

The Influence of Financial Literacy, Financial Technology, and Risk Perception on Investment Decisions

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Abstract

This study investigates the influence of financial literacy, financial technology, and risk perception on investment decision-making among users of the Pegadaian Digital application in Makassar, Indonesia. Employing an explanatory quantitative research design, data were collected through online questionnaires distributed to a sample of 60 respondents. The analysis involved instrument validity and reliability testing, classical assumption tests, and hypothesis testing, all conducted using IBM SPSS 25. The findings reveal that, partially, financial literacy and risk perception exert a positive and statistically significant effect on investment decisions, whereas financial technology demonstrates a negative and statistically insignificant effect. However, when considered simultaneously, financial literacy, financial technology, and risk perception collectively exert a significant influence on investment decisions. These results highlight the importance of financial literacy and risk awareness in shaping investors' behavior and decision-making processes. The study further suggests that prospective and current investors should deepen their knowledge and understanding of available investment instruments to make informed decisions, reduce uncertainty, and minimize potential losses.

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INTRODUCTION

In the current digital era, rapid advancements in technology and information have introduced new paradigms in society and significantly shaped individuals' access to and utilization of information across various domains, including the economy. Investment plays a critical role in a nation's economic development, particularly in Indonesia, serving two primary functions: first, as a vehicle for businesses to obtain funding from investors; and second, as an avenue for individuals to allocate resources into financial instruments. Investments — whether in stocks, gold, securities, or insurance — are generally undertaken with the expectation of generating profits. Moreover, they serve as a strategic tool to protect assets from inflation and facilitate financial independence. By allocating capital either directly or indirectly, investors anticipate returns that contribute to wealth accumulation and financial growth (Safryani, 2020).

In Indonesia, the number of investors has consistently increased. According to data from the Indonesian Central Securities Depository (KSEI), as of August 2023, the capital market investor base reached 11.58 million, marking a 21.38% year-to-date (YTD) growth compared to the same period the previous year. The market is largely dominated by younger investors under 30 years old, accounting for 57.04% of total investors and holding assets valued at IDR 50.51 trillion. Although investors aged 51–60 and above 60 represent only 5.44% and 2.88% of the total, respectively, they hold the largest asset values — IDR 250.59 trillion and IDR 896.44 trillion, respectively.

One of the key determinants influencing investment decisions is financial literacy (Herawati & Dewi, 2020). Financial literacy refers to the knowledge and skills necessary for managing personal finances effectively. A strong understanding of financial literacy enables individuals to maintain financial stability and security while fostering long-term economic well-being. Conversely, low financial literacy is associated with poor decision-making regarding investments, savings, and borrowing, often resulting in adverse consequences for wealth accumulation (Mahdzan et al., 2020). According to the 2022 National Survey on Financial Literacy and Inclusion (SNLIK), Indonesia's financial literacy index rose to 49.68%, up from 38.03% in 2019. Enhanced financial literacy helps individuals optimize the time value of money, maximize returns, and improve their standard of living.

In parallel, financial technology (fintech) has emerged as a transformative force in the financial sector, reshaping how individuals access and manage financial services (Miswan, 2019). Fintech innovations streamline financial transactions, making them more efficient, accessible, and cost-effective, and in many cases replacing the role of traditional financial institutions. According to Statista, alternative payment services were the largest fintech segment in Indonesia in 2022, with an average transaction value per user of USD 92,080, projected to reach USD 112,300 by 2027. Digital investment services followed, with an average transaction value per user of USD 2,980 in 2022 and a projected USD 4,280 by 2027. These figures underscore fintech's significant growth potential and its increasing influence on investment behavior.

Risk perception also plays a pivotal role in investment decision-making. It reflects the uncertainty investors face when the consequences of their decisions cannot be accurately predicted. Investors' risk perceptions influence their attitudes toward risk, categorizing them as risk-seeking, risk-averse, or moderate-risk investors (Pratama, 2022). Individuals with high risk perception tend to be more cautious, carefully evaluating available information before committing to investment decisions (Fridana & Asandimitra,

2020).

PT Pegadaian, a major financial services company in Indonesia, launched the Pegadaian Digital application in 2017 as part of its digital transformation strategy. This platform enables users to perform a variety of financial transactions — from gold savings and installment plans to business financing and bill payments — without visiting a physical branch. As of December 31, 2021, the application had 4.5 million users, growing by 18% to 5.3 million users in 2022.

Investment decisions, which involve allocating resources from internal or external sources for short- and long-term goals, are influenced by multiple factors, including financial literacy, financial technology, and risk perception. While previous studies have examined these variables individually, few have explored their combined effects within the specific context of Pegadaian Digital users. This research addresses this gap by examining how these three factors jointly shape investment decision-making in a hybrid financial environment that merges traditional pawn services with digital investment instruments. Furthermore, the study highlights nuanced findings from prior research, such as cases where financial literacy does not directly correlate with the adoption of digital financial platforms due to interface complexity, and where risk perception related to transaction security becomes a decisive factor in investment behavior.

Therefore, this study aims to analyze the effects of financial literacy, financial technology, and risk perception on investment decisions among Pegadaian Digital users in Makassar. The findings are expected to provide valuable insights for both investors and financial service providers, contributing to more informed decision-making and the development of more user-centered financial technologies.

METHODS

This study employs an explanatory quantitative research design, aiming to examine and explain the causal relationships between financial literacy, financial technology, and risk perception (independent variables) and investment decisions (dependent variable). An explanatory design is appropriate as the research seeks not only to describe but also to test hypotheses regarding the effects of these variables, both individually (partial analysis) and collectively (simultaneous analysis), within the context of users of the Pegadaian Digital application in Makassar, Indonesia.

The population of this study comprises all users of the Pegadaian Digital application residing in Makassar. Due to the unknown total number of users, the sample size was determined using the formula by Hair et al., which recommends a minimum sample size of five times the total number of indicators analyzed. This study utilized 12 indicators, resulting in a minimum sample size of 60 respondents:

$$n = \text{number of indicators} \times 5 = 12 \times 5 = 60$$

Inclusion criteria for participants were as follows:

1. Users aged between 17 and 65 years.
2. Users who have actively used the Pegadaian Digital application for a minimum of one year.

A total of 60 valid responses were collected and analyzed.

Primary data were collected through an online questionnaire distributed via Google Forms. The questionnaire consisted of items measuring each research variable using a five-

point Likert scale, where 1 represented “strongly disagree” and 5 represented “strongly agree.” This approach provided quantitative data for subsequent statistical analysis.

The collected data were processed and analyzed using IBM SPSS Statistics 25. The analysis procedures included the following stages:

Instrument Testing to ensure validity and reliability:

Validity Test: Conducted using Pearson’s correlation, with items considered valid if the calculated rrr value exceeded the rrr-table value at a 5% significance level.

Reliability Test: Measured using Cronbach’s Alpha, with a coefficient above 0.70 indicating acceptable reliability (Ghozali, 2018).

Classical Assumption Tests – to ensure the robustness of the regression model:

Normality Test: Performed using the Kolmogorov–Smirnov test; data are normally distributed if $p > 0.05$.

Multicollinearity Test: Evaluated using tolerance (> 0.10) and Variance Inflation Factor ($VIF < 10$).

Heteroskedasticity Test: Assessed visually through scatterplots to verify homoskedasticity.

Hypothesis Testing – to test the proposed research hypotheses:

Multiple Linear Regression Analysis: Used to examine the influence of the independent variables on the dependent variable.

t-test (Partial Test): Determines the individual effect of each independent variable on investment decisions.

F-test (Simultaneous Test): Examines the combined influence of all independent variables.

Coefficient of Determination (R^2): Assesses the proportion of variance in investment decisions explained by the independent variables.

The multiple linear regression model used in this study is formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

Y = Investment decision

α = Constant

$\beta_1, \beta_2, \beta_3$ = Regression coefficients for each independent variable

X_1 = Financial literacy

X_2 = Financial technology

X_3 = Risk perception

ε = Error term

Responses were collected on a five-point Likert scale, with total scores categorized as follows to interpret the overall level of each variable:

Score Range	Category
60–108	Very Low
109–157	Low
158–206	Moderate
207–255	High
256–304	Very High

This categorization allowed for a clearer descriptive interpretation of respondents’ perceptions and behaviors.

RESULT AND DISCUSSION

Characteristics of Respondents

The respondents of this study were customers of Pegadaian in Makassar who actively use the Pegadaian Digital Application. A total of 60 respondents participated. The characteristics of respondents are presented below.

Table 1. Classification of Respondents by Age

Age (years)	Frequency	Percent	Valid Percent	Cumulative Percent
17-35	46	76.7%	76.7%	76.7%
36-55	11	18.3%	18.3%	95.0%
56-65	3	5.0%	5.0%	100.0%
Total	60	100.0%	100.0%	100.0%

Source: Processed Data (2024)

The table shows that most users of the Pegadaian Digital application are aged 17-35 years (76.7%). This age group, commonly categorized as millennials, tends to be more technologically literate and eager to adopt digital innovations for convenience.

table 2. Classification of Respondents by Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	15	25.0%	25.0%	25.0%
Female	45	75.0%	75.0%	100.0%
Total	60	100.0%	100.0%	100.0%

Source: Processed Data (2024)

The results show that female respondents dominate (75.0%), reflecting that women tend to be more active in financial management, including borrowing and investment decisions.

Table 3. Classification of Respondents by Employment Status

Employment Status	Frequency	Percent	Valid Percent	Cumulative Percent
Civil Servant (ASN)	6	10.0%	10.0%	10.0%
Private Employee	12	20.0%	20.0%	30.0%
Entrepreneur	10	16.7%	16.7%	46.7%
Student	16	26.7%	26.7%	73.3%
Housewife	6	10.0%	10.0%	83.3%
Others	10	16.7%	16.7%	100.0%
Total	60	100.0%	100.0%	100.0%

Source: Processed Data (2024)

The table shows that the majority of respondents are students (26.7%), reflecting the millennial demographic that prefers fast and easy access to financial services, including investment, through digital platforms.

table 4. Classification of Respondents by Investment Feature Used

Investment Feature Used	Frequency	Percent	Valid Percent	Cumulative Percent
Gold Installment	7	11.7%	11.7%	11.7%
Gold Savings	17	28.3%	28.3%	40.0%
Gold Pawn	12	20.0%	20.0%	60.0%
Gold Plan	8	13.3%	13.3%	73.3%
All Investment Options	16	26.7%	26.7%	100.0%
Total	60	100.0%	100.0%	100.0%

Source: Processed Data (2024)

Most respondents (28.3%) use the Gold Savings feature, which is considered safe, liquid, flexible, and easy to monitor, making it an attractive option for managing and increasing investment value.

Validity Test

Validity testing aims to determine whether the questionnaire items are valid. An item is considered valid if the calculated rrr-value is greater than the critical rrr-table value at a 5% significance level. With 60 respondents, the degrees of freedom (df) are $n-2=58$, resulting in an rrr-table value of 0.254. All items across variables (financial literacy, financial technology, risk perception, and investment decisions) have rrr-calculated values above 0.254, indicating that all items are valid.

Reliability Test

Reliability testing was performed using Cronbach's Alpha. A variable is considered reliable if the alpha value exceeds 0.70 (Ghozali, 2018). The reliability test results are as follows:

Variable	Cronbach's Alpha	Result
Financial Literacy (X1)	0.852	Reliable
Financial Technology (X2)	0.903	Reliable
Risk Perception (X3)	0.874	Reliable
Investment Decision (Y)	0.925	Reliable

All variables have Cronbach's Alpha values above 0.70, confirming that the research instrument is reliable.

Classical Assumption Tests

Result of Normality Test

Table 5. Normality Test (One-Sample Kolmogorov-Smirnov Test)

Statistic	Unstandardized Residual
N	60
Mean	0.0000000
Std. Deviation	2.03843021
Most Extreme Differences	
- Absolute	0.076
- Positive	0.067
- Negative	-0.076
Test Statistic	0.076
Asymp. Sig. (2-tailed)	0.200c,d

Source: Processed Data (2024)

Since the significance value (0.200) is greater than 0.05, the residual data are normally distributed.

Result of Multicollinearity Test Results

Table 6. Result Of Multicollinearity Test Results

Variable	Tolerance	VIF
Financial Literacy	0.497	2.010
Financial Technology	0.338	2.961
Risk Perception	0.284	3.518

Source: Processed Data (2024)

All tolerance values exceed 0.10 and all VIF values are below 10, indicating no multicollinearity.

Result of Hypothesis

Table 7. Multiple Linear Regression Results

Variable	B	Std. Error	Sig.
(Constant)	-1.955	2.221	0.382
Financial Literacy	0.757	0.121	0.000
Financial Technology	-0.029	0.121	0.812

Risk Perception	0.381	0.142	0.010
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Source: Processed Data (2024)

Regression equation:

$$Y = -1.955 + 0.757X_1 - 0.029X_2 + 0.381X_3 + \varepsilon$$

Partial t-Test Results

Table 8. Partial t-Test Results

Variable	B	t	Sig.
(Constant)	-1.955	-0.880	0.382
Financial Literacy	0.757	6.236	0.000
Financial Technology	-0.029	-0.240	0.812
Risk Perception	0.381	2.685	0.010

Source: Processed Data (2024)

- Financial literacy (X_1) has a positive and significant effect ($t=6.236 > 2.003$ $t = 6.236 > 2.003$ $t=6.236 > 2.003$, $p < 0.05$ $p < 0.05$ $p < 0.05$).
- Financial technology (X_2) has a negative and insignificant effect ($t=-0.240 < 2.003$ $t = -0.240 < 2.003$ $t=-0.240 < 2.003$, $p > 0.05$ $p > 0.05$ $p > 0.05$).
- Risk perception (X_3) has a positive and significant effect ($t=2.685 > 2.003$ $t = 2.685 > 2.003$ $t=2.685 > 2.003$, $p < 0.05$ $p < 0.05$ $p < 0.05$).

Simultaneous F-Test Results

Table 9. Simultaneous F-Test Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	692.493	3	230.831	52.728	0.000
Residual	245.157	56	4.378		
Total	937.650	59			

Source: Processed Data (2024)

Since $F=52.728 > F_{table}=2.77$ $F = 52.728 > F_{table} = 2.77$ $F=52.728 > F_{table}=2.77$ and $p=0.000 < 0.05$ $p = 0.000 < 0.05$ $p=0.000 < 0.05$, financial literacy, financial technology, and risk perception simultaneously have a significant effect on investment decisions.

Coefficient of Determination (R^2)

Table 10. Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.859	0.739	0.725	2.092

Source: Processed Data (2024)

The R^2 value of 0.739 (73.9%) indicates that financial literacy, financial technology, and risk perception explain 73.9% of the variance in investment decisions, while the remaining 26.1% is explained by other variables not included in this study.

DISCUSSION

The Influence of Risk Perception on Investment Decisions in the Pegadaian Digital Application

The regression results further indicate that the risk perception variable (X_3) has a positive and significant effect on investment decisions (Y). This suggests that Pegadaian customers tend to act cautiously, taking into account potential risks and expected returns before making investment decisions. Risk perception significantly influences investment decisions, as reflected in statement 4 of the questionnaire: *"While using the Pegadaian Digital application, I have not experienced any data breaches."* This statement is associated with the second indicator of the risk perception variable, *"privacy risk."* In today's digital

landscape, privacy security is crucial, as data breaches can lead to severe consequences. As a result, investors are more selective in choosing platforms through which they invest.

These findings are consistent with the research by Tine B., Lucky R., and Wilman S. M. (2022) titled *“Risk Perception and Risk Tolerance Attitude on Students’ Investment Decisions.”* Their study revealed that investment decisions are significantly and positively affected by individuals’ perceptions of risk – the higher the perceived risk, the more cautious and deliberate the investment decisions. The results from the questionnaires in this study confirm that respondents acknowledge the significant role of risk perception in influencing their investment decisions. Risk perception reflects individuals’ thoughts, beliefs, and interpretations of potential negative outcomes that may occur during the investment process.

The Combined Influence of Financial Literacy, Financial Technology, and Risk Perception on Investment Decisions

The findings also demonstrate that financial literacy (X1), financial technology (X2), and risk perception (X3) have a simultaneous and significant effect on investment decisions (Y). Investment decisions in this study are considered positive, as reflected in statement 2 of the questionnaire: *“Investing allows me to have savings for the future.”* This statement is part of the first indicator of the investment decision variable, *“investment objectives.”* Understanding the purpose of investing helps respondents choose suitable investment options and manage financial planning according to their needs.

The results of the multiple linear regression analysis conducted using SPSS 25 confirm that the independent variables – financial literacy, financial technology, and risk perception – simultaneously and significantly influence investment decisions on the Pegadaian Digital application. Therefore, the hypothesis stating that “financial literacy, financial technology, and risk perception have a positive and significant effect on investment decisions” is accepted.

In conclusion, financial literacy, financial technology, and risk perception collectively shape the investment decision-making process of Pegadaian customers in Makassar. These factors contribute significantly to decision-making by enhancing planning capabilities, improving accessibility, and strengthening investor confidence.

CONCLUSION

This study concludes that financial literacy and risk perception significantly and positively influence investment decisions among Pegadaian Digital application users in Makassar. Individuals with higher levels of financial literacy tend to make more informed and rational investment decisions, demonstrating a mature understanding of financial management. Similarly, risk perception plays a crucial role, as investors who are more aware of potential risks act with greater caution and consideration, thereby reducing the likelihood of losses. Conversely, financial technology was found to have a negative and statistically insignificant effect on investment decisions, suggesting that the mere presence of digital financial platforms does not guarantee increased investment activity, particularly when user understanding and engagement remain limited.

Furthermore, the results reveal that financial literacy, financial technology, and risk perception collectively have a significant impact on investment decisions. Together, these factors explain 73.9% of the variation in investment behavior, highlighting their combined importance in shaping investor decision-making. These findings underscore the need for enhanced financial education, greater awareness of risk management, and more user-

friendly financial technology solutions to foster more effective investment decisions. Future research is encouraged to explore additional variables and broader samples to deepen the understanding of digital investment behavior and its determinants in Indonesia's evolving financial landscape.

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