

The Impact of Financial Literacy on Access to Finance: Does Risk Attitude Matter?

Selma Dzifa Addo^{1*}, & Joseph Asante²

^{1,2}Accra Institute of Technology, Accra

*Corresponding author Email: s.addo26@yahoo.com, ¹ORCID: 0000-0003-0274-3927

²jasantey@arbapexbank.com, ORCID: 0000-0003-3607-7766

Article Information:

Received: February 14, 2023, Accepted: February 28, 2023, Published: March 02, 2023

Abstract

The purpose of the paper was to assess the effect of financial literacy on the access to finance of SMEs. Thus, the study examined the effect of financial literacy on SMEs' access to finance in developing economies. Data for the study was collected from SME owners/managers in Ghana through questionnaires. 396 questionnaires were analyzed. The Partial Least Square Structural Equation Modelling (PLS-SEM) was used as the main analytical tool. The study found a significant positive association between financial literacy and access to finance. Financial literacy also had a positive significant effect on risk attitude, whereas the link between risk attitude and access to finance was also found significant. Again, the study showed that risk attitude matters in the nexus between financial literacy and access to finance, as it was found to mediate the link between financial literacy and access to finance. Our findings affirm the dual process theory of reasoning where an entrepreneur's decision to access finance is guided by two systems of thinking: the automatic unconscious system based on their risk attitude, and the deliberate conscious system where different considerations and models are weighed up based on their financial literacy, both of which serves to magnify or dampen rational decision-making to access business financing. The findings also affirm the Knowledge base view theory (KBV) that, financial literacy is a special strategic asset organizations can use to obtain a competitive advantage over competitors. Practically, SMEs will be encouraged to improve their financial literacy and risk attitude skills.

Keywords: SMEs, Financial Literacy, Access to Finance, Risk Attitude, PLS-SEM

JEL: G53, G32 ,D91

How to Cite:

Addo, S. D., & Asante, J. (2022). The Impact Of Financial Literacy On Access To Finance: Does Risk Attitude Matter?. *International Journal of Business, Management, and Economics*, 4(1). 32 - 55. DOI: <https://doi.org/10.47747/ijbme.v4i1.1101>

1. Introduction

Financial literacy and its role in helping entrepreneurs make prudent financial decisions including accessing external finance for the growth of their businesses has recently grown in importance (Potrich & Vieira, 2018). In developed and emerging countries, policymakers are increasingly paying attention to this field of study. Helping people make wise financial decisions when dealing with financial concerns is one of the key goals of financial literacy.

SMEs play a crucial role in the economic growth of both developed and developing nations. As indicated in earlier studies, they contribute to employment and economic growth (Aphu, 2018; Khan et al., 2020). However, SMEs encounter numerous difficulties that place a limitation on their ability to contribute to economic progress (Beck et al., 2006; Khan et al., 2021; Wang, 2016). Adomako et al. (2016), noted that the lack of financial management skills of SMEs is a major constraint to business success. Prior researchers (Buchdadi et al., 2020; Korkmaz et al., 2021; Ye & Kulathunga, 2019) have established the relevance of financial literacy in making financial decisions for businesses. With the continuous rate of business failures in developing economies which has mostly been attributed to a lack of access to finance (Beck et al., 2006; Cressy, 2006), we examine the effect of financial literacy on access to finance and introduce risk attitude as a link to investigate the potential magnifying or dampening role that risk attitude could play in the relationship between financial literacy and access to finance.

Researchers are increasingly paying attention to the risk attitude of SMEs in the management of businesses and the effect that the risk attitude of entrepreneurs has on SME growth and success. This can be attributed to the results from prior studies which have found a significant effect of risk attitude on the growth of SMEs. Researchers like Ye and Kulathunga, (2019) and Buchdadi et al. (2020) have found that the risk attitude of business owners/ managers has serious repercussions for business success. The desire for risk-taking is one of the key characteristics of entrepreneurs (Kim, 2011). Risk attitude measures people's chosen response to uncertainty. According to Ye & Kulathunga (2019), risk attitude significantly affects business success and sustainability. Nguyen et al. (2022), ascribe this to the uncertainties associated with each financial choice taken in business. We, therefore, argue that examining risk attitude in the link between financial literacy and access to finance is necessary since risk attitude significantly affects the outcome of decisions. However, studies examining risk attitude as a mediating factor in the link between financial literacy and access to finance are scarce. Much attention has not been given to this topic; hence, we examine risk attitude as a mediator in the financial literacy- access to finance association.

According to Adomako et al. (2016), financial access is the ability to obtain finance to support SME business operations. In this study, access to finance is conceptualized as the ability to obtain financial assistance from financial institutions to support business operations and the satisfaction derived from the service that was rendered. The attainment of financial support is crucial for SMEs as access to credit remains a major restraint for SMEs over the world. The World Bank in its 2014 World Bank Global Report, found that SMEs face financial management constraints that cause them to not meet their expected role in growth

and development. The call for financial inclusion of SMEs is nothing new, however, the continuous unsustainability of SMEs due to financial constraints has brought renewed interest in more financial inclusion (Adomako et al., 2016) through financial literacy. Although these calls are in place, however, how other factors such as risk attitude contribute to our understanding of the mechanisms through which financial literacy affects access to finance is still not well known. Thus, given this gap, scholars must continue to probe potential factors or channels through which financial literacy impacts access to finance to enhance our understanding and also contribute towards policy discussions in this area.

This study, consequently, extends knowledge on how financial literateness acts as a strategically noteworthy resource SMEs can use to achieve a competitive advantage in the competition by interacting with risk attitudes to aid SMEs gain financial support to grow their business. The study draws on the Knowledge base-view theory (KBV) and the dual process theory to examine the role of risk attitude in the financial literacy- access to finance nexus. Our drive is to contribute to the current debate on the implication of financial knowledge on access to credit by demonstrating the part risk attitude plays in the relationship.

The research has vital implications for lawmakers and SMEs alike as it further throws light the significance of financial literacy in shaping the risk attitude of entrepreneurs as well as their access to finance. This will inspire SMEs to make financial literacy and risk management programs such as conferences and workshops part of their annual programs to help improve their financial knowledge and attitude toward risk measures. Policymakers will also appreciate how essential it is to draw up policies such as compulsory annual financial literacy training for SMEs to boost their capacity to access finance for the growth of their businesses and the economy at large.

The principal research questions that drive the study are: does financial literacy impact access to finance? does financial literacy have an impact on risk attitude? does risk attitude affect access to finance? to what extent does risk attitude mediate the relationship between financial literacy and access to finance?

The rest of the study is presented as follows: the next section presents a review of theories and prior studies and develops the hypothesis for the study, followed by research methodology, data collection instruments, data analysis, then a discussion of findings. The final section concludes the study with some recommendations for further studies.

2. Literature Review and Hypothesis Development

2.1 The Knowledge Base View

We draw on the Knowledge-based view (KBV) theory to enhance our understanding on the relationship between financial literacy and access to finance. We discuss the benefit of financial literacy on access to finance. The KBV suggests that knowledge is a strategic resource that organizations can depend on to achieve competitive advantage (Curado, 2006).

The theory is a current extension of the resource-based view theory and considers knowledge as a special strategic resource that does not depreciate compared to other traditional organizational resources (De Carolis, 2002). Organizations are seen as heterogeneous units

filled with knowledge, and knowledge resources are difficult to copy (Wiklund & Shepherd, 2003). Wiklund and Shepherd (2003), considered KBV as the main foundation for sustainable differentiation. The main idea behind the KBV theory is that knowledge is an organizational asset that is special because it does not depreciate and cannot be easily imitated by competitors thus organizations who acquire knowledge assets can have a knowledge asymmetry advantage compared to other competitors without knowledge asset (Wiklund & Shepherd, 2003). Therefore, financial literacy is an important resource that organizations can use to obtain access to finance. According to Ye and Kulathunga (2019), financial literacy is seen as a knowledge and intellectual asset for managing finance and making effective financial decisions.

2.2 The Dual Process Theory

The dual process theory framework is used in explaining the thinking pattern of people. A central feature of the theory is that it uses two distinct processes to define human behavior (Moors, 2014). According to Kvaran and Sanfey (2013), making moral judgments results from two competing processes, the automatic and fast process and then the deliberate, slow thinking approach. The term process in the definition according to De Houwe (2011), can be explained as a mental process that changes environmental inputs to behavioral output. The dual process theory sees decisions made by people with financial literacy as being influenced by cognitive processes and intuition (Ye & Kulathunga, 2019).

Several studies have documented that financial literacy affects growth by assisting users to apply their knowledge and skills to achieve a desired objective. Financial literacy is said to affect the information asymmetry of SMEs and help them identify different sources of finance while combining their skills to obtain finance. Thus, financial literacy impacts the risk attitude of SMEs and helps them to have the courage to seek financial assistance from financial institutions for their businesses.

2.3 Small and Medium-sized Enterprises (SMEs)

Small and medium enterprises are companies that keep their assets, revenue, and workforce below a predetermined level. Although definitions may defer from nation to nation, assets, turnover, and personnel continue to be the definition's common denominators. The International Monetary Fund defines SMEs as businesses with a staff strength of between 10 and 249 employees. The Ghana Statistical Service classifies SMEs as businesses with a staff strength of between 6 and 100 employees. In both established and emerging economies, the contribution of SMEs to development has been recognized in earlier literature (Beck et al., 2005; Khan, 2022). According to Beck et al. (2005), SMEs are crucial to the revolution of transition economies. Asare (2014), posits that SMEs significantly increase employment and the Gross Domestic Product (GDP) of Ghana, particularly in the manufacturing sector. The sustainability of SMEs is, however, a major challenge despite all of these contributions (Asare, 2014), with their access to finance identified as the paramount challenge in this regard (Beck et al., 2006; Cressy, 2006). This is what motivated the current study to take another look into this challenge of SMEs to suggest some solutions.

2.4 The Impact of Financial Literacy on Access to Finance

Access to finance has been a major concern for SMEs for several years now. The main obstacle for small and medium-sized businesses is gaining access to finance (Beck et al., 2006; Cressy, 2006). A survey of the findings of several studies shows that access to capital significantly influences how quickly a company expands (Adomako et al, 2016; Beck et al., 2006; Malo and Norus, 2009; Okello et al. 2017;). However, SMEs are unable to gain access to finance to support their business. Among the reasons adduced for the lack of access to finance are that SMEs are usually young and have less available public information, and they sometimes also operate in unfamiliar sectors (Abraham & Schmukler, 2017). These challenges lead to information asymmetry and high risk (Abraham & Schmukler, 2017) thereby hindering access to finance. According to Ye and Kulathunga (2019), financial literacy can improve information asymmetry and thus increase access to finance. Several other studies have also emphasized that financial literacy can improve one's access to financing (Fatoki, 2021; Hasan et al., 2021; Hussian et al., 2018; Wachira & Kihui, 2012). According to Wise (2013) firms with higher financial literacy have a higher likelihood of loan payback and a lower likelihood of closing their business involuntarily thus granting them better chances of accessing finance. Oke (2018) also postulated that financial literacy is a significant determinant of SMEs' financial access. Wachira and Kihui (2012) posited that even with the current level of awareness of financial literacy's significance, the possibility of financially illiterate people remaining financially excluded is very high. The findings of Hasan and Hoque (2021) supported these arguments that being financially literate has a significant influence on accessing finance for business development.

Notwithstanding this, Eresia-Eke and Raath (2013) disagreed that the financial literacy of SME owners leads to business growth. Oke et al (2020) supported their argument with the finding that financial literacy does not influence access to bank finance. Dwiastranti (2015) postulated that financial literacy is not a guarantee for practicing behavioral finance due to behavior not always being influenced by knowledge but by other emotional and psychological factors. This, supports the argument of Alsemgeest (2015), that most people find themselves in a dire financial position currently than they were previously after numerous financial literacy education. The inconsistencies in these findings have warranted the curiosity to draw on the knowledge-based view theory and other empirical findings to investigate the effect of financial literacy on access to finance of SMEs in Ghana. We, therefore, hypothesize that:

H1: Financial literacy significantly impacts access to finance

2.5 Financial Literacy and Risk Attitude

Risk attitude as described in this study refers to the risk-taking attitude or risk propensity of SME owners/managers (Ye & Kaluthunga, 2019). A person's risk propensity is their current tendency to take or avoid risks (Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). It can be described as the risk-averse mindset. Therefore, risk inclination might be defined as the degree to which a person is willing to seek uncertainly dangerous possibilities. SME owners and managers make many critical decisions in the day-to-day management of their businesses and these choices significantly impact how well these businesses function. A study by Ye and

Kulathunga (2019), argues that our attitude toward uncertainties influences our risk attitude and management of risk. Kim (2011), described risk attitude as a competitive trait in business, especially for those in the construction sector. Ye and Kulathunga (2019) discovered a direct positive outcome of risk attitude on business sustainability. Risk attitude was also found by Caliendo and Fossen (2010) to have a significant consequence on entrepreneurial survival. Wall and Dyer (1996) concluded that risk attitude significantly affects the financial success of petroleum corporations.

Since risk attitude has a significant influence on business sustainability, it is necessary that SMEs exhibit the right attitude towards risky decisions, and having a broad understanding of finance is essential in this regard. Hasan et al. (2021) postulated that financial decisions are strongly influenced by familiarity with various financial services. De Mel (2011) also discovered that individuals who participate in financial literacy training gain information about financial matters that may be used to make appropriate financial decisions for progress. Ramandhanty et al. (2021) postulated that higher financial literacy implies a better attitude toward risk. According to Adomako et al. (2016), lack of financial literacy has led to poor financial decisions which have led to business bankruptcies in many parts of the world. Likewise, other studies have also described the entrepreneur's decision-making capability and relationship to financial attitudes as compared to financial literacy qualities (Eniola & Etenbang, 2017). Ye and Kulathunga (2019) postulated that financial literacy significantly impacts risk attitudes, while Buchdadi et al. (2020) found that financial literacy affects the attitude of managers toward risk. Financial literacy will therefore, assist SMEs in understanding the risk associated with each decision for the success of the firm. Studies examining the relationship between financial literacy and risk attitude are however few especially in Ghana, hence this study. We hypothesize that:

H2: Financial Literacy has a significant effect on the risk attitude of SMEs

2.6 The Mediating effect of risk attitude in the relationship between financial literacy and access to finance

Guided by the dual process theory, we now argue why SMEs' access to finance increases when risk attitude is introduced in the financial literacy-access to finance nexus. Risk attitude has been found to have a significant effect on decision-making and the performance of SMEs. Buchdadi et al. (2020) found financial risk attitude to have a significant impact on the performance of SMEs. Ye and Kulathunga (2019) found risk attitude to have a positive relationship with firm sustainability. The study by Grable and Lytton (1999) also found a significant relationship between total income earned and financial risk attitude. It is generally estimated that people's tendency to engage in risky ventures is based on the expected benefit to be derived from the said risk (Ye & Kulathunga, 2019). Therefore, Gilmore (2004) concluded that having the right risk attitude should result in better performance.

Access to finance in developing countries is a major constraint for SMEs (Robson et al., 2008). Literature suggests that this plight is sometimes worsened by the risk attitude of entrepreneurs (Hermansson, 2015). A study by Mullei and Bokea (1999) posited that banks reduce the risk associated with financing SMEs by demanding collateral before loans can be

provided. SMEs mostly, however, do not have adequate collateral to enable access to loans (Osano & Languitane, 2016). This, therefore, reduces their chances of obtaining bank loans. Hermansson (2015) posited that people with high and medium risk have more financial assets and debts compared to those that are risk averse. Hyll and Irrek (2015), concluded that a high-risk attitude is synonymous with owning financial assets such as stocks, bonds, and company assets. Arrow (1984) postulated that the willingness to take risks increases as wealth increases. Therefore, the right proportion of risk attitude can give SMEs the courage to make wealth and invest in financial assets (Hermansson, 2015) which will lead to the needed collateral when seeking to access finance, thereby increasing their chances of having access to finance.

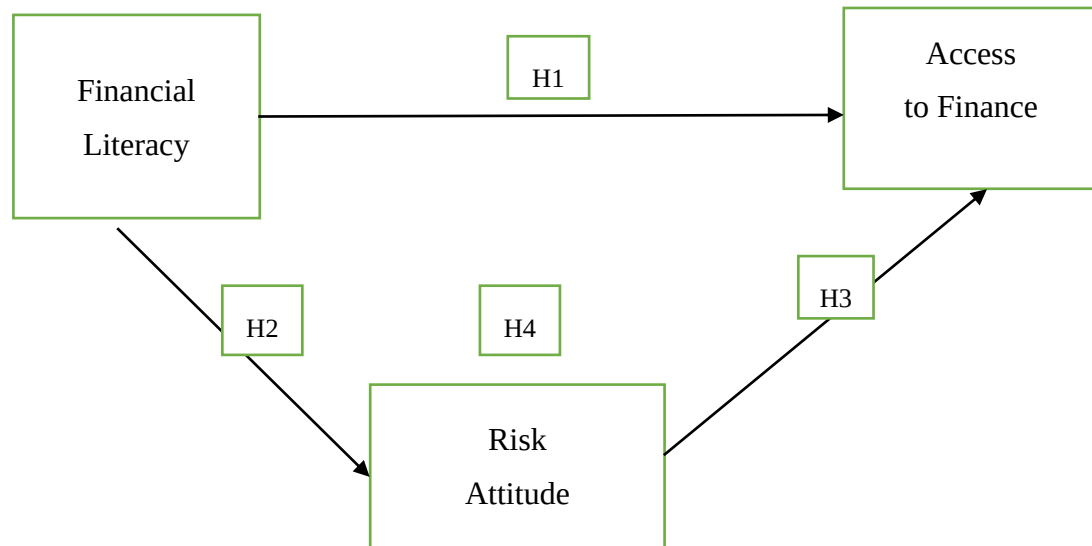
Korkmaz et al. (2021) found that a significant characteristic of financial literacy is to encourage risk-taking behavior while Buchdadi et al. (2020) postulated that those with high financial literacy manage risk better than those with low financial literacy. The argument was further supported by other studies (Goswami et al. 2017; Hsiao & Tsai, 2018) that financial literacy makes entrepreneurs exhibit a better risk attitude. Carretta et al. (2017) confirmed that financial illiterates on average have their risk attitude more negative than financial literates do. Eniola and Etenbang (2017) postulated that the quality of an entrepreneur's decision-making is determined by his financial literacy. Caliendo and Fossen (2010) believe risk attitude has a significant effect on entrepreneurial survival in business. Nonetheless, Zhang et al. (2021) found that financial literacy was unable to reduce the losses during the stock market crash in 2015, of the earnings of families with risky assets.

Even though there are quite several studies examining the influence of financial literacy on risk attitude and on access to finance, as well as studies examining risk attitude effect on access to finance, not much attention has been accorded to studies examining risk attitude as a mediator in the connection between financial literacy and access to finance. Thus, based on the dual process theory, we suggest that financial literacy can influence the risk attitude of SMEs and give them the courage to make wealth which can in turn increase their chances of having access to finance for their businesses. From the foregoing, therefore, we endeavor to test the following hypotheses:

H3: Risk attitude significantly impacts access to finance

H4: Risk attitude significantly mediates the relationship between financial literacy and access to finance

The hypothesized relationships and the variables are shown in Figure I.



3. Research Method

To test the hypothesis for the study, we used SMEs in Ghana, a sub-Saharan African country. Ghana shares a border with Ivory Coast in the West, Burkina Faso in the North, and Togo in the East and is the second most populated country in West Africa, second to Nigeria with about 31 million inhabitants according to the recent population census (Ghana Statistical Service, 2021). The World Bank (2010), recognized Ghana as one of the few countries to have been able to cut down on severe hunger among its citizens. Like most developing economies, SMEs remain a major contributor to employment in Ghana, however, Adomako et al. (2016) noted that skills gap is a major constraint that affects SMEs in making wise financial choices. This challenge is attributed to the low level of education in developing countries (World bank, 2009). Low educational levels tend to make people create survival businesses (Adomako et al., 2016), however, low-level education can also hinder the performance of the business, making survival difficult. This has made it difficult for SME businesses to survive more than 5 years after their establishment (Akoto, 2022). Ghana, therefore, becomes a good case study to conduct our research since its environment is typical of those in which financial literacy may be one of the main constraints for business success.

Data for the study was gathered from respondents from the Ghana Enterprise Agency in Accra. According to the Ghana Statistical Service Integrated Business Establishment Survey Phase I, 2015, the Greater Accra region, of which Accra is the capital has 27,192 SMEs. The sample size determination was done using the Slovin's formula, $n = \frac{N}{1 + N.e^2}$, $n = \frac{27,192}{1 + 27,192 (0.05)^2}$ $n = 394$. The purposive sampling method was used to collect data from SME owners/managers, who usually are the decision-makers of businesses. A total of

550 questionnaires were distributed, out of which 400 questionnaires were received and 396 were found acceptable after the unfit ones were taken out. The primary analytical tool used for the study was the Partial Least Square Structural Equation Modeling (PLS-SEM), whereas descriptive statistics were used to describe the demographic characteristics of the SMEs. This analytical tool has been accepted and used in previous research (Aydemir & Aren, 2017; Potrich et al, 2016; Wasiuzzaman et al. 2020).

3.1 Measurement

The study relied on prior research items to examine the key constructs. Table II shows a summary of the predictor measures and factor loadings and while table III shows the Cronbach alpha. All the reliability values were within the recommended threshold of 0.7 and above.

To ensure validity, the study's instruments were tested by providing copies to three (3) experts in business and academia to examine the questions (Fraenkel, et al. 2012). For each question, at least two (2) members must agree to the relevance in order to retain it as part of the final instrument. The experts recommended changes to some questions they felt were not focused enough. In a situation whereby 2 of the experts raised the same set of suggestions concerning a particular item, their suggestions were adopted while the questions were remodified.

Also, a pilot test was conducted, and SMEs in some designated areas were given questionnaires to fill. They were also asked to make criticisms on the clarity and time of filling the questionnaires. The questionnaires were refined for clarity afterward.

Financial literacy: The measurement of financial literacy was adapted from Adomako, (2015). The following statements were made for respondents to indicate their agreement : (a) We prepare financial statements every month (b) We review financial reports every month (c) We analyze financial statements every month (d) We understand the gross profit margin of the business. The last question was adapted from Chen and Volpe, (1998), (e) We understand the requirements for a bank loan. A seven-point Likert scale, from strongly perform to strongly not perform, was presented to the respondents.

Access to finance: The questions on access to finance were adapted from (Adomako, 2015) and are as follows: I have easy access to finance; the loan products the bank offers are good for business; the terms and conditions of the loan are satisfactory; I am generally satisfied with access to finance. These were evaluated on a seven-point Likert scale, from strongly satisfied to strongly dissatisfied.

Risk Attitude: The instrument for measuring risk attitude came from Ye and Kulathunga, (2019). On a Likert scale from 1 to 7, respondents were asked how likely they were to take the following actions. Invest 10% of revenue annually for business development, invest 10% of your annual income to buy stocks / mutual funds, put 10% of monthly revenue into a business emergency fund, and bet a day's revenue in a high-risk game.

4. Result and Discussion

4.1. Descriptive statistics

The study found that the service sector had the highest frequency of 218 and accounted for 55.1% of the population, followed by the industrial sector with 115 and 29% of the population, and the agriculture sector with 63 and 15.9% of the population. The fact that more SMEs are in the service sector confirms the sector as the major contributor to the gross domestic product of Ghana (Owusu et al.2019).

A total of 183 workers (46.2%) work for companies with staff sizes between 31 and 60. Businesses with a staff size of 61 to 100 had 103 employees (26%), and those with a staff size of 6 to 30 had 110 (27.8%). We identified that 129 businesses or 32.6% of all the companies had been around for fewer than three years. This shows that although more of the SMEs are in the medium size (31-100), the majority are far from reaching a staff size of 100. More than 46% of them have staff sizes between 31- 60. This implies that more needs to be done for SMEs to reach their full potential of employment in order to reduce unemployment in Ghana.

Businesses older than ten years had a frequency of 112, or 28.3%; businesses between seven and ten years had a frequency of 107, or 27%, and businesses younger than three years had a frequency of 129, or 32.6%, those between 3-6 years were 48, or 12.1%. We realized that the majority of the businesses were found to have been in existence for less than 3 years (32.6%) while those above 10 years were 28.3% confirming the unsustainability of SMEs (Ye and Kulanthunga,2019). (See Table 1 below).

Table 1: The Profile of the Sample

Sector	Frequency	Percentage
Agriculture	63	15.9 %
Industrial	115	29 %
Service	218	55.1 %
Company Size		
6 – 30 employees	110	27.8 %
31 – 60 employees	183	46.2 %
61- 100 employees	103	26 %
Age of the Company		
Below 3 years	129	32.6 %
3 – 6 years	48	12.1 %
7 – 10 years	107	27 %
Above 10	112	28.3

4.2. Data Analysis

The partial least square structural equation modeling, PLS-SEM was used for the analysis of data. SEM has two levels of analysis, the measurement model and the structural model. The measurement model assesses the latent variables while the structural model measures the path

relationship between the variables (Hoyle 1995; Kline,2010). The measurement model measures reliability and validity. The structural model can only be done after the required thresholds for reliability and validity have been satisfied. The threshold for all the variables was satisfied, thus we proceeded with the structural model to assess the path relationships among the variables.

4.2.1 The Measurement Model

The quality of the constructs in the study is assessed based on the evaluation of the measurement of the model. The assessment of the quality criteria starts with an evaluation of factors loadings which are followed by establishing the construct reliability and construct validity.

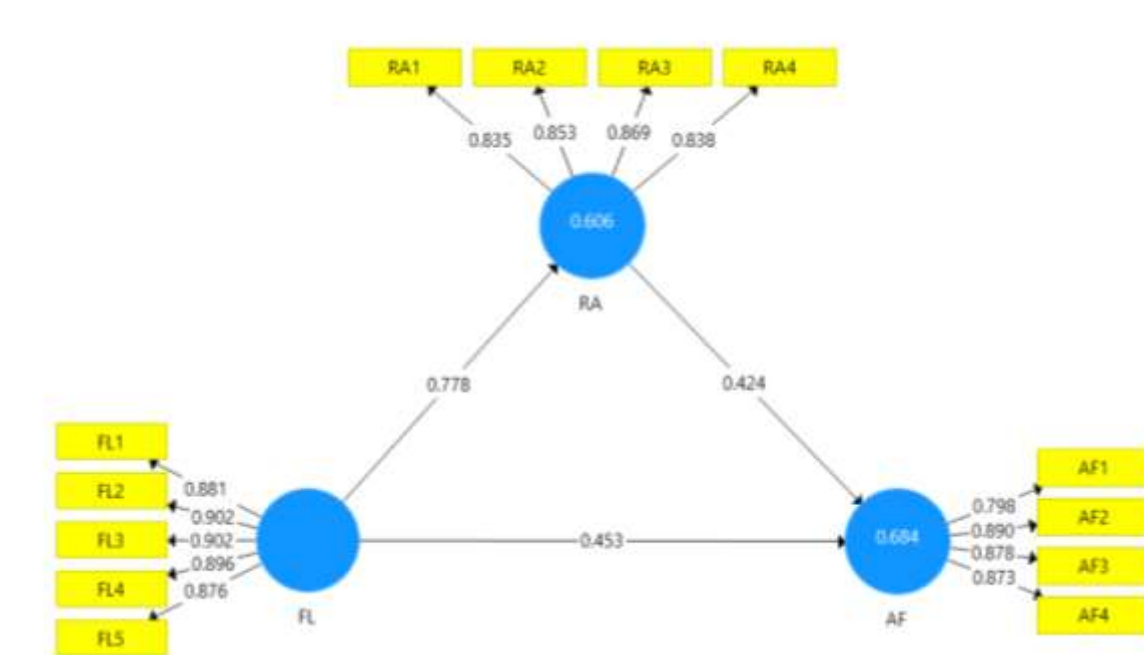


Figure 2. The Measurement Model

4.2.2 Factor loadings

Factor loadings measure the extent to which a variable is correlated to a given factor. Factor loadings for the study were within the required threshold of 0.6 or higher (Awang,2015) as recommended.

Table 2: Factor Loading

	Access to Finance	Financial Literacy	Risk Attitude
AF1	0.798		
AF2	0.890		
AF3	0.878		
AF4	0.873		
FL1		0.881	
FL2		0.902	
FL3		0.902	
FL4		0.896	
FL5		0.876	
RA1			0.835
RA2			0.853
RA3			0.869
RA4			0.838

Note: AF1-RA4 represent the research questions answered by respondents

4.2.3. Reliability

Reliability is the degree of an instrument's stability and consistency. The most common method for reliability includes Cronbach alpha and composite reliability. A criterion of 0.70 or higher is considered acceptable (Hair et al., 2011). Reliability was established since both Cronbach alpha and composite reliability values were above 0.7.

Table 3: Cronbach's alpha evaluation results and composite reliability

	Cronbach's Alpha	Composite Reliability
Access to Fin.	0.882	0.919
Fin. Literacy	0.935	0.951
Risk Attitude	0.871	0.912

4.2.4. Convergent validity

Convergent validity is assured when several attempts to examine the same concept converge or are in agreement. The idea is that two or more measures of the same thing should covary extremely if they are valid measures of the same concept (Bagozzi et al., 1991). The average variance extracted (AVE) shows that items converge to measure the underlying construct and establish convergent validity when above or equal to 0.50 (Fornell & Larcker, 1981). The AVE below shows items converging to measure the constructs.

Table 4. Convergent Validity (AVE)

	Average Variance Extracted (AVE)
Access to Fin.	0.740
Fin. Literacy	0.795
Risk Attitude	0.721

4.2.5. Discriminant Validity

According to Fornell and Larcker's (1981) criterion, Discriminant validity is proved when the square root of AVE for a concept is more significant than its correlation with other constructs. The construct's square root of AVE (in bold italic) was more significant than its correlation with other constructs, as indicated below.

Table 5: Discriminant Validity – Fornell and Larcker Criterion

	Access to Fin.	Fin. Literacy	Risk Attitude
Access to Fin.	<i>0.860</i>		
Fin. Literacy	0.783	<i>0.891</i>	
Risk Attitude.	0.777	0.778	<i>0.849</i>

Note: Bold and Italics represent the square root of AVE.

4.2.6. Heterotrait -Monorait Ratio (HTMT)

HTML is based on the assessment of the construct. Discriminant validity is established on the HTMT ratio. The threshold for HTMT has been debated in the prior literature. For example, Kline (2011) suggested a threshold of 0.85 or less, while Teo et al., (2008) recommend a liberal threshold value of 0.90 or less. The HTMT in the table below met the recommended threshold by Teo et al. (2008).

Table 6: Discriminant Validity – HTMT

	Access to Fin.	Fin. Literacy	Risk Attitude
Access to Fin.			
Fin. Literacy	0.862		
Risk Attitude	0.885	0.861	

4.2.7. The Goodness of Fit (Model's Predictive Capacity)

The results revealed an R square value of 0.684 for access to finance and 0.606 for risk attitude signifying that a 68.4% discrepancy in access to finance may be credited to financial literacy and risk attitude. The 60.6% discrepancy in risk attitude can be attributed to financial literacy. These imply that other predictive variables contribute to explaining SMEs' access to finance. Likewise, other predictive variables contribute to explaining risk attitude aside from financial literacy, which future studies can explore.

Table 7. Goodness of Fit

	R Square
AF	0.684
RA	0.606

4.3 Structural Model

The next step in structural modeling is evaluating the hypothesized relationship to validate the proposed hypotheses. An assessment of the hypothesized relationships was done to substantiate the proposed hypotheses. The bootstrapping technique in SEM is used in determining the significance of the various relationships.

4.3.1 Hypothesis Testing

The study's hypotheses were tested. The bootstrapping method was used to test the direct and indirect relationships. The direct relationships included the impact of financial literacy on access to finance, the impact of risk attitude on access to finance, and the impact of financial literacy on risk attitude. Risk attitude was used as a mediator in the link between financial literacy and access to finance. Hypothesis 1, examined the relationship between financial literacy and access to finance. The result was positive and significant ($\beta = 0.453$, $p = 0.048$), thus hypothesis 1 was accepted, in that, financial literacy positively impacts access to finance. Hypothesis 2 was also accepted ($\beta = 0.778$, $p = 0.028$), meaning financial literacy positively affects risk attitude. Hypothesis 3 was likewise confirmed ($\beta = 0.424$, $p = 0.047$) that risk attitude has a positive relationship with access to finance. Direct relationships are indicated in table 8 below.

Table 8. Direct Relationship Results

	Beta Coefficient	T Statistics (O/STDEV)	P Values
FL -> AF	0.453	0.451	0.048
FL -> RA	0.778	0.777	0.028
RA -> AF	0.424	0.424	0.047

Hypothesis 4 proposed that risk attitude mediates the relationship between financial literacy and access to finance. The hypothesis was supported, in that, we found risk attitude mediates the connection between financial literacy and access to finance ($\beta = 0.330$, $p = 0.000$).

Table 9. Indirect Relationship Result

	Beta Coefficient	T Statistics	P Values
FL -> RA -> AF	0.330	8.395	0.000

4.4. Discussion

The study examined the link between financial literacy and access to finance for small and medium businesses in developing economies. PLS-Structural Equation Modelling (SEM) was the statistical tool used for the analysis. We found the association between financial literacy and access to finance to be positively significant; this implies that having financially literate SME owners/managers brings about an understanding of the requirements necessary to attain financial assistance from financial institutions. Financially literate SMEs can also analyze different stages and sources of finance to access financing for their business. This finding is consistent with the study of Ye and Kulathunga (2019), who found financial literacy to have a significant effect on access to finance in Sri Lanka, and that of Buchdadi et al. (2020) who postulated that financial literacy significantly influences access to finance. A related study by Han (2018) also recorded support for the link between financial literacy and borrowing. These findings further prove that the many business failures of SMEs attributed to lack of access to finance can suggestively be abridged with financial literacy education. This may be attributed to the capability of financial literacy to assist in eliminating the information gap by assisting SMEs with the needed knowledge to acquire access to finance. The finding is however inconsistent with that of Eresia-Eke and Raath (2013), who found an insignificant connection between financial literacy and access to finance. Likewise, Oke et al. (2020) also found no significant influence of financial literacy on access to bank finance. Their discovery was also supported by Dwiastanti (2015), who claimed that being financially literate is not a guarantee that behavioral finance will be practiced since behavior may not always be influenced by facts but by other emotional and psychological factors.

We also recorded a positive link in the relationship between financial literacy and risk attitude, which is in agreement with the study done by Ye and Kulathunga (2019), that financial literacy positively influences financial risk attitude. This infers that financially literate SME owners/managers can analyze risky opportunities well to take advantage of available opportunities while mitigating threats simultaneously. The finding is further confirmed by the results of several prior research efforts that being financially literate helps in making wise financial choices when considering risky measures (De Mel, 2011; Anshika and Singla, 2022). A similar result was found by Korkmaz et al. (2021), which posited that financial knowledge encourages better risk-taking behavior. This result however differs from

that of Zhang et al. (2021) who found financial literacy was insignificant in the reduction of losses in the financial earnings of households having risky assets during the stock market crash in 2015.

The hypothesis on the effect of risk attitude on access to finance was also supported. This finding shows that the entrepreneur's attitude towards risk affects his ability to access finance. This finding is congruent with the result from Han et al. (2018) who found a positive association between risk attitude and online borrowing. Hermansson (2015) recorded that persons with high-risk appetites have higher debt compared to those with low-risk appetites. This shows that the desire to access debt finance is significantly influenced by the risk attitude of a person. This finding confirms that of Yao et al. (2004) that risk takers can take on available opportunities to create wealth which in the long run becomes security for accessing finance.

The proposed hypothesis on the mediating role of risk attitude in the link between financial literacy and access to finance was also supported. Partial mediation is evidenced since a direct relationship exists between financial literacy and financial access. This shows that financial literacy impacts risk attitude to impact access to finance. This finding shows that SMEs who are financially literate can assess opportunities and threats which assist them to know when, where, as well as what is needed to access finance. The fact that risk attitude mediates the nexus between financial literacy and access to finance is congruent with the dual process theory. This is because, financial literacy impacts subconscious reasoning which further impacts conscious reasoning, analysis, and the decision-making capacities of individuals (Ye & Kulathunga, 2019). This finding is also consistent with the knowledge base view since financial literacy can be considered a strategically significant asset for gaining a competitive advantage over competitors (Curado, 2006).

5. Conclusion

The research investigated the role of financial literacy in accessing finance by small and medium enterprises (SMEs). The various hypotheses developed were found to be significant. The study results showed that financial literacy has significant implications for SME access to credit and risk attitude. SME owners/managers should therefore, make financial literacy an important strategic asset for their companies since it can help in reducing the information gap on sources of finance and requirements for obtaining finance from financial institutions. SME owners/ managers with risk attitude problems can also improve them with financial knowledge. Training and workshops on financial literacy should be regularly attended to help improve their financial knowledge.

As policymakers continue in their pursuit of improving access to finance for SME businesses, policies such as annual financial literacy and risk management training and seminars for SME owners/managers can be considered to assist in improving the financial literacy and risk attitude of SMEs.

The introduction of risk attitude in the association between financial literacy and access to finance makes a novel contribution to the literature on SME sustainability. It introduces risk attitude as a new link through which financial literacy can impact access to finance. Thus,

confirming the dual process theory that financial literacy impacts subconscious reasoning to impact conscious reasoning for better decision-making.

The study has some limitations however, its scope included SMEs of the Ghana Enterprise Agency in Accra. Extending the study to include other groups in Ghana will provide a more representative picture. The study can also be done in other countries for a comparative analysis of findings. The respondents used in this study were limited to SME owners/managers, future studies can look at the firm's accountants and other financial staff since financial decisions are not limited to only owners/managers. The variable used for mediation analysis demonstrated a partial mediation, thus, future studies can examine other mediating variables which may be able to fully mediate the relationship such as risk perception and connection skills. The study was also limited to SMEs in general. It did not segregate SMEs by sectors of the economy. Future studies can do a comparative analysis of results from different sectors of the economy.

In conclusion, the study's objective was to examine the impact of financial literacy on access to finance. We used the knowledge base view theory and the dual process theory to develop a model with risk attitude as a mediating variable. PLS-SEM was the main analytical tool for the study. The result showed financial literacy significantly impacts access to finance and risk attitude. The mediation relationship was partial. We conclude that financial literacy and risk attitude have significant implications for access to finance. This study makes an incremental contribution to the literature on SME access to finance by confirming financial literacy and risk attitude as integral variables for SME access to finance in developing economies.

Disclosure statement

The authors declare that there are no competing interests to report.

References

- Abraham, F., & Schmukler, S. L. (2017). Addressing the SME finance problem. World Bank Research and Policy Briefs, (120333).
- Ackah, J., & Vuvor, S. (2011). *The Challenges faced by Small & Medium Enterprises (SMEs) in obtaining Credit in Ghana*. [Master's Thesis, The Blekinge Institute of Technology].
- Adomako, S., Danso, A., & Ofori Damoah, J. (2016). The moderating influence of financial literacy on the relationship between access to finance and firm growth in Ghana. *Venture Capital*, 18(1), 43-61.
- Ajemunigbohun, S. S., Isimoya, O. A., & Elegunde, A. F. (2020). Risk attitude, insurance patronage and SMEs performance: empirical evidence from Lagos, Nigeria. *Annals of the University Dunarea de Jos of Galati: Fascicle: I, Economics & Applied Informatics*, 26(2), 71-78. <https://doi.org/10.35219/eai15840409108>

- Akoto, D. (2022). Assessing business failures in Ghana; case study of selected businesses. *Risk Management*, 7(1), 20-26.
- Alsemgeest, L. (2015). Arguments for and against financial literacy education: where to go from here? *International Journal of Consumer Studies*, 39(2), 155-161.
- Anshika, A. and Singla, A. (2022). Financial literacy of entrepreneurs: A systematic review. *Managerial Finance*, 48 (9/10), 1352-1371.
- Arrow, K. J. (1984). Individual choice under certainty and uncertainty (Vol. 3). Harvard University Press.
- Arinaitwe, J.K. (2006). Factors constraining the growth and survival of small-scale businesses, a developing countries analysis. *Journal of American Academy of Business, Cambridge*, 8(2), 167-178.
- Asare, A. O. (2014). Innovative ways of gaining access to funds for SMEs setups in Ghana. *European Journal of Business and Management*, 6(29),86-89.
- Asongu, S. A., Nnanna, J., and Acha-Anyi, P. N. (2020). Inequality and gender economic inclusion: The moderating role of financial access in Sub-Saharan Africa. *Economic Analysis and Policy*, 65, 173-185.
- Aphu, E. S., and Adator, S. W. (2018). Challenges and sustainable development of small and medium-sized enterprises: Evidence from a local processing company in Ghana (Nkulenu). *Advances in Social Sciences Research Journal*, 5(5),298-306.
- Awang, Z., Afthanorhan, A., and Asri, M. A. M. (2015). The parametric and non-parametric approach in structural equation modeling (SEM): The bootstrapping application. *Modern Applied Science*, 9(9),58-67.
- Aydemir, S. D., & Aren, S. (2017). Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? *Kybernetes*, 46(10),706-1734.
- Buchdadi, A. D., Sholeha, A., and Ahmad, G. N. (2020). The influence of financial literacy on SMEs' performance through access to finance and financial risk attitude as mediation variables. *Academy of Accounting and Financial Studies Journal*, 24(5),1-15.
- Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*,36(3), 421-458.
- Bandara, D., & Ekanayake, A. (2020). Mediating effect of risk management practices on the relationship between owner's risk attitude and business performance of small and medium enterprises: evidence from the north-central province of Sri Lanka. *International Journal of Accounting & Business Finance*,6(1), 53-67.
- Beck, T., & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*.30(11),2931-2943.

- Caliendo, M., Fossen, F., and Kritikos, A. (2010). The impact of risk attitudes on entrepreneurial survival. *Journal of Economic Behavior & Organization*, 76(1),45-63.
- Carretta, A., Fiordelisi, F., Schwizer, P., Nicolini, G., Gärling, T., Carlander, A., & Hauff, J. C. (2017). Attitude toward risk and financial literacy in investment planning. *Risk culture in banking*, 307-320.
- Chan, C. S. R., & Park, H. D. (2013). The influence of dispositional effect and cognition on venture investment portfolio concentration. *Journal of Business Venturing*,28(3),397-412.
- Chen, H., & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial services review*,7(2),107-128.
- Cressy, R. (2006). Why do most firms die young? *Small Business Economics*, 26(2),103-116.
- Curado, C. (2006). The knowledge based-view of the firm: From theoretical origins to future implications.
- Dahmen, P., and Rodríguez, E. (2014). Financial literacy and the success of small businesses: an observation from a small business development center. *Numeracy: Advancing Education in Quantitative Literacy*,7(1),1936-4660.
- De Carolis, D. (2002) The role of social capital and organizational knowledge in enhancing entrepreneurial opportunities in high-technology environments. *The Strategic Management of Intellectual Capital and Organizational Knowledge*, 699–709.
- De Mel, S., McKenzie, D., & Woodruff, C. (2011). Getting credit to high return microentrepreneurs: The results of an information intervention. *The World Bank Economic Review*, 25(3), 456-485. DOI: <https://doi.org/10.1093/wber/lhr023>
- Dinç Aydemir, S. and Aren, S. (2017). Do the effects of individual factors on financial risk-taking behavior diversify with financial literacy? *Kybernetes*,46(10),1706-1734. <https://doi.org/10.1108/K-10-2016-0281>.
- Dwiastanti, A. (2015). Financial literacy as the foundation for individual financial behavior. *Journal of Education and Practice*, 6(33), 99-105.
- Eniola, A. A., and Entebang, H. (2017). SME managers and financial literacy. *Global Business Review*,18(3),559-576.
- Eresia-Eke, C. E., & Raath, C. (2013). SMME owners' financial literacy and business growth. *Mediterranean Journal of Social Sciences*, 4(13), 397-397.
- Fatoki, O. (2021). Access to finance and performance of small firms in South Africa: The moderating effect of financial literacy. *WSEAS Transactions on Business and Economics*,18, 78-87.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*,18(1),39-50.

- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). How to design and evaluate research in education (Vol.7, 429).
- Gaisie, D. A. (2020). *Risk attitudes, entrepreneurship decision and financing preference: evidence from non-farm household enterprises in Ghana* (Masters dissertation, University of Ghana).
- Ghana Statistical Service (2021). Ghana population and housing census. www.census2021.statsghana.gov.gh/dissemination.
- Gilmore, A., Carson, D., & O'Donnell, A. (2004). Small business owner-managers and their attitude to risk. *Marketing Intelligence & Planning*, 22(3), 349-360. DOI: 10.1108/02634500410536920.
- Grable, J., & Lytton, R. H. (1999). Financial risk tolerance revisited: the development of a risk assessment instrument. *Financial services review*, 8(3), 163-181.
- Goswami, K., Hazarika, B., & Handique, K. (2017). Determinants of financial risk attitude among the handloom micro-entrepreneurs in North East India. *Asia Pacific Management Review*, 22(4), 168-175.
- Goswami, K. C., & Bhuyan, U. (2022). Financial self-efficacy: a mediator between financial risk tolerance and financial literacy of school teachers. *Prajnan*, 50(4), 401-417.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed, a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.
- Han, L., Xiao, J. J., & Su, Z. (2019). Financing knowledge, risk attitude and P2P borrowing in China. *International Journal of Consumer Studies*, 43(2), 166-177 <https://doi.org/10.1111/ijcs.12494>
- Hasan, M., Le, T., & Hoque, A. (2021). How does financial literacy impact inclusive finance? *Financial Innovation*, 7(1), 1-23.
- Hermansson, C. (2015). Relationships between bank customers' risk attitudes and their balance sheets. KTH Royal Institute of Technology.
- Hoskisson, R. E., Hitt, M. A., Wan, W. P., & Yiu, D. (1999). Theory and research in strategic management: Swings of a pendulum. *Journal of Management*, 25(3), 417-456.
- Houwer, J. D. (2011). Why the cognitive approach in psychology would profit from a functional approach and vice versa. *Perspectives on Psychological Science*, 6(2), 202-209.
- Hoyle, R. H. (1995). *Structural equation modeling: Concepts, issues, and applications*. Sage, Thousand Oak.
- Hsiao, Y., & Tsai, W. (2018). Financial literacy and participation in the derivatives markets. *Journal of Banking and Finance*, 88, 15–29.
- Hussain, J., Salia, S. Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK. *Journal of Small Business*

and Enterprise Development, 25(6), 985-1003. <https://doi.org/10.1108/JSBED-01-2018-0021>

- Hyll, W., & Irrek, M. (2015). The impact of risk attitudes on financial investments (No. 10/2015). IWH Discussion Papers. <http://hdl.handle.net/10419/117340>
- Khan, K.U., Atlas, F., Ghani, U., Akhtar, S. & Khan, F. (2021). Impact of intangible resources (dominant logic) on SMEs innovation performance, the mediating role of dynamic managerial capabilities: Evidence from China. *European Journal of Innovation Management*, 24(5), 1679-1699.
- Khyareh, M. M. (2020). Entrepreneurship and economic growth: The mediation role of access to finance. *JANUS. NET e-journal of International Relations*, 11, 98-111.
- Kim, H. J., & Reinschmidt, K. F. (2011). Effects of contractors' risk attitude on competition in construction. *Journal of Construction Engineering and Management*, 137(4), 275-283.
- Kline, R. B. (2010). *Principles and practice of structural equation modeling*. Guilford Press.
- Korkmaz, A. G., Yin, Z., Yue, P., & Zhou, H. (2021). Does financial literacy alleviate risk attitude and risk behavior inconsistency? *International Review of Economics & Finance*, 74, 293-310. DOI:10.1016/j.iref.2021.03.002
- Kvaran, T., Nichols, S., & Sanfey, A. (2013). The effect of analytic and experiential modes of thought on moral judgment. *Progress in Brain Research*, 202, 187-196. <https://doi.org/10.1016/B978-0-444-62604-2.00011-3>
- Lukiastuti, F., & Kusuma, A. H. (2021). The moderating role of access to financing on the relationship between entrepreneurial orientation and performance of batik SMEs. The 3rd International Conference on Banking, Accounting, Management and Economics (ICOBAME 2020) (pp. 123-128). Atlantis Press.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44.
- Malo, S., & Norus, J. (2009). Growth dynamics of dedicated biotechnology firms in transition economies. Evidence from the Baltic countries and Poland. *Entrepreneurship & Regional Development*, 21 (5-6), 481-502.
- Mohammed, I. & Bunyaminu, A. (2021). Major obstacles facing business enterprises in an emerging economy: the case of Ghana using the World Bank Enterprise Survey. *Journal of Small Business and Enterprise Development*, 28(3), 475-487.
- Moors, A. (2014). Examining the mapping problem in dual process models. *Dual process theories of the social mind*, 20-34.
- Mullei, A., & Bokea, C. Eds. (1999). *Micro and small enterprises in Kenya: Agenda for improving the policy environment*. International Centre for Economic Growth, Nairobi.

- Nguyen, A. T. L., Van Nguyen, D., & Nguyen, N. H. (2022). The relationship between financial decisions and equity risk. *Heliyon*, 8(8), <https://doi.org/10.1016/j.heliyon.2022.e10036>.
- Oke, L. A., Uthman, A. B., & Ademokoya, A. A. (2020). Owner characteristics and access to bank financing: Perceptual evidence from SMEs in north central Nigeria. *Timisoara Journal of Economics and Business*, 13(1), 45-62.
- Oke, L.A (2018). Owner financial literacy characteristics: Implication for access to finance among SMEs in Kwara State Nigeria. *Osogbo Journal of Management*, 3(1), 39 – 55.
- Okello, C. B. G., Mpeera, N. J., Munene, J.C., & Akol M. C. (2017). The relationship between access to finance and growth of SMEs in developing economies: Financial literacy as a moderator. *Review of International Business and Strategy*, 27(4), 520-538. <https://doi.org/10.1108/RIBS-04-2017-0037>.
- Osano, H. M., & Languitane, 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), 1-16.
- Owusu, J., Ismail, M. B., & Osman, M. H. B. M. (2019). Financial literacy as a moderator linking financial resource availability and SME growth in Ghana. *Investment Management & Financial Innovations*, 16(1), 154. [https://dx.doi.org/10.21511/imfi.16\(1\).2019.12](https://dx.doi.org/10.21511/imfi.16(1).2019.12)
- Potrich, A.C.G. & Vieira, K.M. (2018). Demystifying financial literacy: a behavioral perspective analysis. *Management Research Review*, 41(9), 1047-1068. <https://doi.org/10.1108/MRR-08-2017-0263>.
- Rasheed, R. & Siddiqui, S.H. (2019). Attitude for inclusive finance: influence of owner-managers' and firms' characteristics on SMEs financial decision making. *Journal of Economic and Administrative Sciences*, 35(3), 158-171. <https://doi.org/10.1108/JEAS-05-2018-0057>.
- Robson, P. J., & Obeng, B. A. (2008). The barriers to growth in Ghana. *Small Business Economics*, 30(4), 385-403.
- Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the determinants of risk behavior. *Academy of Management Review*, 17(1), 9-38. <https://doi.org/10.5465/amr.1992.4279564>
- Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behaviour: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal*, 38 (6), 1573-1592.
- Sumari, G. A., Mori, G., & Alfred, C. (2013). Outsourcing in cooperatives in Tanzania: Assessing the contribution of outsourcing on organisational performance. *European Journal of Business and Management*, 5(15), 99 -105.

- Syahdan, R., Djaelani, Y., & Mahdi, S. (2020). Strategic orientation and the performance of SMEs in Indonesia: The mediating role of access to finance. *Management Science Letters*, 10 (5), 1151-1160.
- Teo, T., Lee, C. B., & Chai, C. S. (2008). Understanding pre-service teachers' computer attitudes: applying and extending the technology acceptance model. *Journal of Computer Assisted Learning*, 24(2), 128-143. <https://doi.org/10.1111/j.1365-2729.2007.00247.x>.
- Twumasi, M. A., Jiang, Y., Ding, Z., Wang, P., & Abgenyo, W. (2022). The mediating role of access to financial services in the effect of financial literacy on household income: The case of rural Ghana. *Sage Open*, 12(1), DOI: 10.1177/21582440221079921.
- Wachira, I. M., & Kihui, E. N. (2012). Impact of financial literacy on access to financial services in Kenya”, ZEF-Discussion Papers on Development Policy No. 215.
- Walls, M. R., & Dyer, J. S. (1996). Risk propensity and firm performance: A study of the petroleum exploration industry. *Management Science*, 42(7), 1004-1021.
- Wang, Y. (2016). What are the biggest obstacles to growth of SMEs in developing countries? An empirical evidence from an enterprise survey. *Borsa Istanbul Review*, 16(3), 167-176.
- Wasiuzzaman, S., Nurdin, N., Abdullah, A.H. & Vinayan, G. (2020), Creditworthiness and access to finance: a study of SMEs in the Malaysian manufacturing industry, *Management Research Review*, 43(3), 293-310. <https://doi.org/10.1108/MRR-05-2019-0221>.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic management journal*, 24(13), 1307-1314.
- Wise, S. (2013). The impact of financial literacy on new venture survival. *International Journal of Business and Management*, 8(23), 30.
- World Bank (2009). Online Atlas of the Millennium Development Goals. Washington, DC: World bank.
- World Bank (2010). Ghana Data. Accessed December 23, 2012. <http://data.worldbank.org/country/ghana>.
- Ye, J., & Kulathunga, K. M. M. C. B. (2019). How does financial literacy promote sustainability in SMEs? A developing country perspective. *Sustainability*, 11(10), 2990.
- Zhang, Y., Jia, Q., & Chen, C. (2021). Risk attitude, financial literacy and household consumption: Evidence from stock market crash in China. *Economic Modelling*, 94, 995-1006.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>)

