



May Financial Literacy, Risk Tolerance, and Demographic Factors Influence the Investment Decisions of Customers?

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DOI: <https://doi.org/10.54099/aijb.v2i1.455>

ARTICLE INFO

Research Paper

Article history:

Received: 12 December 2022

Revised: 8 January 2023

Accepted: 21 January 2023

Keywords: Financial Literacy, Risk Tolerance, Demographic Factors and Investment Decisions

ABSTRACT

Purpose – This research aims to show empirically that financial literacy, risk tolerance, and demographic factors directly influence the investment decisions of Bank BCA Malang, Indonesia, customers. Methodology/approach – The purpose sampling method in this study has specific criteria in sampling, namely customers who are at least 17 years old, have invested at least one year, and have their income. This study shows the direct impact of using SEM-PLS analysis to demonstrate the dependence of independent variables on investment decisions. Findings – The analysis results show that financial literacy does not affect investment decisions. Furthermore, the results of the hypothesis testing analysis carried out explain that risk tolerance affects investment decisions. Finally, the hypothesis testing analysis results explain that the variables of demographic factors do not affect investment decisions.

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INTRODUCTION

The Covid-19 pandemic is a disaster that impacts various sectors ranging from the retail sector to energy once it is affected. Many massive layoffs were carried out by many companies and resulted in people who were part of the employees of these companies losing their jobs. The significant increase in capital market investors during the Covid-19 pandemic shows a rapidly moving economy, pandemic conditions, and digital developments, so doubts arise when investment must be decided. On the other hand, people desire to have more incredible wealth to feel a balance in their lives. Therefore, the high interest in growing wealth needs to be improved by doubts in deciding on an investment (Awaluddin, 2022; Iskamto et al., 2019, 2022; Lubis & Irawati, 2022; Rama Nopiana & Rusmiati Salvi, 2022; Rasyid, 2022).

Based on research conducted by (Nyoman Suprasta, & Nuryasman, 2020) shows the points that influence investment decisions, namely financial literacy, financial experience, locus of control, and experience regret. Then, research conducted by (Fridana & Asandimitra, 2020) showed several points that influence investment decisions, including financial literacy, overconfidence, herding, risk tolerance, and risk perception. In addition, according to (Aryani & Cintyawati, 2018), age, gender, level of education, and financial literacy are some of the determining factors for making investment decisions. Of the many factors influencing investment decisions, this study discusses financial literacy, risk tolerance, and demographic factors (Adeyemi, 2022; Adula & Kant, 2022; Iskamto et al.,

2021).

This research surveyed customers of the Malang branch of Bank BCA who had made investments. Bank BCA is the largest private bank in Indonesia, stating that since the pandemic, account opening for investment has increased. EVP of Transaction Banking Business Development of BCA I Ketut Alam Wangsawijaya sees a good relationship between investment transactions and investment needs for opening a banking account (Walfajri & Hidayat, 2021). EVP of BCA's Wealth Management Division stated that there had been an increase of up to three times the number of capital market investors in the last two years. Bank BCA provides an investment application called to meet the latest customer needs called Welma, which can be needed anytime and anywhere. Various instruments are provided in Welma, namely bonds, mutual funds, and insurance (Lestardini, 2022). Malang city is one of the largest cities in East Java and is one of the largest cities for investors in East Java (Wijayanto, 2021). The Regional Office of the Financial Services Authority (OJK) Malang, East Java, revealed that in 2021 there were 61,087 investors. Head of OJK Malang Sugiarto Kasmuri said that investors in Malang City are growing positively. Compared to the previous year, it experienced a growth of 128% (FMB, 2021).

LITERATURE REVIEW

Financial Literacy

The first factor that is a crucial factor when making investment decisions, namely financial literacy. Financial literacy has an essential role as an organized financial decision-making tool. Therefore, financial literacy cannot be separated from one's activities or activities (Hikmah et al., 2020). Only a few people who make investments still succeed in making the right investment decisions. They are due to insufficient knowledge about finances. This low level of financial literacy causes people to be unable to make the right investment decisions, so they experience losses. Referring to the Indonesian National Strategy for Financial Literacy, community financial literacy is grouped into four levels: not literate, less literate, well literate, and sufficiently literate. Chen & Volpe (1998) states that financial literacy has four factors that affect individual financial literacy, including basic financial concepts, saving and borrowing, insurance, and investment.

Previous studies discussing financial literacy in investment decisions showed that the research results differed. Several studies have revealed that financial literacy influences investment decision-making (Alaaraj & Bakri, 2020; Aryani & Cintyawati, 2018; Baihaqqy et al., 2020; Dewi & Krisnawati, 2020; Fridana & Asandimitra, 2020; Hikmah et al., 2020). Meanwhile, other studies explain that financial literacy does not affect investment decisions (Budiarto & Susanti, 2017; Senda et al., 2020). This is a benchmark for further research on the involvement of financial literacy in investment decisions.

Risk Tolerance

In addition to financial literacy, individuals' internal factors influence investment decisions, namely risk tolerance. Each investor has different individual behaviors, and this behavior affects every decision to be made. Over time many investors perform irrational actions in which they determine a decision deviating from the right or rational analysis. When investing, individuals will consider every decision, because when investing, in addition to considering the benefits and risks that will be obtained when investing. In a specific risk, the investor will expect a sure profit. Either the number of funds to be invested or the investment chosen will depend on the investor's tolerance concerning a risk called risk tolerance.

Based on research from Budiarto & Susanti (2017), Risk tolerance is an acceptable ability when choosing an investment with this risk when investing. The level of ability to take risks for each

individual is undoubtedly different. Dewi & Krisnawati (2020) stated that when someone makes an investment decision, risk tolerance is an essential factor influencing them. In his research, risk tolerance has a strong influence on investment decision-making. However, the results of this research are contrary to research conducted by Mahardika (2017) which revealed that risk tolerance does not affect investment decisions. According to Sukamulja (Dewi & Krisnawati, 2020), a person's risk profile can show their preference for risk. There are three risk profiles: investors who like risk takers, risk-neutral, and investors who avoid risk (risk averters). Individuals with a high-risk tolerance tend to be brave in making decisions compared to individuals with a low-risk tolerance (Budiarto & Susanti, 2017). The indicators of risk tolerance are risk-taking, conservative, and aggressive behavior (Pak & Mahmood, 2015).

Demographic Factors

Other factors that influence people's investment decisions include demographics such as age, education, gender, investment experience, and income. These factors negatively influence investment decisions (Wijaya & Setiawati, 2021). There are various demographic indicators, but here will be used to see individual preferences in decision-making, namely age and income. Individual skills can improve with age (Jolaosho, 2017) as they learn to manage time effectively. Grebel and Lytton (Mahardika, 2017) revealed that in an investment, usually, the advanced age does not dare to take risks in investing compared to the young age who dare to accept risks when investing. Research conducted by (Safitri & Rachmansyah, 2018) shows that age affects investment decisions.

The business carried out by a person will get a reward called income. According to Mahdzan and Tabiani (Pranyoto et al., 2018), when a person's income grows, they will think of a better way to utilize their finances through financial knowledge. There is some research on demographic factors in investment decisions. Research conducted by (Aryani & Cintyawati, 2018; Putri & Rahyuda, 2017) shows that income does not influence investment decisions. Individuals making an investment decision should pay more attention to their income level. Meanwhile, another research conducted by Senda et al. (2020) shows that demographic factors of age influence investment decisions, income, and investment experience. However, education and gender do not influence investment decisions.

METHOD

This type of research includes descriptive quantitative research, where quantitative research is used as a test calculation of theories of relationships between variables. Descriptive research is used to describe and explain how the relationship between variables. This research uses the Structural Equation Modelling Partial Least Square (SEM-PLS) analysis method to test the correlation between variables. The following is a picture of this research design to clarify this research.

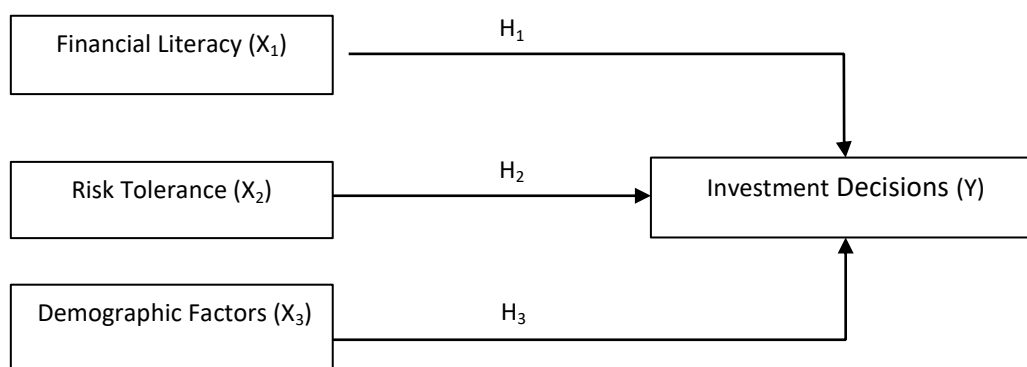


Figure 1. Research Design

The source of information in this research uses primary data and secondary data. In obtaining primary data, researchers get data directly using questionnaires through Google Forms. The secondary data in this research was obtained indirectly from various literature related to this research.



The population in this study includes BCA Bank Customers in Malang City who have made investments and whose total population is unknown. This sampling uses the purposive sampling method. The number of populations in this study is unknown, so deciding the number of samples from the population is based on the theory proposed by Bentler and Chou (Devi et al., 2021), where this theory advocates a minimum number of samples, which is five times the number of statements in the research questionnaire. The minimum number of samples is $33 \times 5 = 165$, then the sample that needs to be achieved for an estimated 165. The number of samples will be increased to avoid filling in questionnaires from respondents who are not suitable or incomplete. The research sample is increased by 10% from the minimum sample number to 182. The provisions required by the researchers for the sample in this research are BCA Bank Customers in Malang City who have made investments at least 17 years old, have made investment decisions for at least one year, and have their income.

Under the complex model and limited samples owned, this study will use SmartPLS software to analyze data. The bootstrapping method, commonly described as random doubling, is used by SmartPLS. Therefore, the assumption of normality is not to be disputed. Analysis using SEM-PLS was carried out by calculating two sub-models, namely the outer model and the inner model. The Outer Model is carried out to test the feasibility of the data, and the Inner Model is carried out to test the model and hypothesis, namely through R-Square, F-Square, and Estimate for Path Coefficients. The Validity Test in this study used Convergent Validity, Average Variance Extracted (AVE), and Discriminant Validity in the SEM-PLS of this study. The reliable determination of whether the instrument can be used is the Alpha limit of 0.6. If the value of Cronbach's Alpha variable < 0.60 can be explained that it is not reliable, but if Cronbach's Alpha > 0.60 variable can be explained that it is reliable.

RESULT AND DISCUSSION

1. RESULT

Outer Model

The measurement model or outer model shows the ability of the indicator to translate the measured latent variables and measure the validity and reliability of the statement instrument used in the study. The Validity Test using the Convergent Validity assessment can be estimated using SmartPLS software. Individual reflective measures are expressed as high when correlated > 0.70 (Ghozali & Latan, 2015). The loading limit of this study is 0.70. Under the Convergent Validity test, the outer loading value of the entire variable is > 0.70 , so all variables can be declared valid. Validity can also be measured using the Average Variance Extracted (AVE) value with a recommended limit of > 0.5 . Under Table 1, the AVE value results > 0.50 so that all variables are considered valid, according to Fornell and Larcker (Ghozali & Latan, 2015).



Figure 2. Outer Model

Table 1. Average Variance Extracted (AVE)

Variable	AVE	Information
Demographic Factors	0.921	Valid
Financial Literacy	0.543	Valid
Investment Decisions	0.523	Valid
Risk Tolerance	0.540	Valid

In line with the results of the Discriminant Validity (Cross-Loading) test, it is known that the cross-loading indicator value of the latent variable has a cross-loading value more remarkable than other variables. It will be considered the Discriminant Validity of all latent variables (Ghozali & Latan, 2015). Then based on the test results, Table 2 shows that the square root value of AVE or Fornell Lacker Criterion is greater than the correlation value with other constructs and has a value of >0.7 . The Discriminant Validity is declared sound, or all variables are declared valid.

Table 2. Discriminant Validity

Variable	X ₃	X ₁	Y	X ₂
Demographic Factors	0.960			
Financial Literacy	-0.023	0.737		
Investment Decisions	-0.116	0.326	0.723	
Risk Tolerance	-0.012	0.509	0.537	0.735



A variable is declared reliable if the Cronbach Alpha score > 0.7 (Ghozali & Latan, 2015). The following data shows that Cronbach's Alpha score belonging to each variable is recorded at > 0.7 , so to speak, the level of reliability is high. Here are the results of the Reliability Test data using Cronbach's Alpha score:

Table 3. Reliability Test

Variable	Cronbach's Alpha	Information
Demographic Factors	0.918	Reliable
Financial Literacy	0.954	Reliable
Investment Decisions	0.849	Reliable
Risk Tolerance	0.860	Reliable

Inner Model

Evaluation of structural or inner models aims to answer the prediction of correlations between variables formed by observing how much variance to explain and knowing how significant the p-value is. In evaluating the inner model, it can be done by knowing the magnitude of the R-Square. R-Square plays a role in testing the goodness of fit models or alignment tests. How much a particular independent variable affects the dependent variable is directly proportional to the value of R-Square. Below are listed the results of the calculation of the R-Square value:

Table 4. R-Square

Variable	R Square
Investment Decisions	0.304

Under table 4, it can be seen that the value of R-Square for the Investment Decision variable is 0.304 or 30.4 %. That explains that the variables of Financial Literacy, Risk Tolerance, and Demographic Factors contributed to forming the Investment Decision variable by 30.4%. In comparison, 69.6% was another variable that was not in this study, and the value fell into the category of low influence.

F-Square is used to measure the systematic quality of the model in research. F-Square values of 0.02, 0.15, and 0.35 are used in interpreting the magnitude of the influence of latent variable predictors at the structural level. They can be categorized as weak, medium, or significant influences (Ghozali & Latan, 2015). The following table shows the results of the analysis of the F-Square value of each variable:

Table 5. F-Square Model

Variable	X ₃	X ₁	Y	X ₂
Demographic Factors			0.017	
Financial Literacy			0.005	
Investment Decisions				
Risk Tolerance			0.266	

Based on table 5 of the f-square test results revealed that the substantive influence of Financial Literacy on Investment Decisions is relatively low (0.005). Meanwhile, the influence of Risk Tolerance on Investment Decisions is relatively low (0.266) and Demographic Factors affecting Investment Decisions are relatively low (0.017).

Hypothesis testing is performed using an Estimate for Path Coefficients. This test considers whether or not it is significant from the influence between research variables by paying attention to the coefficient and statistical T numbers, namely by using the bootstrapping method (Ghozali & Latan, 2015). The condition used in testing a hypothesis is that if the coefficient number or Original Sample (O) number is positive, it can be said that there is a positive influence. If the statistical t number is above 1.96 and the p-value is below 0.05, it shows a significant influence of independent or free variables on dependent or bound variables. The following are the results of hypothesis testing using an Estimate for Path Coefficients.

Table 6. Estimate for Path Coefficients

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
Financial literacy -> Investment Decisions	0,069	0,092	0,110	0,630	0,529
Risk tolerance -> Investment Decisions	0,500	0,499	0,107	4,662	0,000
Demographic Factors -> Investment Decisions	-0,109	-0,113	0,062	1,754	0,080

Based on the results of the hypothesis test analysis that has been carried out and shown in Table 1, it can be said that hypothesis 1 is rejected. This is evidenced that financial literacy does not affect Investment Decisions. This is known based on the results of the coefficient or original sample with a positive value of 0.069, the statistical t result shows below 1.96, which is 0.630, and the p-value of more than 0.05 is 0.529.

Furthermore, based on the results of the hypothesis testing analysis that has been carried out and shown in Table 1, it can be said that hypothesis 2 is accepted. *The risk tolerance* variable can affect investment decisions positively and significantly. This is known based on the value of the coefficient or original sample with a positive value of 0.500, the statistical t result shows more than 1.96, which is 4.662, and the p-value is less than 0.05, which is 0.000.

Based on the results of the hypothesis testing analysis that has been carried out and shown in Table 1, it can be said that hypothesis 3 is rejected. It can be proven that the variable Demographic Factors do not affect Investment Decisions. The result is known based on the coefficient or original sample number with a negative value of -0.109. The statistical t result shows less than 1.96, 1.754, and a p-value of more than 0.05 of 0.080.

2. DISCUSSION

Financial literacy significantly affects the investment decisions of BCA Bank Customers in Malang City.

Based on the results of the analysis in table 1, which shows that the first hypothesis is rejected, it explains that the financial literacy variable does not affect investment decisions. Referring to the respondent's answers, the overall value of each respondent is included in the high financial literacy group with a mean of 3.88. In this research, the results were that respondents were dominated by a high level of financial literacy but did not influence the investment decisions made. Several financial literacy indicators have high values, namely basic financial concepts, saving and borrowing, and investment. This is because respondents make investment decisions, so indirectly, respondents must understand the basic knowledge about finances, including savings and loans, and investment knowledge.

Meanwhile, there is an indicator with a low value, namely insurance. However, with a high level of financial literacy, respondents are independent of their investment decisions. According to the study's results, the average value of respondents' investment decisions is relatively low. This happens because, in the application of investment decision practices, financial literacy is not applied by investors.



In addition, this research was dominated by respondents aged 17-25 years, which is why financial literacy variables do not influence investment decisions—revealed that the age of 20 to 25 is young. At a young age, each individual does not think long when making decisions, and respondents feel they do not have to use knowledge when making investment decisions. Thus, it states that a person's level of financial literacy does not affect the good or bad of their investment decisions.

This result is contrary to the theory put forward by Lusardi, Mitchell & Curto in 2010, which revealed that low financial literacy affects future financial planning. Ignorance of basic financial concepts can be associated with low investment planning. This happens because some individuals make investment decisions directly using basic concepts based on experience that make it a habit so that respondents can still make sound investment decisions by not looking at high levels of financial literacy (Senda et al., 2020).

Based on the study's results, investors make investment decisions by digging up information from some people who are considered experts in making investment decisions, and they make investment decisions based on the advice of people who have experts to the exclusion of their abilities. Respondents consider that predicting a good investment is following experienced investors' advice. Respondents stated that they always seek information from various parties to determine the returns they will receive.

The results in this research are supported by (Budiarto & Susanti, 2017; Pradikasari & Isbanah, 2018; Senda et al., 2020), which shows that financial literacy does not affect investment decisions. However, this research disagrees with (Alaaraj & Bakri, 2020; Aryani & Cintyawati, 2018; Baihaqqy et al., 2020; Dewi & Krisnawati, 2020), who stated that financial literacy affects investment decisions.

Risk tolerance significantly affects the investment decisions of Bank BCA Customers in Malang City.

The analysis results in table 1 show that the second hypothesis is accepted: the risk tolerance variable significantly affects positive investment decisions. Risk tolerance is the degree of willingness to agree or tolerate risk. Risk tolerance is the second stage in dealing with risk, and it has to do with how a person reacts or acts to that risk. This can be done by knowing how risky the asset will be chosen, and then one can decide on the risk opportunities received to correspond to the expected returns in the future. The test results based on the second hypothesis explain that risk tolerance positively and significantly influences investment decisions. This means that the greater one's risk tolerance, the more likely it is to hand over funds to riskier assets. Based on this explanation means that the greater the level of risk tolerance, the greater the level of investment decision-making on high-risk assets (Ainia & Lutfi, 2019).

Based on the results of respondents' answers, it showed a high average indicator value of 3.65. In this case, investors with a high-risk tolerance are prepared to lose from that investment as long as an investment decision provides a higher profit level opportunity. If an investor seeks to minimize risk by choosing to distribute his funds to low-risk assets, then the investor is afraid of risk. Based on the investor's tolerance for risk, the investor will align the chosen form of investment. This explains that the greater the level of risk tolerance a person causes someone to make higher or bolder decisions. A person with a low level of risk tolerance will have different attitudes when deciding; they are less likely to dare to make high-risk decisions. On the other hand, people with high-risk tolerance will make high-risk decisions.

The results of this research are supported by (Ainia & Lutfi, 2019; Budiarto & Susanti, 2017; Dewi & Krisnawati, 2020; Wulandari & Iramani, 2014), which shows that risk tolerance variables influence investment decisions. However, the results of this research differ from those of the research carried out by (Mahardika, 2017; Wardani, 2016), which shows that risk tolerance variables do not affect investment decisions.

Demographic factors significantly influence the investment decisions of Bank BCA Customers in Malang City.

The analysis results in table 1 reveal that the third hypothesis is rejected, namely that the variables of demographic factors do not affect investment decisions. The indicators in this variable are age and income. Based on the results of this analysis shows that age and income do not affect people's investment decisions. In this case, age does not influence the investment decisions of Bank BCA customers in Malang City because the respondents in this study who have young age or older age have no difference in making investment decisions. In this case, the young age is not in line with the results of research from Grebel and Lytton in 1998 (Putri & Hamidi, 2019), which stated that, in general, the young age would be more willing to take risks in investing than the old age, who dare not take risks in investing.

Nowadays, investors with old age and young age are thinking about investing and setting aside money for the long term to make a profit. Furthermore, investments in old and young age are always based on appropriate and careful calculations. Investors also use part of the earnings to invest in the hope that, in the future, they will get greater returns. Age is the limit of the size of life or the level that affects the individual's physical condition. If the investor considers it a valuable investment for the foreseeable future, his money will be well-spent. Because by investing, one will get many benefits.

In addition, income does not affect the investment decisions of Bank BCA customers in Malang City. In addition, part of the investor's current income is allocated for investment. When making investments, investors also consider risks and rewards. Based on income level, respondents with incomes ranging from Rp1,000,000 to Rp.2,000,000 are the most respondents, namely 69. This means that low or high income will not affect the good or bad of a person making investments. With income, the investor thinks that when he sets aside money to invest, his income will increase indirectly because he gets the investment results.

These results align with research from (Mahardika, 2017; Putri & Hamidi, 2019) which explains that demographic factors do not influence investment decisions. However, the results of this research differ from those carried out by (Senda et al., 2020), which state that age and income influence investment decisions.

CONCLUSION

Every individual desires to prosper in their lives in the future; by making investments, each individual can meet the welfare of life in the future. This research aims to see the influence of independent variables on investment decision variables. Based on the results of the hypothesis test that has been carried out, it can be concluded that there is no positive and significant influence of financial literacy variables on investment decisions on Bank BCA Malang City Branch customers. This is because a person's level of financial literacy will not affect the good or bad of a person's investment decisions. Furthermore, calculating the second hypothesis showed that the risk tolerance variable affects positive and significant investment decisions in Bank BCA Malang City Branch customers. This means that the greater the level of individual risk tolerance, the more courageous a person is when making investment decisions. Finally, the results of the third hypothesis test are known that the investment decisions of customers of Bank BCA Malang City Branch are not influenced by variables of demographic factors (age and income). This is because a person's age and income will not affect the investment decisions an investor will make. Young age and older age are the same when making



investment decisions, and everyone who already has income will set aside funds for investment. However, low or high income will not affect how well or poorly a person makes investment decisions.

Based on the researcher's research, two suggestions can be submitted for the next researcher, namely the first one. The next researcher is expected to provide other variables beyond the variables that have been used in order to refine this research further. Second, the next researcher is expected to increase the number of research samples or respondents so that the research is more accurate and can strengthen the research.

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