The effect of financial knowledge on firm performance: The role of financial risk attitude as moderation

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ABSTRACT

This research aims to know the effect of financial knowledge on firm performance; the role of financial behavior and access to finance as mediation and the role of financial risk attitude as moderation. The object of this research is the owner of small-medium enterprises, sector food and beverage in Malang. Data collection was carried out using a questionnaire of 150 respondents. Data analysis of this research uses partial least square (PLS). The finding indicates that financial knowledge has a positive and significant effect on firm performance; financial behavior mediates the relationship of financial knowledge and firm performance; while access to finance doesn't mediate the relationship of financial knowledge with firm performance. This research also found that financial risk attitude weakens the relationship of financial knowledge with financial behavior.

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Introduction

Financial knowledge refers to “understanding”, one of the dimensions of financial literacy (Huston, 2010), which explains that the level of financial knowledge of SME owners significantly influences the performance of SMEs or businesses (Adomako et al., 2016; Eniola & Entebang, 2015; Games & Rendi, 2019; Lusardi et al., 2017; Tuffour et al., 2020; Ye & Kulathunga, 2019). Research on the relationship between financial knowledge and the performance of SMEs was initiated by many academics after the issue of SDGs in 2012, but the results of these studies gave mixed results. Adomako & Danso (2014); Grillitsch et al. (2019); Tuffour et al. (2020); Agyapong & Attram, (2019); A. A. Eniola & Entebang (2015) obtain results if there is a very strong relationship between the knowledge base and the performance of SMEs because the financial knowledge possessed by SME owners helps them make the right financial decisions. The same results were also investigated by Lusardi & de Bassa Scheresberg, (2015) which showed that if the amount of borrowing with high costs indicated that the borrower's level of financial literacy was very low, due to a lack of knowledge of basic financial concepts, and this would affect the level of performance in a business. business, while in another study it was stated that financial literacy with financial knowledge dimensions was reported to have no significant effect on sustainability (Kaban & Safitry, 2020), so there were research inconsistencies.

The low level of financial knowledge itself does not only affect the performance of SMEs but also affects access to financing and financial behavior for SMEs. The low level of financial knowledge in SMEs is indicated by the fact that many SME owners do not realize the importance of neat financial records and bookkeeping, even most SME owners are still blind to accounting, so it is not

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surprising that business actors do not know whether their business conditions are healthy or not (Latief, 2018). On the other hand, based on the results of a survey conducted by Pricewaterhouse Coopers, it also explained that as many as 74% of SMEs in Indonesia have not yet obtained access to financing (Sandi, 2019). Furthermore, Adomako et al. (2016) explain that access to finance is likely to be an important resource for SMEs and a source of competitive advantage for companies that have greater access than their competitors. Increasing the level of financial knowledge can change the pattern of behavior of SME owners and open up opportunities for greater access to capital. Increased levels of financial knowledge, financial behavior, and opportunities for access to financing will directly affect the performance of SMEs. Referring to the resource-based view which explains that companies can achieve sustainable competitive advantage and superior growth and performance can be obtained by managing company resources effectively and efficiently (J. Barney, 1991). Financial knowledge and access to finance is one form of company resources in improving the firm performance. The ability of human resources in managing capital can make companies have unique and quality financial resources to increase competitive advantage and company growth (Kachlami & Yazdanfar, 2016; Kozlenkova et al., 2014). Referring to the theory of planned behavior (TPB), financial literacy is seen from the perspective of individual behavior, to find out how the process of financial literacy works (Yong et al., 2018). The context of good or positive behavior here refers to financial behavior. When individuals who do not have enough knowledge tend to make mistakes in financial behavior unconsciously, such as errors in financial records and in making credit management decisions. This is because most of the actors do not understand in carry out long-term business plans and see business opportunities in the future so that later it can have an impact on firm performance.

In addition to discussing financial literacy, this study also raises the financial risk attitude variable as a moderating variable based on the element of uncertainty in the situation and decisions on the relationship between financial knowledge and financial behavior. The context of risk in financial risk attitude refers to a condition that occurs with a known probability as the result of choosing an alternative in the form of a risky decision (Takemura, 2014). Indirectly, a financial risk attitude can be said as the tendency of an individual's attitude in making risky decisions or avoiding risk in the possibility of outcomes and uncertainty of the situation.

This research was conducted to fill the research gap by integrating access to finance and financial behavior as factors that affect the firm performance. Not only that, the risk context in this model can weaken or strengthen the relationship between financial knowledge and financial behavior. Therefore, this paper aims to examine the effect of financial knowledge on firm performance, by assessing the role of financial behavior and access to finance as mediation and the role of financial risk attitude as moderation. The object of this research is the owner of small-medium enterprises, sector food and beverage in Malang. Data collection was carried out using a questionnaire of 150 respondents. Data analysis of this research uses partial least square (PLS).

This paper organizes as follows. Following this part, a literature review section builds on theoretical background, empirical review and hypothesis development. Data, method and analysis have been explained under Research and Methodology part. Finally, this paper concludes with findings, discussion and conclusion.

Literature Review

Theoretical and Conceptual Background

Resource Based-View

The development of Resource-Based-Theory comes from four reference theories, namely the traditional study of distinctive competencies by Porter (1979), analysis of land rents by Ricardo (1966), The theory of the growth of the firm by Penrose (1959), and the study of the antitrust implications of economics (JB Barney & Clark, 2007). Penrose (1959) explains the main idea related to Resource-Based-Theory that the company consists of resources and competencies (Grant, 2009). The main idea of RBV theory is that internal resources are a source of strength and can be a weakness for the company, to be a strength for the company against competitors, resources must be heterogeneous between companies (Enders, 2004). Furthermore, resource-based theory explains that the company's internal characteristics can make different strategic choices, and lead to different results (Esteve-Pérez & Mañez-Castillejo, 2008). Therefore, the company's ability is very important in improving the company's ability to adapt to a dynamic company environment to support the company's survival.

The Theory of Planned Behavior

The theory of planned behavior is a development of the theory of reasoned action. The theory of planned behavior is a theory developed to explain defining the unit of goal-behavior, and makes it possible to predict and explain behavior that is directed at that goal (Ajzen, 1985). Success in implementing a plan of behavior depends not only on the strength of the effort but also on the person's control over other factors, such as the necessary information, skills, and abilities, including possession of a workable plan, willingness, presence of mind, time, opportunity, and so on (Ajzen, 1991). The theory of planned behavior has three underlying dimensions, namely attitude toward behavior, subjective norm, and perceived behavioral control (Ahmetoglu et al., 2017; Ajzen, 1991). According to Conner, M., & Norman (2006), the context of attitude in the theory of planned behavior is the relationship between attitudes and beliefs, based on Fishbein's (1967a, 1967b) summative attitude model, which assumes that a person may have a large number of beliefs about a particular behavior, but at any one time, only a few of them tend to stand out. Behavioral beliefs are postulated to be influences in underlying an individual's attitude in performing a behavior, therefore, salient information or beliefs influence intentions and subsequent behavior either through attitudes and/or subjective norms (Madden et al., 1992). Subjective norm

is a function of normative beliefs, which represent the perception of the preferences of certain important people about whether or not someone should be involved in a behavior (Conner, M., & Norman, 2006).

The perceived behavioral control dimension of the theory of planned behavior is included as an exogenous variable that has a direct effect on behavior and an indirect effect on behavior (behavior) through intention (Madden et al., 1992). Assessment of perceived behavioral control is influenced by beliefs about whether a person has access to the necessary resources and opportunities to perform behaviors and attitudes successfully (Conner, M., & Norman, 2006). When the degree of control of the actual behavior is high so that almost everyone is likely to be able to perform the behavior, intention alone should be sufficient to predict the behavior, but when the level of control varies between individuals, intention, and control must interact to jointly influence behavioral performance. (Van Lange et al., 2012). The intention is assumed to capture the motivational factors that influence behavior; it is an indication of how hard people are willing to try, how much effort each individual is planning, to perform the behavior.

Empirical Review and Hypothesis Development

Financial Knowledge and Firm Performance

According to resource-based theory, resources are divided into two categories, namely tangible and intangible resources (Hooley et al., 1998), where skills, knowledge, intellectual capital, and skills are examples of intangible resources. which has a function in increasing the company's competitive advantage. In addition, SME owners who have skilled and knowledgeable human resources can make SME owners create creative and innovative steps in supporting their business continuity. Financial literacy is a source of knowledge that determines the sustainability of SMEs, which leads to improving SME performance (Eniola & Entebang, 2015). Based on the research that has been done, financial literacy has two dimensions, namely "understanding" and "use" (Huston, 2010), where the context of the "understanding" dimension can be associated with "knowledge" (knowledge) in the financial sector (financial knowledge), and "use" can be directed to "behavior" in the financial sector (financial behavior).

Several previous studies also explain that financial literacy through the financial knowledge dimension affects improving the performance of SMEs (Adomako et al., 2016; Eniola & Entebang, 2015; Games & Rendi, 2019; Lusardi et al., 2017; Tuffour et al., 2020; Ye & Kulathunga, 2019). Based on the level of financial knowledge possessed by individuals or company managers, individuals can adequately decide how to use financial knowledge in the decision-making process (Lim et al., 2018). This is because business actors or company managers will feel confident with the level of knowledge they have, so they can confidently use their knowledge in the decision-making process. In addition, someone who has a high level of financial knowledge will be motivated to be actively involved in managing company finances or in providing financial advice to solve company financial problems.

Based on empirical research conducted by Grillitsch et al. (2019) found that there is a very strong relationship between the knowledge base and growth of SME companies across various estimation approaches. This condition is not surprising if knowledge from business owners to company employees has a strong relationship with company growth, because all aspects of the company support or integrate to achieve company goals. The results of research by Lusardi & de Bassa Scheresberg (2015) also explain that there is a relationship between financial literacy and low-cost borrowing. The study also explains that the amount of borrowing with high costs indicates that the level of financial literacy of the borrower is very low, due to a lack of knowledge of basic financial concepts, and this will affect the level of performance in a business (Lusardi & de Bassa Scheresberg, 2015). In other words, companies that have financially literate managers can make alternative solutions to the financial problems they face. In addition, managers who are familiar with financial products, both banking and non-banking, can make company strategies related to funding policies, investment policies, and dividend policies, where these policies play an important role in improving company performance. Based on the description of the theory above, the hypotheses in this study are as follows:

H1: Financial Knowledge has a significant effect on SME firm performance

The Mediation Role of Financial Behavior

Business people who have high knowledge can have an impact on increasing company performance significantly. This situation can be seen in business people who have a high level of education, indirectly also have good knowledge of financial management and business management. Sulaiman's research (2016) explains that financial knowledge is one of the important resources in improving company performance. However, under certain conditions, the level of knowledge of business people does not affect the company's performance improvement. This statement is supported by research by Kaban & Safitry (2020) which explains that financial knowledge does not affect the sustainability of the SMEs in the leather sector in Jakarta, this is because most SME owners have a weak level of education, where most of the actors do not understand the plan. long-term business and see future business opportunities. Not only that, business people who have a low level of knowledge are also less able to direct good or positive behavior unconsciously in financial management and business decision making, which will have an impact on firm performance.

The context of good or positive behavior here refers to financial behavior or financial behavior. Financial behavior refers to the behavior of individuals in managing income and every situation experienced by individuals to solve financial problems they face (Falahati et al., 2012; Loix et al., 2005), such as transparency of financial records, cost control, credit management, saving behavior. and investment decision-making. Augustine et al. (2020) explain that the company's goal to increase profits is obtained from the increasing desire of business owners to understand business information and knowledge about the condition of the company, therefore

a person's financial behavior will become more focused on firm performance. The research of Yong et al. (2018) says that for an individual who has financial knowledge, actual financial behavior will be determined by that person's attitude. Furthermore, research by Atkinson and Messy (2012) also says that if an individual behaves positively, it will have a significant impact on the financial well-being of each individual. Thus, understanding the factors that contribute to the success of SMEs will increase the viability of a company (Jalali et al., 2020). Thus, the hypotheses in this study are:

H2: Financial knowledge affects the Firm Performance of SMEs through Financial Behavior

The Mediation Role of Access to Finance

Access to finance has an important role in providing adequate financing for the company. The existence of access to finance for companies will encourage innovation and stronger company dynamics, increase entrepreneurship, encourage more efficient asset allocation, and increase the company's ability to take advantage of company growth opportunities (Beck & Demirguc-Kunt, 2006). The company's success to penetrate the challenges that arise in obtaining financing requires the existence of information and knowledge. It is not surprising that several previous studies explained that there was a significant influence between financial knowledge on access to finance (Hussain et al., 2018; Mabula & Ping, 2018; Wachira & Kihui, 2012; Ye & Kulathunga, 2019), access to finance affected increasing company performance (Fowowe, 2017), supporting company growth (Adomako et al., 2016; Beck & Demirguc-Kunt, 2006), and the influence of financial literacy through access to finance affects the sustainability of SMEs in Sri Lanka (Ye & Kulathunga, 2019), and the influence of financial literacy through access to finance affects SME's performance in Brebes, Central Java (Buchdadi et al., 2020).

The low level of financial literacy is one of the limiting factors for accessing financial services, especially occurs in SMEs or start-up companies. Access to capital that is reached by most SME business actors is obtained from cooperative loans, where the products offered by cooperatives tend to be limited so that many SME business actors are less aware of the existence of financing facilities from other financial institutions. This condition is also supported by many business people who do not know and understand various financial products from banks. Not only that, the opinion of some SME business players is that the transaction fees or interest charged on the proposed loan are too high, so most business people prefer to get financing through internal funding sources. On the one hand, there is a limited amount of income from internal funding sources, so it is not surprising that many domestic SMEs find it difficult to expand or grow their business. Indirectly access to finance can play a dual role as a proxy for financial capacity (internal) as well as providing a signal about the quality of future growth opportunities, in turn, reducing external financing constraints for companies facing informational problems (Adomako et al., 2016). Thus, the existence of financial knowledge on firm performance through access to finance can effectively support business and financial management and requires companies to try to meet guarantee requirements and allow companies to access finance by widening business opportunities to be more successful. Referring to the explanation above, the hypothesis in this study is as follows:

H3: Financial knowledge affects the Firm Performance of SMEs through Access to Finance

The Moderation Role of Financial Risk Attitude

The term financial risk attitude refers to individual perceptions of risk behavior regarding certain things that are influenced by past experiences, beliefs, and attitudes towards certain situations or activities (Ricciardi, 2011; Saurabh & Nandan, 2018). Supporting the previous statement, Ahmad (2020) also explained that the financial risk attitude is subjective with each having the choice to take risks to engage or avoid risky choices. Indirectly, a financial risk attitude can be said as the tendency of an individual's attitude in making risky decisions or avoiding risk in the possibility of outcomes and uncertainty of the situation. Several previous studies have explained that financial risk attitude and financial risk tolerance are positively related to one another (Saurabh & Nandan, 2018), where financial risk tolerance can be used as an indicator of financial risk attitude. The level of tendency in financial risk attitudes can also be influenced by culture, psychology, social environment, applicable regulations, and demographics (Bapat, 2020). Several demographic factors that influence risk tendencies include education, gender, age, and income.

The level of financial risk attitude will explain the difference between an individual who understands and likes risk and an individual who does not understand and avoid risk, which is seen from how the individual behaves. This condition can be seen in young people who tend to like a high risk when compared to older people. The results of previous studies show that there is an influence of financial risk attitude on financial behavior (Park & Yao, 2016; Worthy et al., 2010), financial risk tolerance moderates the relationship between financial knowledge, financial attitude, and financial behavior (Bapat, 2020), and financial risk attitude moderates cognitive behavior (Ahmad, 2020). Therefore, this study argues that a financial risk attitude can moderate the relationship between financial knowledge and financial behavior. The hypotheses in this study are as follows:

H4: Financial Risk Attitude moderates the relationship between financial knowledge and financial behavior

Figure 1: Research Model

Research and Methodology

This study uses quantitative research with an explanatory research approach to determine how the influence of the relationship between financial knowledge (FK), access to finance (ACF), and firm performance (FP). To answer the objectives of this research, the data collection of this research was conducted by distributing questionnaires in the Thematic Village, Malang. The object of this study is the owner of the SME, food and beverage sector in the Thematic Village, Malang. The sampling technique used in this study was the purposive sampling of as many as 150 respondents. There are three sample criteria used in this study including SMEs that have run a business for at least 1 year (Company age 1 year to 3 years is categorized as an early stage in a start-up company (Skala, 2019); SMEs who receive entrepreneurial training with financial material as one of the one training material; and SMEs that have an annual sales turnover of 10 million to 2,5 billion (SME criteria for micro and small businesses based on sales revenue (Sarwono, 2015)). This research is a questionnaire with a Linkert scale of 1 (strongly disagree) to 5 (strongly agree). The data analysis used in this study is PLS (Partial Least Square) and assisted by SmartPLS 3.3.3 software.

Measurement Variables

Financial Knowledge

The measurement indicators used for the financial knowledge variable were adopted from the research of Lim et al. (2018); van Rooij et al (2011). The research indicators used have been adapted to the current research conditions, including the concept of basic financial calculations, loan interest rates, cash management. One example of a questionnaire item in this study is "I know the concept of calculating sales profit, which is the result of the reduction between sales turnover and operating costs".

Access to Finance

The measurement of the access to finance variable adopts indicators from the research conducted by Kumar (2004) and is adjusted to the current research conditions. There are two indicators used, namely access to financial institutions and access to loans, with questionnaire items such as "I use bank loans or non-bank financial institutions (such as cooperatives) as a source of business financing".

Financial Behavior

The financial behavior variable indicator refers to the research of Atkinson & Messy (2012). The indicators used are adjusted to the conditions of this study including financial records, payments, credit management, and daily behavior related to cash management. One example of a questionnaire item based on financial behavior variables such as, "I calculate the need for cash (petty cash) for my business every month so that I know the need for cash for business operations".

Financial Risk Attitude

This variable indicator of financial risk attitude is adopted from the research of Ayah (2020); Saurabh & Nandan (2018). The indicators used in this study have been adjusted to the research conditions, namely tolerance for financial risk. One example of a questionnaire item to measure financial risk attitude is, "I like to make loans to financial institutions other than banks (such as leasing, cooperatives) because the requirements are easier".

Firm Performance

Firm performance variable indicators refer to research conducted by Agyapong & Attram (2019); Demirbag et al. (2006); Kropp & Lindsay (2006); Tuffour et al. (2020). The indicators used after adjustment to the research conditions include sales growth, profit, return on investment, market share, and product quality. One example of a questionnaire item from firm performance variables such as "I use the right business strategy so that it can increase sales volume".

Result and Discussion

Characteristics of Respondents

Table 1 explains that the distribution of respondents in this study is mostly women with a percentage of 61.3%. These results illustrate that most of the business owners are women entrepreneurs. One of the factors in the formation of women entrepreneurs is the ideology of feminism, where the ideology demands gender equality. In addition, several other factors motivate a woman to become an entrepreneur such as the desire for work that does not limit a woman, getting out of control, and rejecting social stereotypes about women (Ningrum et al., 2020). The distribution of respondents also explained that the highest age percentage was in the age category > 27 years to 37 years as much as 31.3%, where this category was included in the productive age category. This category tends to be ambitious and strives as much as possible to achieve financial independence or financial well-being. The highest percentage of respondents' education level was in the High School category at 46.7%. This picture shows that most respondents only fulfill the 12-year compulsory education program initiated by the government. There is a stereotype in society that higher education is useless if you have your own business, causing business owners to tend not to continue to higher education. Therefore, the government is competing to provide non-formal and informal education such as training, community empowerment, and several other government programs that aim to improve the quality of society, especially SME owners. The percentage of respondents based on the highest annual sales turnover in the category less than 300 million was 68.6%. Referring to Law no. 20 of 2008 (2008) concerning micro, small and medium enterprises, explains that the results of the distribution of respondents are included in the category of small businesses. The highest percentage of SME age in the category of more than 60 months was 25.33% or 38 respondents. These results indicate that the highest percentage of the long-standing business category is included in the startup company category, which is said to be a start-up company, namely companies that have been established for less than three years. However, when viewed from the overall percentage, the proportion of respondents in this study has a balanced number between SMEs categorized as start-up companies and companies that are more than 3 years old.

Table 1: Characteristics of Respondents

Personal Demography	Indicator	Frequency	Percentage (%)
Gender	Male	58	38.7
	Female	92	61.3
Total		150	100
Age	18 – 27 years	29	19.3
	> 27 – 37 years	47	31.3
	> 37 – 47 years	42	28.0
	> 47 – 57 years	24	16.0
	> 57 years	8	5.3
Total		150	100
Education Level	Elementary	1	0.7
	Junior High School	21	14.0
	Senior High School	70	46.7
	Undergraduate	57	38.0
	Master	1	0.7
Total		150	100
Sales of The Year	Less than 300 Million	103	68.6
	300 Million – 2,5 Billion	47	31.3
	More than 2,5 Billion	0	0
Total		150	100
SME's Age	12 Months	18	12.0
	12 Months – 24 Months	26	17.3
	24 Months – 36 Months	29	19.3
	36 Months – 48 Months	15	10.0
	48 Months – 60 Months	24	16.0
	More than 60 Months	38	25.3
Total		150	100

Convergent and Discriminant Validity

Convergent validity is seen based on the value of the loading factor. The loading factor value is said to be valid when the loading factor coefficient is between 0.60 – 0.70 (Ghozali and Latan, 2015: 245), but Chin, (1998:325) and Santoso (2018:151) explain that the loading value is greater than 0.6 and less than 0.7 can still be used, provided that there are other indicators with a minimum value of 0.70. Table 2. shows that there are 19 items out of 33 questionnaire items that have met the limit value of the loading factor, which is 0.6 so that the 19 items of the questionnaire are valid. However, some items with values below 0.6 were eliminated so that the model could be carried out in the next analysis stage. Chin (1998:327) and Muafi & Roostika (2014) recommend that questionnaire items with values below the factor loading limit should be eliminated or deleted. After the questionnaire item is below the limit value of the factor loading, the item will be tested for validity and reliability.

Discriminant validity testing is seen from the cross-loading value. Discriminant validity is done by comparing the loading value of one construct with the loading value of another construct. The test results in table 2 as a whole explain that the indicators that measure financial knowledge, access to finance, financial behavior, financial risk attitude, and firm performance have a factor loading value greater than the cross-loading value of other variables. The results of this discriminant test are strengthened by the results of the AVE (Average Variance Extracted) test. The results of the AVE test are said to be valid when the AVE value is greater than 0.50 (> 0.50) (J. Hair et al., 2015; J. F. Hair et al., 2010; Ghozali and Latan, 2015). All variables in the study had an AVE (Average Variance Extracted) value above 0.50 so that the variable was declared valid.

Reliability

Reliability testing was carried out through the composite reliability value and strengthened by the Cronbach alpha value. The composite reliability limit value used in this study is > 0.70 (Ghozali and Latan, 2015: 246), and the Cronbach alpha limit value is > 0.60 (Muafi, 2016; van Griethuijsen et al., 2015). The results of the reliability test show that the composite reliability value for each latent variable is above 0.7 and the Cronbach alpha value for each variable is also above 0.6 so that all indicators measuring the variables of financial knowledge, access to finance, financial behavior, financial risk attitude and firm performance are declared reliable (see table 2).

Table 2: Validity and Reliability

Variable Laten	Items	Factor Loading	Cronbach's Alpha	AVE	CR	Keterangan
<i>Financial Knowledge</i>	X1.2	0.641	0.756	0.506	0.836	Valid
	X1.4	0.736				
	X1.5	0.684				
	X1.6	0.776				
	X1.7	0.713				
<i>Access to Finance</i>	Z1.5	0.872	0.783	0.684	0.865	Valid
	Z1.6	0.900				
	Z1.7	0.694				
<i>Financial Behavior</i>	Z2.1	0.818	0.764	0.586	0.849	Valid
	Z2.2	0.742				
	Z2.3	0.801				
	Z2.5	0.695				
	Z2.1	0.818				
<i>Financial Risk Attitude</i>	M.1	0.697	0.672	0.555	0.789	Valid
	M.2	0.802				
	M.5	0.732				
<i>Firm Performance</i>	Y.1	0.733	0.729	0.548	0.828	Valid
	Y.2	0.630				
	Y.5	0.824				
	Y.6	0.759				

Source: Primary Data, 2021

Evaluation Model

Inner model evaluation can be done through three parameters including the coefficient of determination (R^2), Predictive Relevance (Q^2), and Goodness of Fit Index (GoF). The R^2 value of the Access to Finance variable is 0.161 (Table 3) explaining that Access to Finance is influenced by financial knowledge as much as 16.1%, while the remaining 83.9% is the contribution of other variables not explained in this study. The R^2 value of the financial behavior variable is 0.423 explaining that financial behavior is influenced by financial knowledge as much as 42.3%, while the remaining 57.7% is the contribution of other variables. The R^2 value of the firm

performance variable is 0.289 or 28.9 influenced by access to finance, financial behavior, and financial knowledge, and the remaining 71.1% is the contribution of other variables not explained in this study.

Table 3: Coefficient Determination (R^2), and Predictive Relevance (Q^2)

Variable	R^2
Access to Finance (Z1)	0.161
Financial Behavior (Z2)	0.423
Firm Performance (Y)	0.289
$Q^2 = 1 - [(1 - R_1^2) (1 - R_2^2) (1 - R_3^2)]$	
$Q^2 = 1 - [(1 - 0.161) (1 - 0.423) (1 - 0.289)] = 0.656$	

Source: Primary Data, 2021)

Note: Q^2 : Q-Square predictive relevance; R_1^2 : Access to Finance's R-Square; R_2^2 : Financial Behavior's R-Square; R_3^2 : Firm Performance's R-Square

The calculation of Q-Square predictive relevance (Q^2) in table 3 is used to determine the Goodness of Fit Model (GoF) in PLS analysis. The result of the calculation of the Q-Square predictive relevance (Q^2) value is 0.656 or 65.6%, which explains the diversity of firm performance values as a whole in the model of 65.6%. In other words, the contribution of financial knowledge, access to finance, and financial behavior to firm performance as a whole is 65.6%, while the remaining 34.5% is the contribution of other variables not explained in this study.

Hypothesis Testing

Hypothesis testing is seen from the path coefficient value which shows the significance of the hypothesis. The hypothesis in this study uses a 5% alpha significance or 0.05. The 0.05 limit explains that the magnitude of the chance of deviations that occur is only 5% and the remaining 95% can be indicated to accept the proposed hypothesis. The hypothesis testing of this research is divided into two parts, namely direct testing and indirect testing.

Direct Effect

Table 4: Direct Effect

Hypothesis	Variable	Path Coefficient	SE	P-Value	Decision
H1	Financial Knowledge → Firm Performance	0.2242	0.105	0.033	Accepted

Source: Primary Data, 2021

The test results show that the effect of financial knowledge on firm performance has a p-value <0.05, so **H1 is accepted** (see table 4). The results of this study explain that the influence of the level of financial knowledge possessed by each SME owner can increase or decrease firm performance. This is because knowledge from business owners to company employees has a strong relationship with company growth in achieving better business performance, such as knowledge about cash management. Good cash management knowledge from business owners can have an impact on sales growth and operating profit. This condition can be seen through the factor loading value (table 2) of the financial knowledge variable which is proxied with cash management knowledge (X1.6) which has the highest factor loading value. Furthermore, business owners may also realize that storing large amounts of cash will affect security and cash become inefficient and unproductive because it is not used. In addition, business owners are also aware that the separation of the use of cash for personal needs and business operational needs is an important thing to maintain a healthy business cash flow and support the smooth running of daily business operations.

The results of this study also explain that the influence of the level of financial knowledge on business performance can be influenced by business funding management. It is possible for SME owners to understand that good funding management will enable business owners or financial managers to make informed and effective resource allocation decisions. The existence of loans with high fees indicates that the level of knowledge possessed by business owners is very low so that business owners do not know the basic concepts of finance, do not understand financial products, and calculate business credit financing (Eniola & Entebang, 2015), which has an impact on business profitability and ultimately affect business performance. This study also found that the owners of SMEs in Thematic Village understood the concept of calculating profit, but lacked understanding about the condition of financial statements or the presentation of financial statements. Conditions in the field also found that most SME owners only had a sales recap and a profit calculation recap, but for the recording of other financial statements, most SME owners did not have or did not record. However, business owners can estimate the level of profit to be obtained, the volume of business sales to the level of business productivity. On the other hand, some SME owners in Thematic Villages, especially in Tempe Sanan Village and Polowijen Village, have better financial records, such as recording daily sales, recapitulating sales notes, budgeting further production costs, and recording expenditure and income transactions. This condition is independent of the category of SME owners based on sales turnover. This is possible because SME owners are aware of the importance of financial records and apply all information related to their financial

knowledge in their daily lives. This condition indirectly explains that the level of business knowledge also influences financial decision-making. Tuffour et al. (2020) explain that when managers become knowledgeable about financial-related issues, they can make better decisions.

The results of this study also support the resource-based-view theory which explains that knowledge, which is one of the company's resources, if managed properly can formulate superior strategies to achieve the company's competitive advantage. According to Barney (1991) in Purnomo (2011) said that there are two important assumptions used in the resource-based view in analyzing sources of sustainable competitive advantage, namely first, the heterogeneity of company resources in one industry; and second, the resources owned by the company cannot move from one company to another, so the heterogeneity of resources can last a long time. A resource is said to be scarce if the resource is not owned by a competing company, in other words, the resource is the only one owned by the company concerned (Purnomo, 2011). The relationship between financial knowledge and firm performance in the results of this study conceptually supports the literature and several previous studies, which explain that there is a positive and significant correlation between financial knowledge and firm performance (Adomako et al., 2016; Eniola & Entebang, 2015; Games & Rendi, 2019; Lusardi et al., 2017; Tuffour et al., 2020; Ye & Kulathunga, 2019).

Indirect Effect

Table 5: Mediation Effect

Hypothesis	Variable	Path Coefficient	SE	P-Value	Decision
H2	Financial Knowledge → Financial Behavior → Firm Performance	0.235	0.054	0.000	Accepted
H3	Financial Knowledge → Access to Finance → Firm Performance	-0.030	0.028	0.283	Not Accepted

Source: Primary Data, 2021

The test results explain that the mediating relationship between financial knowledge, financial behavior, and firm performance has a p-value <0.05, so **H2 is accepted** (See Table 5). Referring to the results of the tests carried out, the type of media in this study according to J. F. Hair et al. (2010) is partial mediation, because the relationship (a), (b), (c), and (c') is significant. The results of this study are in line with the literature and several previous empirical studies regarding the role of financial behavior as a mediating variable (Atkinson & Messy, 2012; Yong et al., 2018). This shows that the level of knowledge gained through education or training as well as experience will indirectly affect the formation of good or bad financial behavior in financial and business management. Referring to the level of financial knowledge possessed, business people, can apply knowledge about the concept of profit and loss statements to their daily activities such as financial recording activities. By applying knowledge of profit and loss statements to financial recording activities regularly, business people will know in real-time the volume of sales and profits. This is also supported by the fact that almost all the owners of SMEs in the Thematic Villages who are the samples of this study have applied financial knowledge related to basic financial concepts in their business.

Research Atkinson and Messy (2012) explain in the context of individual finance, if an individual behaves positively, it will have a significant impact on the financial well-being of each individual. Furthermore, this condition can be proven based on the research in table 2 of the calculation results of the loading factor that the biggest contribution of financial behavior to firm performance is the behavior of checking notes. Referring to this data shows that business people have knowledge of the income statement and apply it in financial behavior so that sales volume and profit will increase. The application of knowledge of loan interest rates by business actors in managing loans/payments through good management of capital structure components can improve SME firm performance. By applying knowledge of loan interest rates, business actors can choose and look for profitable alternative capital, as well as manage and evaluate loans so that they can choose appropriate funding sources. However, the results of this study explain the low value of the contribution of financial behavior which is proxied by the behavior of repaying loans to SME firm performance as indicated by the loading factor value (see table 2). This is possible because most of the SMEs sampled in this study are SMEs that are included in the category of small and medium enterprises so that SME owners tend not to use external funding or loans. The difficulty of SMEs in obtaining financing will affect business operational activities, which in turn will likely affect sales growth, affect business investment activities aimed at expanding the business and long-term profits, and ultimately impact SME firm performance.

Beck & Demirguc-Kunt (2006) explain that SME owners who have access to finance enable SMEs in developing countries to make productive investments in expanding their business and to acquire the latest technology. Nevertheless, business actors have the desire to develop their business market share but cannot yet increase business market share. The results of this study are also in line with the literature and several previous empirical studies that explain the role of financial behavior as a mediating variable (Atkinson & Messy, 2012; Yong et al., 2018). Thus, the increase in firm performance must be balanced with knowledge about finance that is applied in financial behavior by business people.

Table 5 explains that the significance value (p-value) of the mediating relationship between financial knowledge, access to finance, and firm performance is $0.308 > 0.05$, so **H3 is rejected**. The results of H3 from this study explain that there is no mediating effect

of the variable access to finance in the relationship between financial knowledge and firm performance. The absence of a mediating role in this study is because most SMEs in Malang City lack access to financial institutions when it comes to their business conditions. This is because the object of this research is mostly business people, which is SMEs in the micro and small category with profit levels ranging from IDR 70,000,000 to IDR 300,000,000,- each a year, prefer to take funding from internal funding sources, where there is no interest and borrowing costs.

The results of H3 from this study indicate that there is no mediating effect of the variable access to finance in the relationship between financial knowledge and firm performance. By applying knowledge of loan interest rates to access to finance, business performance should increase, but the results of this study do not show this, perhaps because most of the research objects only have a desire to use loans as sources of external funding such as banks and non-bank financial institutions. However, business conditions do not meet the criteria for applying for business loans, thus access to finance does not mediate the relationship between financial knowledge and firm performance. After further analysis based on 150 research questionnaires, it was stated that business actors did not make loans to financial institutions as a form of business resources, as indicated by respondents' answers to the variable access to finance. Referring to the respondents' answers to the variable access to finance shows that most of them choose the answer to disagree and are neutral or hesitant. After further analysis, it is known that on average the respondents who answered this were business actors in the micro category. Although most SME owners answered that they have access to financial institutions, the purpose of using this access tends to be in the context of personal needs, not in the context of business development. In addition, both startup companies and old companies (companies that have been established for more than 5 years) most of them choose not to make loans to financial institutions (external funding sources) but tend to use internal funding sources such as turnover from company profits, loans from relatives, friends, and savings.

In line with these insignificant results, several previous studies also explain that there is a combination of information asymmetry and transaction costs that cause failure rates in access to financial institutions that often occur in SMEs and start-ups (OECD, 2018). The existence of information asymmetry among SME owners who think that making loans to banks is a convoluted activity and takes a long time, causing many business actors to be reluctant to apply for loans from banks. Not only that, there is a view that the effort spent by SME owners to obtain funding is not proportional to the number of funds obtained, causing most of these SMEs to be reluctant to apply for loans. In addition to information asymmetry, there is an assumption among SME business actors that the transaction fees or interest charged on the proposed loan are too high, so most business people prefer to obtain financing through internal funding sources. On the one hand, there is a limited amount of income from internal funding sources, so it is not surprising that most SMEs have been stagnant in the same conditions for years. Furthermore, Dewi et al. (2018) explained that without extensive access to financial services, credit constraints or venture capital will make it difficult for small businesses to develop their businesses to increase profitability. Indirectly, access to finance provides a dual role as a proxy for financial capacity and signals about business growth opportunities in the future (Adomako et al., 2016). Access to finance is an internal resource that must be owned by the company. Adomako et al. (2016) explained that access to finance is likely to be an important resource for SMEs and a source of competitive advantage for companies so that SMEs and companies have greater access than their competitors.

Table 6: Moderation Effect

Hypothesis	Independent	Dependent	Moderation	Path Coefficient	SE	P-Value	Decision
H4	Financial Knowledge	Financial Behavior	Financial Risk Attitude	-0.152	0.073	0.038	Accepted

Source: Primary Data, 2021

Table 6 shows that the p-value of financial risk attitude as a moderating variable in the relationship between financial knowledge and financial behavior is $0.038 < 0.05$, so **H4 is accepted**. The results of this study explain that financial risk attitude moderates the relationship between financial knowledge and financial behavior. The results also show that financial risk attitude weakens the relationship between financial knowledge and financial behavior, this is possible because most SMEs are more likely to use cooperatives as a place to save money than banking institutions, where this provides a greater level of risk. The existence of this level of risk also affects the financial behavior of SME owners, to be more careful in making decisions and to avoid risk. These results are also supported by the tendency of answers from the distribution of answers to the questionnaire given to the items from the financial risk tolerance indicator, overall respondents chose an agreeable answer of 57% of the 150 research respondents. After further analysis, the respondents who agreed were business owners with micro-scale businesses, namely businesses with an annual sales turnover of less than IDR 300,000,000.

Indirectly, the results of this study are related to the results of the influence of financial knowledge on firm performance through access to finance which has been discussed in H3. In H3 it has been explained that access to finance does not mediate this relationship because most of the respondents are SME owners who have small turnover, who tend to use internal funding sources such as turnover from company profits, loans from relatives, friends, and savings, so that the SME owners tend to have a high level of financial tolerance as indicated by the majority of respondents who chose the answer to agree on the items from the financial risk tolerance indicator. The results of this study are also in line with previous research conducted by Park & Yao (2016); Worthy et al. (2010);

Father (2020); Ahmed (2020). This condition occurs when the higher level of knowledge possessed by business actors will affect the financial behavior of business actors, but with the moderation of financial risk attitude, this relationship can weaken. So, business actors will be more careful in their behavior, such as prudence in making credit decisions. An example of a credit decision-making case is also explained in the research of Gärling et al (2009), the role of financial risk attitude affects the financial decision-making process of the organization, also affects financial behavior in the context of credit management (Bapat, 2020) and the use of credit cards for personal consumption. This shows that with the financial risk attitude, financial managers or business owners can evaluate business conditions and financial conditions before making decisions than ordinary individuals, because most ordinary individuals focus more on opportunities than challenges.

The results of this study also support the theory of planned behavior with dimensions of perceived behavioral control which explains that each person tends to take a certain attitude when the individual has the confidence to do so (Van Lange et al., 2012). The existence of a financial risk attitude relationship which weakens the relationship between financial knowledge and financial behavior, causes business behavior to tend to behave more to avoid risk because of this prudent attitude. Business actors will be more careful when they have more knowledge so they can estimate the magnitude of the risk. Furthermore, Conner, M., & Norman (2006) explain that the attitude tendency is also influenced by access to the necessary resources and opportunities to perform an attitude successfully.

Conclusions

Financial research from a behavioral perspective has become a popular research topic in recent years. From the results of the study, it was found that financial knowledge had a positive and significant effect on firm performance. This study also expands the scope of the relationship between financial knowledge and firm performance, through the mediating role of financial behavior and access to finance. This study also found that the role of moderation weakens the relationship between financial knowledge and financial behavior. The findings of this study indicate that SMEs in Malang tend to have a cautious attitude in decision making and financial management, they tend to avoid risk or belong to the risk aversion group.

Theoretically, this study also has implications for the addition of literature on the role of financial behavior as mediation in the relationship between financial literacy and firm performance and the role of financial risk attitude as a moderator on the relationship between financial knowledge and financial behavior, which so far have very limited research and journals. Not only that, but the research also builds a complex research model related to mediation and moderation in a conceptual framework in the financial sector from a behavioral perspective. Practically, the results of the research can be used as a basis for grouping SMEs based on financial literacy knowledge. With this grouping, the implementation of financial training to improve SME performance will be easier. SME owners who already know can be given advanced financial training that contains an introduction to investment and how to invest appropriately. Meanwhile, for those who do not have the knowledge, basic financial training can be given, namely about financial statements, how to calculate profit and loss, and basic recording. Referring to the results of the questionnaire, it can be seen the performance and access to loans made by SME owners. With this information, the government, banks, cooperatives, or other lending institutions can provide assistance or loans in a targeted manner.

This research was conducted to find out how the relationship between the variables of financial knowledge, financial behavior, access to finance, financial risk attitude, and firm performance, also has some limitations of the study. The variables of this study only include financial knowledge, financial behavior, and access to finance that affect firm performance, so there may be other variables that can affect firm performance. This research data collection only uses a questionnaire, so there is a possibility that the data is still subjective. It is necessary to add data collection techniques in further research, which is expected to provide a clearer picture of the condition of SMEs and the renewal of research. Not only that, this research is limited to SMEs in Malang, so it cannot be generalized in other areas. The objects and samples of this research are limited to only the owners of SMEs in the food and beverage sector in Thematic Village, the exact number is not known, so that in future research, it is necessary to increase the number of research samples and other SME fields.

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