Research*, 4(6), 21–26.

Kim, P., Aldrich, H.E., & Keister, L.A. (2003). Access (not) denied: The Impact of financial, human and cultural capital on becoming a Nascent Entrepreneur. *Working paper.*

Kimeu, D. N. (2019). The effect of entrepreneurial competencies on business performance: a case of Kenya's public transport industry. *A Research Project Report Submitted to the Chandaria School of Business in Partial fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA).*

Krejcie, R.V., & Morgan, D. W. (1970). *Determining sample size for research activities.* Educational and Psychological Measurement, 30, 607-610.

Lekovic, B., Vojinovic, Z. & Milutinović, S. (2020). Cooperation as a Mediator between

Martini, I. A., Eddy , S., Elly, K. S. & Wayan, G. S. (2020).The dimensions of competency on worker performance mediated by work commitment. *Cogent Business and Management*, 7(1), 1-12.

Mathea, G. F. (2014). The Effect of Interest Rates on the Accessibility to Credit by Micro and Small Sized Enterprises in Gitaru Division, Kenya. *MBA Thesis*, University of Nairobi.

Mayanja S. N. & Mayanja S. N. (2020). Relationship between Liquidity Management and Growth of MSMEs in Africa: A Case Study of Selected Districts of Uganda. *American Journal of Finance*, ISSN 2520-0445 (Online), 5(1), 24-42.

Mbuva, M. D., & Wachira, K. (2019). Effect of Access to Finance on Financial Performance of Processing Smes in Kitui County, Kenya. *International Journal of Finance and Accounting*, *4*(1), 75. https://doi.org/10.47604/ijfa.896

Mbuva M. D. & Wachira, K. (2019) effect of access to finance on financial performance of processing SMES in Kitui County, Kenya. *International Journal of Finance and Accounting* ISSN 2513-4311X (online) 4(1), 75 – 89.

Melissa, H. (2021). The Difference between profitability and profit: Corporate Finance and Accounting. *Moody`s Analytics*.

MFPED (2008). National Budget Framework paper FY 2008/09-FY 2012/2013. Ministry of Finance, Planning and Economic Development, Kampala.

Mogaka H. & Hilario L. (2016). Factors influencing access to finance by SMEs in Mozambique: Case of SMEs in Maputo central business district. *Journal of Innovation and Entrepreneurship* 5: 1–16.

Murugi, M. A. R. (2014). The effect of financial access on the financial performance of small and micro enterprises in Mukuru slums (*Doctoral dissertation, University of Nairobi*).

Musinguzi, D. (2014). Access to finance and performance of small and medium enterprises. a case study of selected SMES in Mbarara Municpality. *A research report submitted to the faculty of business and development studies in partial fulfillment of requirements for the award of Bachelors' Degree in Business Administration of Bishop Stuart University.*

Mutesigensi, D., Eton. M., Ebong C. D. & Mwosi F. (2017). Cash Flow and Survival of Smes in Arua District, West Nile Region Uganda. *International Journal of Small Business and Entrepreneurship Research* 5 (5), 9-18, ISSN 2053-5821(Print), ISSN 2053-583X (Online).

Nwanko, O., & Nwanko, N. O. (2014) Sustainability of financial inclusion to rural dwellers in Nigeria: Problems and way forward. *Research journal of finance and accounting*, 5(5), 24-31.

Mwangi, P. W. (2011). Access to finance and performance of Small and middium enterprises: A case of selected SMEs in Wandegeya, Jiadefu supermarket, Prime supermarket. *A research report submitted to Makerere University in partial fulfillment of the requirements for the award of a degree of bachelor of commerce.*

Mwihaki, K. I. (2015). Factors influencing performance of small and medium enterprise tea firms in Mombasa County, Kenya. *A research project report submitted in partial fulfillment of the requirements for the award of the degree of Master of Arts in Project Planning and Management of the University of Nairobi.*

National Planning Authority (2020). Third National Development Plan (NDPIII) 2020/21 – 2024/25.

Ndemi, E. G. & Mungai, J. (2018). Formal credit financing and financial performance of small and medium enterprises in Nanyuki town, Kenya. *International Academic Journal of Economics and Finance*, 3(2), 179-196.

Ndungu, C. W. (2016). Factors a research project submitted to the school of business in partial fulfillment of the degree of Master of Business Administration in finance at the

University of Nairobi affecting credit access among Small and Medium Enterprises in Murang'a County.

Nieuwoudt, S., Henning, J. I. F., & Jordaan, H. (2017). Entrepreneurial competencies and financial performance of farmers in South Africa. *South African Journal of Economic and Management Sciences, 20*(1), 1–13. https://doi.org/10.4102/sajems.v20i1.1640

Njanike, K. (2019). The factors influencing SMEs growth in Africa: A case of SMEs in Zimbabwe. *Regional Development in Africa***,** DOI: 10.5772/intechopen.87192. Available from: https://www.intechopen.com/chapters/67950**.**

Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw Hill.

Nzibonera, E. & Waggumbulizi, I. (2020). Loans and growth of small-scale enterprises in Uganda: A case study of Kampala Central business area. *African Journal of Business Management*, 14(5), 159-169.

Odongo, J. (2014). Lending terms and financial performance of Small and Medium Enterprises in Uganda: Case of Soroti District. *Research journal of finance and accounting* ISSN 2222-1697 (Paper) ISSN 2222-2847 (online), 5(2).

OECD (2017). Enhancing the contributions of SMEs in a global and digitalized economy. *Meeting of the OECD Council at Ministerial Level.*

Okelo, D. G. (2013). The relationship between cash flow and profitability of small and medium enterprises in Nairobi county. University of Nairobi.

Okpara, J. O. (2011). Factors constraining the growth and survival of SMEs in Nigeria. *Management Research Review,* 34 (2) 156 -171.

Okumu I. M. & Buyinza F. (2020). Performance of Small and Medium-sized Enterprises in Uganda: the Role of Innovation. *African Economic Research Consortium, Nairobi*, AERC Research Paper 363, 1-39.

Osano H. M. & Languitone H. (2016). Factors influencing access to finance by SMEs in Mozambique: case of SMEs in Maputo central business district. *Journal of Innovation and Entrepreneurship*, 5(1), 13-35.

Oshora B., Goshu D., Eva G., Maria F. & Zoltan Z. (2021). Determinants of Financial Inclusion in Small and Medium Enterprises: Evidence from Ethiopia. *Journal of Risk and Financial Management,* 14, 286-305.

Pandula, G. (2015). Bank Finance for Small and Medium-Sized Enterprises in Sri Lanka: Issues and Policy Reforms. Studies in Business and Economics, 10, 32-43.

Peng, C. (2019). Good Record Keeping for Conducting Research Ethically Correct Research Ethics.

Marshall, N. (2020). The importance of record keeping. *Tax and Business Advice Pty Ltd*

Popescu A. D. (2019). Empowering Financial Inclusion through Financial Literacy. IOSR *Journal of Business and Management* 6: 198–215.

Rehman S. U., Elrehail, H., Nair, K. Bhatti, A. & Taamneh, A. M. (2020). MCS package and entrepreneurial competency influence on business performance: the moderating role of business strategy. *European Journal of Management and Business Economics.*

Rita, M. R. & Huruta, A. D. (2020). Financing Access and SME performance: A case study from Batik, Indonesia. International *Journal of Innovation, Creativity and Change*, 12 (12), 203-224.

Roston (2006). Research methods for business. *Hemitage publishing services*, USA.

Sadiq R. (2017). Impact of Working Capital Management on Small and Medium Enterprises' Performance in Nigeria. *Arabian Journal of Business Management Review* 7(1):285.

Sajilan, S. & Tehseen, S. (2015). Cultural orientations, entrepreneurial competencies and SMEs business success: the contingent roles of environmental turbulence and network competency, Review of Integrative Business and Economics Research, 4 (2), 20.

Sakwa, M. A, Rambo, C. M, Osogo, J. (2019). Influence of collateral security on performance of SMEs in Turbo Sub County Kenya. *European Journal of Business Management* 11(18):21-30.

Sánchez J. (2012). The influence of entrepreneurial competencies on small firm performance. *Revista Latinoamericana de Psicología*, 44(2), 165-177.

Sharmilee S. & Muhammad H. (2016). Factors affecting the performance of small and medium enterprises in KwaZulu-Natal, South Africa. *Problems and Perspectives in Management,* 14(2), 1-13.

Singh, A.S. & Masuku, M.B. (2014). Sampling techniques and determination of sample size in applied research: an overview. *International Journal of Economics, Commerce and Management*, 2(11), ISSN: 2348-0386.

Smolarski, J. & Kut, C. (2011). The impact of venture capital financing method on SME performance and internationalization. *International Entrepreneurship and Management Journal,* 7(1), pp.39-55.

Stobierski T. (2020). 13 Performance measures managers should monitor. *Business Insights*, Harvard Business School.

Teece, D. J (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. Journal of International Business Studies, 45, 8-37.

Tehseen S. & Ramayah T. (2015). Entrepreneurial competencies and SMEs business success: the contingent role of external integration, *Mediterranean Journal of Social Sciences*, 6 (1), 50-61.

Twesigye, L. (2019). Effect of entrepreneurship skills on financial performance of small and medium enterprises; A case of industrial division, Mbale municipality. *A research report submitted to the college of economics and management in partial fulfillment of the requirements for the award of a Bachelors Degree of Business Administration of Kampala International University.*

Turyahebwa, A., & Ssekajugo, D. (2013). Financial management practices and business performance of small and medium enterprises in western Uganda: *African Journal of Business Management*, 7(38), 3875-3885.

Tsoukas, S. (2011). Firm survival and financial development: Evidence from a panel of emerging Asian economies. *Journal of Banking & Finance,* 35(7), pp.1736-1752.

UBOS (2021). Key economic indicators 121st issue: quarter three 2020/21.

Uganda Bureau of Statistics (2017). Trade and Industry Sector Statistical Abstract 2017/18, Kampala, Uganda.

Uganda Investment Authority (2016). SMES driving the economy. Kampala, Uganda.

Uwonda, G., Okello, N., Okello, G, (2013). Cash flow management utilization by Small Medium Enterprises (SMEs) in Northern Uganda. *Merit Research Journal of Accounting, Auditing, Economics and Finance,* 1(5), 67-80.

Vindyan, N. P. & Desiana, P. M. (2018). The effect of knowledge sharing on affective commitment: The mediation role of competency development of Gen Y employees at PT

PP (Persero), Tbk Head Office. *Advances in Economics, Business and Management Research*, 72, 105–110.

Volery, T., Mueller, S. & Von, S. B. (2015). Entrepreneur ambidexterity: A study of entrepreneur behaviors and competencies in growth oriented small and medium-sized enterprises. *International Small Business Journal*, 33, 109-129.

Watson, J. (2011). Networking: Gender differences and the association with firm performance. International Small Business Journal, 30(5), 536-558.

WENIPS (2021). West Nile Private Sector Promotion. Annual Performance Report for 2019/2020.

Yugraha, C. A. S. (2020). The effect of profitability, liquidity and leverage towards company value. *IOSR Journal of Economics and Finance*, 11(2), 83-88.

Zahra, S. A., Sapienza, H. S. & Davidson, P. (2006). Entrepreneurship and Dynamic capabilities: A Review, model and Research Agenda. *Journal of Management Studies*, 43(4), 917-955.

Zhou, A. (2015). Access to finance: The effect of financial constraints on private firms' performances in China. Georgetown University.

Zizile, T. & Tendai, C. (2018). The Importance of Entrepreneurial Competencies on the Performance of Women Entrepreneurs in South Africa. *Journal of Applied Business Research (JABR)*, 34(2), 223-236.

Zott, S. D. (2003). Dynamic Capabilities and the emergence of intra industry differential firm performance: Insights from a simulation study. *Strategic Management Journal*, 24(2), 97-125.

APPENDICES

Appendix i: Questionnaire

MAKERERE UNIVERSITY BUSINESS SCHOOL
GRADUATE RESEARCH CENTRE
QUESTIONNAIRE FOR RESPONDENTS

Dear respondent,

I am a student of Makerere University Business School pursuing a Master of Business Administration (MBA) of Makerere University. As a requirement for the award of this degree, I am carrying out a research on the topic**: Access to credit finance, Entrepreneurial competency and perceived Performance of Small and Medium Enterprises in Arua City**. You have been carefully selected to participate in this study to provide data about the study and promise that the information you provide will be treated with utmost confidentiality and used for this study. Your contribution is highly appreciated.

Thank you for your cooperation, participation and time.

SECTION A:
Background Information (please tick where appropriate)
Name of the Business: …… (Optional)

PER01. What is your gender?

Male	Female
1	2

PER02. What is your age group?

18-24 years	25-35years	36-45years	46-55years	Above 55 years
1	2	3	4	5

PER03. Indicate your level of education.

Certificate	Diploma	B. Degree	Master's Degree	PhD
1	2	3	4	5

PER04. What is your job position?

Owner/Manager	Accounts staff
1	2

PERS 05. Time frame in this position

1 Less that 4 year	5-8 years	9-12 years	Over 13 years

Organizational Characteristics

FIR01. How long has this SME been in existence?

Less than 5 years	5-10 Years	10 and above years
1	2	3

FIR02. What is the nature of your SME?

Sole proprietorship	Partnership	Private limited company	Cooperative society	Joint venture
1	2	3	4	5

FIR03. What is the source of financing of your business?

Loan	Owners capital	Friends and family
1	2	3

SECTION B

Indicate in your opinion by ticking the appropriate box the likert statements on the basis of the following scale.

Scale	**1**	**2**	**3**	**4**	**5**	**6**
Description	Completely disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Completely agree
FINANCIAL PERFORMANCE						

	Part: (i) Profitability (PP)	1	2	3	4	5	6
PP1	Our business realized adequate revenue for the last three years						
PP2	Our business revenue has covered the operating costs for the last three years						
PP3	Our business used profits to fund its growth						
PP4	Our business generated profits last year three years						
PP5	The business pays expenses using profits						
PP6	Our profit margin increased for the last five year						
PP7	Our business sales are more than operating cost for the last three years						

PP8	Our business met its annual financial objectives for the past three financial years						
	Part: (ii) Liquidity (PL)						
PL1	Our business meets its financial obligations as they fall due						
PL2	Our business suppliers are paid in time						
PL3	The firms current assets exceed current liabilities						
PL4	Our business liquid assets can be converted into cash						
PL5	The business has enough cash to purchase assets						
PL6	Our enterprise has sufficient cash flow in the last three years						
PL7	Our liquidity position is frequently assessed						
PL8	Our debtors fulfill their commitments as promised						
	ACCESS TO FINANCE						
	Part (i): Collateral security: (CS)	1	2	3	4	5	6
AC1	Our business has enough assets to offer as security						
AC2	Our securities are comprehensively insured						
AC3	Our securities are still in good condition						
AC4	The loan our business borrows meets bank of Uganda minimum standard						
AC5	Lenders rate the securities we offer highly						
AC6	The enterprise`s assets are regularly appraised by qualified experts recognized by a credit supplier						
	Part (ii): Interest rate	1	2	3	4	5	6
AI1	The interests charged are relatively low						
AI2	The service charges levied by our bankers are high						
AI3	Our business searches for lenders who charge fair rates						
AI4	The interest rates charged by our lenders are stable						
AI5	Our lenders educate us on the interest rates they charge before we borrow						
AI6	Our secured loans attract lower interest rates						
AI7	Our short-term loans attracts higher interest rates						
	Part (iii): Financial inclusion	1	2	3	4	5	6
AF1	We have a formal financial services available to our business						

AF2	Our business can easily access the required finances						
AF3	Our business has access to affordable finance						
AF4	Our business accesses cheap source of finance regularly						
AF5	We have a diverse source of finance for our business						
AF6	We receive regular training on use of borrowed funds to finance our business						
AF7	The business attachment is widely adopted by businesses						
	Part (iv): Record keeping	1	2	3	4	5	6
RK1	Every business transaction is recorded						
RK2	Business records are well stored for easy retrieving						
RK3	We have competent staff to record transactions						
RK4	Our transactions are computerized						
RK5	Records are verified from time to time						
RK6	Transactions are captured timely						
RK7	Our business records are stored for the last ten years						
	ENTREPRENEURIAL COMPETENCY (ES)						
	Part 1: Strategy	1	2	3	4	5	6
ES1	I have well defined strategic goals for the business						
ES2	I have effective strategy monitoring mechanisms						
ES3	I identify long-term business issues annually						
ES4	I routinely align the current issues with strategic goals						
ES5	My strategy evaluation mechanisms are effective						
ES6	I have reliable measures to detect deficiencies early enough						
ES7	I promptly redesigns plans to address deficiencies						
ES8	We usually carry cost-benefit analysis of each strategy						
	Part (ii): Conceptual thinking	1	2	3	4	5	6
EC1	I aggressively explore new ideas and markets						
EC2	I take reasonable business-related risks						
EC3	I treat new problems as opportunities						
EC4	I usually evaluate the business implications of new ideas						
EC5	I usually have management support to commit resources for new ideas						
EC6	I have appropriate mix of resources for new ideas						
EC7	I have capabilities to develop new ways of doing business						

EC8	I carefully monitor the progress towards business goals						
	Part (iii): Opportunities	1	2	3	4	5	6
EO1	I'm aware of the uncertainty in the business environment						
EO2	I vigorously strive to identify the unmet customer needs						
EO3	I'm well versed with business management						
EO4	I have good market analytical skills						
EO5	I have sufficient information about the operations of the competitors						
EO6	I highly embrace information technology (IT)						
EO7	The customer base of the business has increased tremendously						
EO8	I'm abreast with the dynamics in the industry						
	Part (iv) : Organizing and leading	1	2	3	4	5	6
OL1	I have the ability to acquire new knowledge						
OL2	I'm capable of leaning new ways of solving problems						
OL3	I can deal with complex issues						
OL4	I'm able to adjust to new values						
OL5	I possess cross cultural communication skills						
OL6	I'm willingly to participate in supportive debates						
OL7	I organize the activities of the business well						
OL8	I monitor the flow of our business activities						
	Part (v): Relationship	1	2	3	4	5	6
RC1	I participate in promoting team spirit in our business						
RC2	I contribute so much to the team members						
RC3	I relate well with business partners						
RC4	I build an understanding between myself and others						
RC5	I maintain a constructive working alliance with clients						
RC6	I have the capacity to develop working alliance with all stakeholders						
RC7	I relate well with government agents						
	Part (vi) Technical competency	1	2	3	4	5	6
TC1	I have expertise in functional areas						
TC2	I use specific technique relevant to this business						
TC3	I have good basic knowledge in my business area						
TC4	I utilise technical knowledge relevant to the business						
TC5	I have the ability to produce good results for my business						
TC6	I do my work with confidence						
TC7	I have familiarity with different technical resources						

	Part (vii)Personal competency (PC)	1	2	3	4	5	6
PC1	I love learning new things in the business environment						
PC2	I listen carefully to the people I interact with before giving my views						
PC3	I interpret issues presented to me before acting						
PC4	I have the ability to adapt to novel situations						
PC5	I have positive regards to all the stakeholders in our business environment						
PC6	I am good at time management						
PC7	I'm committed to my work						

Thank you very much for your time.

Appendix ii: Krejcie and Morgans Table to Determine Sample Size
Sample size (S) required for the given population size (N).

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	256	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Note: From R.V Krejcie and D.W. Morgan (1970), determining the sample size for research activities, educational and psychological measurement