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The Role of Fintech in Mediating the Influence of Financial Efficiency and Risk Perception on Investment Decisions in the Capital Market

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ABSTRACT
This study analyzes the relationship between financial efficacy, the use of fintech services, investment decisions, and risk perception in the context of financial technology adoption and investment decision-making. The regression analysis results show that the model can explain variations in using fintech services and investment decisions. These findings suggest that although the model is relevant in explaining the factors that influence both variables, other external factors contribute to variation in individual financial decision-making. Path analysis shows financial efficacy positively and significantly influences fintech services and investment decisions. In addition, using fintech services also plays a role in encouraging investment decisions, with a path coefficient of the same size. Other findings suggest that risk perception has a positive relationship with fintech adoption, indicating that individuals with higher risk awareness are more likely to turn to fintech services to access more transparent and secure financial information. The implications of this study highlight the importance of financial education in increasing individual confidence in managing finances and the role of fintech in accelerating financial inclusion and investment participation. This research recommends strengthening digital financial literacy and developing policies that support the adoption of financial technology to increase the effectiveness of financial decision-making in the community.

Keywords: Fintech, Financial Efficacy, Risk Perception, Investment, Financial Literacy.
JEL Code: G11, G15, D14, O16, E44.

I. Introduction

Fintech plays an important role in mediating the influence of financial efficiency and risk perception on investment decisions in the capital market. By leveraging technologies such as blockchain, robo-advisors, and AI, fintech improves market efficiency, democratizes access to financial advice, and facilitates informed decision-making. These innovations help reduce traditional biases and constraints, influencing investor behavior and corporate investment strategies. The following sections discuss specific aspects of the role of fintech in this context.

Blockchain technology can increase transparency and efficiency in securities settlement, reduce transaction costs, and increase liquidity in the capital market (Lokhande, 2023). Further, Fintech plays the role of Robo-Advisor that can Democratize investment advice, making it accessible to a broader audience, which can result in more efficient investment decisions by reducing information asymmetry (Lokhande, 2023).

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Fintech can also play a role in AI and Machine Learning: Facilitating advanced data analysis and pattern recognition, enabling more informed financial decision-making beyond traditional methods (Qatawneh et al., 2024). Fintech tools such as robo-advisors can reduce behavioral biases such as overconfidence and an unwillingness to lose, although such tools may pose new challenges such as over-reliance (Zhang, 2025). While democratizing market access, the tool can exacerbate grouping behavior, affecting risk perception and short-term speculation (Zhang, 2025). Fintech reduces underinvestment and inhibits overinvestment, especially in companies with higher financing constraints and agency conflicts, thereby encouraging efficient capital allocation (Linthe, 2023).

Fintech innovations reshape trading dynamics and investor behavior, requiring an adaptive regulatory framework to ensure market stability (Lokhande, 2023). While fintech significantly improves financial efficiency and affects risk perceptions, it poses challenges such as cybersecurity risks and potential bias in decision-making. These challenges require ongoing research and adaptive strategies to maximize the benefits of fintech while minimizing its risks (Mahmudi, 2024). The relationship between financial efficacy, technology, and investment decisions is increasingly significant in studying contemporary financial behavior. Financial efficacy, which includes self-efficacy and financial literacy, plays an important role in shaping investment decisions, particularly when mediated by financial technology platforms. The following sections outline these interconnections. Financial efficacy, including self-efficacy and literacy, significantly influences investment decisions. For example, students with higher financial literacy tend to make the right investment choices (Tang et al., 2024). Understanding the interaction between financial efficacy and fintech can empower investors, especially among younger demographics such as Gen Z, who are increasingly engaged with digital investment platforms (Rizki & Ryanto, 2024). Improving the self-efficacy of fintech can increase investment intentions, which suggests that educational initiatives should be focused on building confidence in using fintech tools (Hassan et al., 2023). Conversely, while fintech can improve investment decisions, it can pose complexities, such as increased vulnerability to behavioral biases, leading to less-than-optimal investment choices. This duality highlights the need for a balanced financial education that addresses the benefits and risks associated with fintech.

Risk perception is important in shaping investment decisions, particularly in fintech. Various studies have highlighted how behavioral bias and financial literacy affect these relationships, ultimately influencing investor choices. This bias positively influences risk perceptions and investment decisions, suggesting that familiar stocks and up-to-date information influence investors (Cuandra et al., 2024). While this bias significantly affects risk perception, it does not directly influence investment decisions, suggesting a complex interaction between perception and choice (Cuandra et al., 2024). Investors with greater financial experience tend to have a more informed perception of risk, improving their investment decisions (Redawati & Hayat, 2024). A strong understanding of financial principles, facilitated by fintech, is essential for improving risk perception and making informed investment choices (Alisa et al., 2024). Research shows that students consider risk perceptions and return expectations when making investment decisions, which reflects a fundamental understanding of investment principles (Warjono et al., 2024). Conversely, while risk perception is important, some argue that external market factors and economic conditions can mask individual biases and perceptions, complicating investment decision-making.

The purpose of this study is to identify and analyze the role of fintech in mediating the influence of financial efficacy and risk perception on investment decisions in the capital market, as well as to understand how fintech can strengthen the influence of financial efficacy in making investment decisions as well as reduce or manage the risk perception faced by investors, thereby influencing their investment decisions. In addition, this research is also expected to provide insights into how financial technology can function as a bridge that connects psychological and technological factors in the capital market context, as well as provide practical implications for fintech developers and investors in improving their investment strategies.

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II. Literature Review and Hypothesis Development

2.1. Financial Efficacy

Financial efficacy, referring to an individual's belief in their ability to manage their finances effectively, is a critical construct in behavioral finance research. The underlying theory behind this concept is rooted in Bandura's (1977) self-efficacy, which emphasizes that beliefs about one's competence influence motivation and actions. In finance, Lown et al. (2015) define financial efficacy as an individual's perception of their capacity to make rational financial decisions, such as saving, investing, or avoiding debt. Recent research by Dewi et al. (2020) shows that financial efficacy positively correlates with long-term financial planning behavior, especially in the productive age group. In addition, a study by Xiao & O'Neill (2018) revealed that financial literacy only has a significant impact when accompanied by a high level of financial efficacy, confirming the moderating role of self-belief in transforming knowledge into action. However, external factors such as socio-economic inequality and access to financial education also influence this construct, as explained in the study by Lusardi & Mitchell (2020). Recent research developments have explored the impact of digital technology on financial efficacy. According to research by Shim et al. (2022), using digital financial applications (e.g., fintech) can increase individual confidence in managing money through real-time feedback and ease of access. However, there is debate among experts: while Juarez (2021) argues that technology-based interventions strengthen self-control, Takahashi et al. (2023) found a risk of overconfidence due to the automation of tools that reduce cognitive engagement. On the other hand, the psychological approach of Gutter & Copur (2019) suggests integrating financial education with simulation-based training to build sustainable efficacy. According to Klapper & Lusardi (2020), the challenge going forward is to adapt financial efficacy enhancement strategies to global market dynamics and cultural diversity, given the variation in responses across demographic groups.

2.2. Investment Decision

Investment decisions are a critical financial management process involving allocating resources for assets or projects to obtain optimal returns. The leading underlying theory is the Expected Utility Theory (Von Neumann & Morgenstern, 1944), which emphasizes rationality in choosing investments based on the calculation of risk and return. However, the development of Behavioral Finance by Kahneman & Tversky (1979) through Prospect Theory criticizes this assumption of rationality, showing that investment decisions are often influenced by cognitive biases such as overconfidence or loss aversion. Barber & Odean (2013) found that individual investors tend to over-trade due to excessive confidence in limited information, reducing their portfolios. On the other hand, a recent study by Fama & French (2020) strengthens the traditional approach by showing that diversification based on Modern Portfolio Theory remains effective in reducing systematic risks. However, it must be integrated with environmental factor analysis (ESG) according to current trends (Pedersen et al., 2021). In addition, socio-economic factors such as education level, experience, and access to information also affect the quality of investment decisions, as revealed in a meta-analysis by Ricciardi & Simon (2020). Recent developments in investment research highlight the role of technology and big data in decision-making transformation. According to D'Acunto et al. (2022), using robo-advisors and AI algorithms improves the efficiency of market analysis, but also has the potential to create herd behavior due to homogeneous automation. Research by Li & Xia (2023) confirms that younger investors rely more on digital platforms (e.g., e-trading apps) that offer instant access. However, they risk increasing vulnerability to market volatility. On the other hand, a study from Baker & Wurgler (2021) on behavioral corporate finance shows that company managers are also affected by emotional biases in corporate investment decisions, such as anchoring to historical prices. According to Gabaix & Koijen (2023), integrating quantitative models with investors' psychological understanding is challenging. Zingales (2020) emphasizes the importance of regulation in mitigating the risk of information asymmetry in the digital era.

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2.3. Risk Perception

Risk perception refers to the subjective process of individuals or groups in assessing the potential dangers and uncertainties associated with a decision or situation. The leading theory underlying this concept is the Psychometric Paradigm of Slovic (1987), which categorizes risks based on the dimensions of "dread risk" (fear of catastrophic consequences) and "unknown risk" (uncertainty due to technical complexity). This approach was extended by Kahneman & Tversky (1979) through Prospect Theory, which explains how individuals tend to overestimate risks with low probability (probability weighting) and avoid losses (loss aversion). Recent research by Breakwell (2021) shows that risk perceptions are increasingly influenced by digital media and viral information, especially in health (e.g., the COVID-19 pandemic) and climate change. The study of Weber et al. (2022) found that the perception of environmental risks (such as natural disasters) was higher in the directly affected groups, while cultural factors—such as collective trusts—played a role in shaping the response, as described in the Cultural Theory of Risk (Douglas & Wildavsky, 1982). However, Renn (2023) emphasizes that inequality in access to information and resources exacerbates disparities in risk perception between socio-economic groups.

Recent developments in risk perception research highlight the integration of technology and big data analysis. According to Johnson et al. (2023), using AI and predictive algorithms in risk management can reduce cognitive bias, but also give rise to automation bias, where users rely too much on technology systems without critical evaluation. On the other hand, Shefrin's (2022) research in behavioral finance shows that investors often ignore systematic risk due to optimism bias, especially in volatile markets. The Power et al. (2023) study identified that corporate risk perceptions (e.g., reputational or cybersecurity risks) are now more influenced by stakeholder activism than traditional quantitative analysis. According to Slovic (2020), the challenge ahead is to develop a risk communication model that is adaptive to the dynamics of digital information. Floridi et al. (2023) suggest an ethical approach in technology design to mitigate perception distortions.

2.4. Financial Technology

Financial Technology (FinTech) has revolutionized the financial sector by integrating technologies such as blockchain, artificial intelligence (AI), and digital platforms, which are transforming how individuals and businesses access, manage, and transfer assets. The Disruptive Innovation Theory (Christensen, 1997) explains how FinTech replaces traditional financial services with more efficient and affordable solutions, such as peer-to-peer lending (P2P) and digital wallets. According to Arner et al. (2016), FinTech improves financial inclusion by reaching unbanked populations, especially in developing countries, through easy access to digital payments and micro-credit. A recent study by Lee & Shin (2023) shows that FinTech adoption during the COVID-19 pandemic accelerated digital transformation in the banking sector, with a 40% increase in cashless payment apps. However, challenges such as cybersecurity risks and immature regulations still hinder growth, as the Financial Stability Board (FSB, 2022) report revealed. In addition, Thakor (2020) emphasized that the success of FinTech depends on collaboration with traditional institutions (bank-fintech partnerships) to combine innovation with financial system stability.

Recent FinTech developments focus on utilizing AI and blockchain to improve transparency and efficiency. Research by Gomber et al. (2023) revealed that AI algorithms in robo-advisory can provide personalized investment recommendations. However, they can potentially cause algorithmic bias if the training data is not inclusive. Meanwhile, blockchain and smart contracts are predicted to reduce international trade transaction costs and risks of fraud (Tapscott & Tapscott, 2023). On the other hand, academic debates have emerged regarding the ethics of collecting user data (big data) by FinTech platforms, where Zetzsche et al. (2020) called for strict regulation to protect consumer privacy. The World Bank report (2023) also notes that while FinTech drives inclusion, digital divides (e.g., limited internet access in rural areas) remain a significant barrier. Integrating Environmental, Social, and Governance (ESG) principles in FinTech business models is

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critical to ensure sustainable growth (Frost, 2022). Based on the description above, the following hypothesis can be put forward in this study:

H1: Financial Efficacy positively and significantly affects Fintech.

H2: Financial Efficacy positively and significantly affects Investment Decision.

H3: Fintech positively and significantly affects Investment decisions.

H4: Risk Perception positively and significantly affects Fintech.

H5: Risk Perception positively and significantly affects Investment Decision.

H6: Fintech mediates the influence of Financial Efficacy on Investment Decision.

H7: Fintech mediates the influence of Risk Perception on Investment Decision.

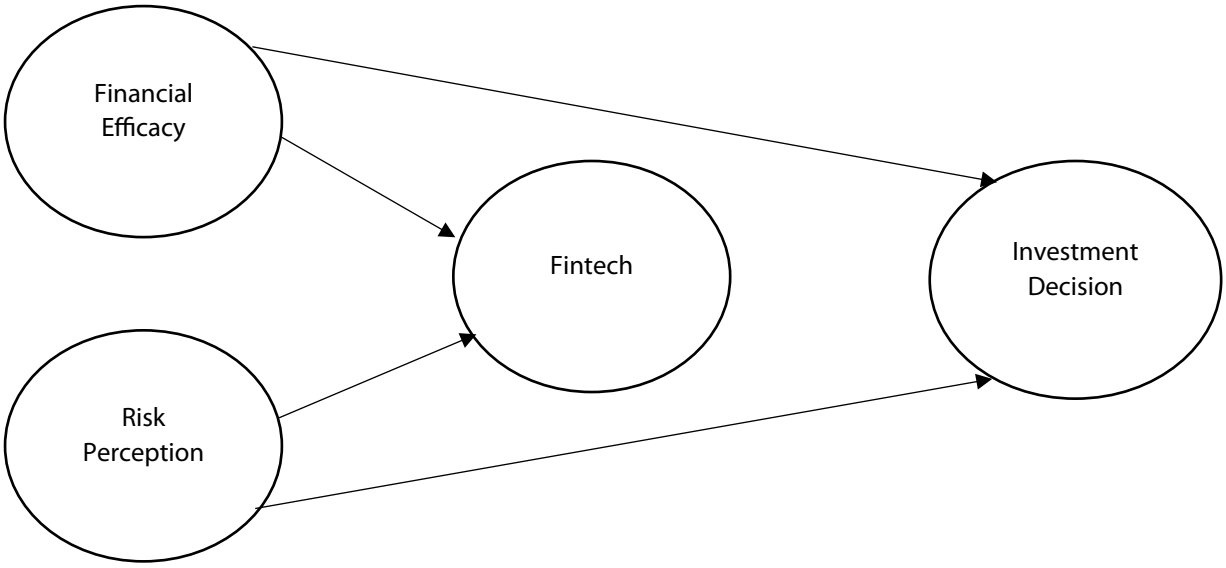

Figure 1. Conceptual Framework

III. Research Method

The type of data used is primary data. The researcher uses a questionnaire to collect information. This study's population is students, PTN, and PTS in the Bangka Belitung area. Sampling was done on 168 respondents by distributing questionnaires through a Google Form link. The data analysis method used is Partial Least Squares (PLS) with the following steps: assessing the Outer Model or Measurement Model. There are three criteria in using data analysis techniques with SmartPLS to assess the external model: Convergent Validity, Validity of Discrimination, and Reliability of Composites.

The convergent validity of the measurement model with reflective indicators is assessed based on the correlation between the estimation score items/components and the PLS software. Individual reflex measures are considered high if they correlate more than 0.70 with the measured construct. Discriminatory validity ensures that each concept of each latent variable is different from the others. This model has good discriminatory validity if each loading value of each latent variable indicator has the highest loading value among the other loading values against the other latent variables.

The validity and reliability criteria can also be seen from the reliability value of a construction and the Average Variance Extracted (AVE) value of each construction. The construction is highly reliable if the value is

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0.70 and the AVE is above 0.50. The deep or structural model is tested to see the relationship between the research model's structure, significance value, and R-squared. The structural model was evaluated using R-squared to construct the t-test dependent and determine the significance of the structural path parameter coefficient. The significance of the estimated parameters provides beneficial information about the relationship between the research variables. The basis used in hypothesis testing is the value contained in the output result for the inner weight. For the F test using the SmartPls application, the F statistical test shows whether all independent variables, consisting of financial efficacy and risk perception, included in the model have a simultaneous influence in explaining the content of information to variables bound to Investment Decisions, as well as the role of financial technology as a mediating variable.

IV. Results and Discussion

4.1. Analysis Result

An internal or structural model describes a causal relationship between a variable that cannot be directly measured (a latent variable) and an underlying hidden construct. This visualization of the internal model, as shown in Figure 2, provides a clear graphical representation of how latent variables relate and influence each other in this research model. Based on the test results shown in the figure, the following is the analysis and interpretation of the structural model tested. Path Coefficient and Significance Analysis. The model in the figure shows the relationship between several latent variables and their indicators and the causal relationship between the latent variables. The test results showed the value of the path coefficient, p-value, and the relationship between variables.

The first latent variable (likely Financial Efficacy or similar) → Fintech, Path coefficient = 0.244, P-value = 0.001, The first latent variable positively influences Fintech, with a path coefficient of 0.244. A significant p-value (<0.05) indicates that this relationship is valid and acceptable.

Fintech → Investment Decision, Path coefficient = 0.474, P-value = 0.000. Fintech has a strong positive influence on investment decisions with a path coefficient of 0.474. A significant p-value (0.000) indicates that the more often a person uses Fintech, the better their investment decisions will be—another variable for Fintech and Investment Decision. The entire relationship has a p-value = 0.000 or 0.001, indicating that all relationships in this model are statistically significant.

This model shows that Fintech mediates the first latent variable (e.g., Financial Efficacy or Risk Perception) and investment decisions. The direct influence of Fintech on investment decisions is quite strong (0.474), indicating that using financial technology can make it easier for individuals to make better investment decisions. All indicators have a p-value = 0.000, indicating that each indicator variable significantly reflects its latent variable.

The analysis and interpretation are based on the Path Coefficients test results shown in the table. Interpretation of Path Coefficients: Path coefficients indicate the strength and direction of the relationship between variables. Positive values indicate a positive relationship, while negative values indicate a negative relationship. Financial Efficacy → Fintech (0.261, p = 0.000). The path coefficient of 0.261 shows that Financial Efficacy positively influences the use of Fintech. T-statistical values = 4.386 (>1.96) and p-values = 0.000 (<0.05) indicate that this relationship is significant. This means that the higher the Financial Efficacy, the more likely an individual is to use Fintech services.

Financial Efficacy → Investment Decision (0.214, p = 0.001). The path coefficient of 0.214 shows that Financial Efficacy positively affects investment decisions. T-statistic = 3.382 (>1.96) and p-value = 0.001 (<0.05) indicate a significant relationship. Individuals with higher financial performance are more likely to make better investment decisions. Fintech → Investment Decision (0.321, p = 0.000). The coefficient of 0.321 indicates that the use of Fintech has a positive effect on investment decisions. T-statistic = 5.210 (>1.96) and p-value = 0.000 (<0.05), so this relationship is significant. This shows that the more often a person uses Fintech services, the better their investment decisions will be.

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Risk Perception → Fintech (0.344, p = 0.000). The path coefficient of 0.344 indicates that risk perception positively influences the use of Fintech. T-statistic = 5.015 (>1.96) and p-value = 0.000, which means this relationship is significant. This suggests that the higher an individual's risk perception, the higher the likelihood they will use Fintech. This could be because individuals see Fintech as a way to reduce investment risk. Risk Perception → Investment Decision (0.358, p = 0.000). The path coefficient of 0.358 shows that risk perception positively affects investment decisions. T-statistic = 6.545 (>1.96) and p-value = 0.000, which means this relationship is significant. This means that the higher the individual's risk perception, the greater the influence on their investment decisions.

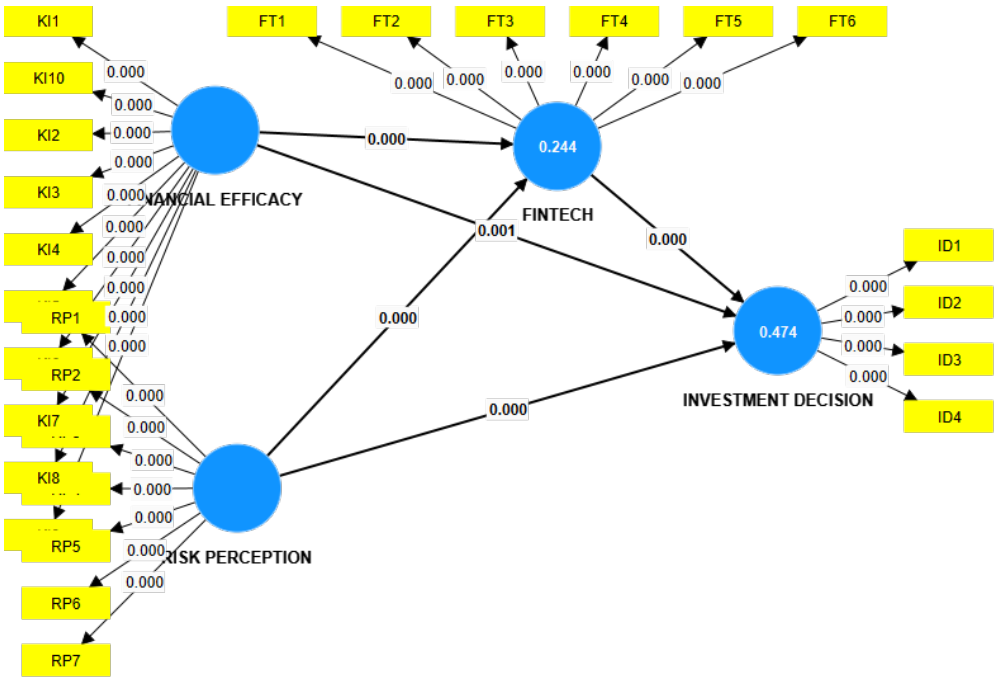

Figure 2. Structural Model

All relationships in this model have a significant T-statistic (>1.96) and a p-value < 0.05, meaning all model relationships are acceptable. Fintech acts as a mediator between financial efficacy and investment decisions, as well as risk perception and investment decisions. Individuals with higher financial efficiency tend to use Fintech more often and make better investment decisions. Higher risk perception also contributes to increased use of Fintech and more informed investment decision-making. Overall, these results show that Financial Efficacy, Risk Perception, and the use of Fintech have important roles in a person's investment decisions.

Table 1. Path Coefficients (Mean, STDEV, T statistics, P values)

	Original sample	Sample mean	Standard deviation	T statistics	P values
Financial Efficacy -> Fintech	0.261	0.267	0.060	4.386	0.000
Financial Efficacy -> Investment Decision	0.214	0.217	0.063	3.382	0.001
Fintech -> Investment Decision	0.321	0.322	0.062	5.210	0.000
Risk Perception -> Fintech	0.344	0.346	0.069	5.015	0.000
Risk Perception -> Investment Decision	0.358	0.356	0.055	6.545	0.000

Based on the test results of the fit model shown in the table, here is the analysis and interpretation. Standardized Root Mean Square Residual (SRMR) = 0.066. SRMR measures the model's fit with the data, where a value below 0.08 indicates a good fit (Hu & Bentler, 1999). An SRMR value = 0.066 indicates the model has a

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reasonable match rate. d_ULS (Unweighted Least Squares Discrepancy) = 1.649. This value describes the difference between the estimated and observed covariance matrix. There is no universal limit to direct interpretation, but smaller values indicate a better model. d_G (Geodesic Discrepancy) = 0.612. Like d_ULS, this value also measures the difference between the model and the actual data. Lower values indicate a model that is more in line with the data.

Chi-square = 579,564. Chi-square measures the model's fit, but is very sensitive to the sample size. Large values can indicate a difference between the model and the actual data, but must be evaluated against other indices. Normed Fit Index (NFI) = 0.797, NFI measures the improvement of the tested model compared to the base model. NFI values range from 0 to 1, where values above 0.90 indicate a good match. With a value of 0.797, this model has not yet fully met the standard of good fit, but it is close to the threshold.

Table 2. Model Fit

	Saturated model	Estimated model
SRMR	0.066	0.066
d_ULS	1.649	1.649
d_G	0.612	0.612
Chi-square	579.564	579.564
NFI	0.797	0.797

4.2. Discussion

4.2.1. The Effect of Financial Efficacy on Fintech

This study found a significant direct relationship between financial efficacy and fintech services. A path coefficient of 0.261 indicates a positive relationship, which means that the higher an individual's confidence in their ability to manage personal finances, the more likely they are to use fintech services. These results support the theory that confidence in financial management can increase individuals' openness to financial technology (Lusardi & Mitchell, 2014). Better financial management is believed to create a sense of security and confidence, so individuals are more likely to take advantage of the ease and speed of fintech services. In addition, statistical tests showed a p-value of 0.000, which indicates that this relationship is very significant at a 99% confidence level. This very small P-value suggests that the relationship between financial efficacy and fintech use does not occur by chance but is a valid and reliable relationship. This is in line with previous research by Xie and Chen (2020), which found that high levels of financial literacy contribute to better decision-making related to the use of financial technology. Increasing literacy and trust in financial management can potentially encourage wider adoption of fintech services. Furthermore, the results of the t-statistics analysis showed a value of 4.386, which is greater than the threshold of t (1.96), which means that this relationship is significant at a very high level. A high t-value confirms that financial efficacy has a significant and strong influence on the use of fintech. These results align with findings in the literature that state that individuals with better financial understanding and higher self-confidence are more likely to adopt financial technology (Huang & Liang, 2021). Generally, a higher level of financial efficacy indicates an individual's readiness to face financial challenges, making them more comfortable using fintech services. Overall, this study provides in-depth evidence of the importance of financial efficacy in influencing individuals' decisions to use fintech. These results underscore the importance of financial education, which can increase individual confidence in managing finances and impact the adoption of financial technology. Therefore, for fintech service providers, it is important to consider this factor in their marketing and product development strategies and in designing better financial literacy programs for society.

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4.2.2. The Effect of Financial Efficacy on Investment Decision

The relationship between Financial Efficacy and Investment Decision in this study showed a positive and significant influence, with a path coefficient of 0.214. This means that individuals with higher levels of financial efficacy tend to make more active and informed investment decisions. Financial efficacy reflects a person's confidence in their ability to manage personal finances and make investment-related decisions. The higher this level of confidence, the more likely it is for individuals to dare to take steps in investing, whether in the form of stocks, bonds, mutual funds, or other financial instruments. In addition, the significance of this relationship is supported by a P-value of 0.001, which is below the threshold of 0.05, so it can be concluded that this relationship did not occur by chance and has a strong empirical basis. In this context, individuals who are confident in managing their finances have a higher tendency to participate in investment activities. This is in line with the theory of Self-Efficacy put forward by Bandura (1997), which states that individuals with high efficacy will be more active in making complex decisions, including in the field of investment. Not only do they have confidence that they can understand the risks and investment opportunities, but they are also more courageous to take action based on that understanding.

Furthermore, the T-statistic value of 3.382, greater than the threshold of 1.96, indicates that the relationship between Financial Efficacy and investment decisions has a high significance level. This means that the higher a person's confidence in managing their finances, the more likely they are to be involved in investment activities. This factor is important considering that many individuals still hesitate to make investment decisions due to a lack of understanding or confidence in managing risk. Therefore, increasing financial efficiency through financial education can be an effective strategy to encourage more individuals to be involved in investment activities. This finding has important implications for various parties, including financial institutions, governments, and investment industry players. Financial institutions can take advantage of the results of this research by providing educational programs that improve people's financial efficiency, so that more individuals feel confident in making investment decisions. In addition, regulators can develop policies encouraging financial literacy to increase public participation in investment. Thus, increased financial efficiency can be one of the key factors in accelerating financial inclusion and economic growth through broader investment participation (Lusardi & Mitchell, 2014).

4.2.3. The Influence of Fintech on Investment Decisions

The relationship between the use of fintech and investment decisions in this study shows that the higher the use of fintech services, the more likely individuals are to make investment decisions. With a path coefficient of 0.321, this relationship is positive and significant, which means that fintech adoption has a strong enough impact in encouraging individuals to invest. Fintech provides various financial services that make it easier for individuals to access investment information, manage portfolios, and make transactions faster and more efficiently. With this convenience, more and more people are encouraged to invest, even for those who have no previous investment experience. In addition, a P-value of 0.000 indicates that this relationship is very significant, with a near-zero probability that this result occurs by chance. This means that fintech's contribution to improving investment decisions is not just a statistical coincidence, but a real phenomenon that can be observed in the broader population. This aligns with previous research that found that using fintech can increase investment participation by providing access to more transparent information and speeding up decision-making (Chen et al., 2020). With a user-friendly fintech platform, individuals can easily evaluate investment options and make more accurate data-driven decisions.

Furthermore, the T-statistic value of 5.210, which far exceeds the threshold of 1.96, indicates that this relationship has a very high significance level. These results are in line with the findings of research by Gomber et al. (2017), which stated that fintech has changed the way individuals manage their finances and invest by providing services that are more accessible and based on real-time data. With robo-advisory services, investment crowdfunding, and fintech-based stock trading apps, individuals can manage their portfolios

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more efficiently and reduce reliance on traditional intermediaries. This makes fintech the primary catalyst in increasing investment participation, especially among retail investors. The implications of these findings are particularly relevant for the financial industry and regulators. With the increasing adoption of fintech, governments and financial institutions must continue encouraging innovations that can expand access to investment for the wider community. In addition, digital financial education needs to be strengthened to ensure that fintech users can better understand investment risks and make wiser decisions. This research emphasizes that fintech is not just a digital means of payment, but also plays a key role in shaping individual investment behavior in the current digital era (Arner et al., 2016).

4.2.4. The Effect of Risk Perception on Fintech

The results of this study show that Risk Perception has a positive and significant effect on the use of fintech, with a path coefficient of 0.344. This means that the higher a person's risk perception of traditional investments or financial services, the more likely they are to switch to fintech. This indicates that more risk-aware individuals seek more transparent, flexible, and accessible alternatives, such as fintech platforms. With various features such as real-time transaction monitoring, automated risk analysis, and technology-based security, fintech is the top choice for those who want better to manage risk in their financial and investment activities.

The significance of this relationship is amplified by a P-value of 0.000, which suggests that this result is very significant and almost unlikely to have occurred by chance. In addition, a T-statistic value of 5.015, which far exceeds the threshold of 1.96, confirms that this relationship has high statistical strength. These findings align with previous research that shows that fintech can overcome various barriers often associated with traditional investment and financial risks. Research by Thakor (2020) revealed that individuals with a high risk awareness are likelier to use digital services that offer transparency and efficiency in their financial management. Furthermore, research by Lee & Shin (2018) shows that trust factors and risk perception play an important role in adopting fintech. They found that individuals with a higher risk awareness were more interested in using fintech services because the system provided faster access to information, lower transaction fees, and technology-based security features such as encryption and double authentication. This explains why, in this study, individuals with high risk awareness preferred fintech over conventional financial methods that may be considered more susceptible to uncertainty and hidden costs.

The implications of these findings are crucial for fintech developers, regulators, and users of digital financial services. Fintech service providers can continue to improve security and transparency features to make them more attractive to individuals with high risk perceptions. Regulators can also ensure that fintech services operate within a legal framework that protects consumers, thereby increasing user trust. Meanwhile, for the public, risk awareness can be directed to the more optimal use of fintech to make more informed and safe financial decisions.

4.2.5. The Effect of Risk Perception on Investment Decision

The results showed a positive and significant relationship between Risk Perception and Investment Decision, with a path coefficient of 0.358. This indicates that individuals with higher risk awareness tend to be more active in making investment decisions. In other words, they are more likely to conduct an in-depth analysis and consider various factors before investing, rather than avoiding investing altogether. A P-value of 0.000 indicates that this relationship is statistically significant. At the same time, a T-statistic of 6.545, much higher than the critical limit of 1.96, confirms that this finding has strong validity.

These findings align with previous research that showed that individuals with high risk awareness tend to be more rational and cautious in their investments. For example, research conducted by Weber and Milliman (1997) found that individuals with higher levels of risk perception are more likely to diversify their portfolios to reduce potential losses. Similarly, research conducted by Bajtelsmit and Bernasek (2001) revealed

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that more risk-aware investors tend to adopt more conservative investment strategies, such as choosing instruments with lower risk or using a data-driven approach before making decisions. Additionally, more recent research by Huang et al. (2020) found that risk perception affects how individuals allocate assets in investments, especially in economic uncertainty. The study shows that investors with a high risk perception are more likely to seek additional information, use various financial analysis tools, and follow market trends before making investment decisions. Thus, the results of this study support previous findings that risk awareness not only hinders individuals from investing but also encourages them to be more active and strategic in making investment decisions.

The implications of this research are significant for financial practitioners and investment service developers. Investment platforms can customize their services by providing more risk analysis information and security features for investors with a high risk perception. Financial regulators can also strengthen financial literacy by educating the public on effectively managing investment risks. With the increasing risk awareness among investors, data-driven approaches and information transparency will be key factors in increasing their trust and participation in the investment market.

4.2.6. The Effect of Financial Efficacy on Investment Decision through Fintech

The results show that Financial Efficacy directly affects investment decisions, and through the use of fintech as a mediating variable. This relationship is positive and significant, with a mediation pathway coefficient of 0.084. This means that individuals with high financial efficacy are more likely to use fintech services, ultimately increasing their propensity to make investment decisions. A P-value of 0.002 indicates that this relationship is statistically significant. At the same time, a T-statistic of 3.076, greater than the threshold of 1.96, confirms that fintech plays an important role in strengthening the influence of financial efficacy on investment decisions.

These findings align with research conducted by Van Rooij, Lusardi, and Alessie (2011), which showed that individuals with higher levels of financial literacy are more likely to use financial technology to manage their assets more effectively. Fintech provides easy access to a wide range of investment instruments, assists individuals in managing their finances more efficiently, and reduces barriers to investing. In other words, fintech is a bridge that connects financial efficacy with increased participation in investment. Furthermore, these results are also supported by the study of Chen and Volpe (2002), which found that individuals more confident in managing their finances tend to be more courageous in utilizing digital financial services to improve their investment portfolios. Fintech services provide real-time information regarding investments and offer features such as robo-advisors, automated risk analysis, and easier access to the capital market. With the advent of fintech, individuals with high financial efficiency have more opportunities to make more informed and strategic investment decisions.

The implications of these findings are important for regulators, fintech service providers, and financial institutions. Improving people's financial literacy and efficacy can drive broader adoption of fintech, which in turn will increase investment rates. Education on the benefits of fintech, transparency in digital financial transactions, and the development of technology that supports better investment decision-making can further strengthen the role of fintech in increasing financial inclusion. Therefore, improving financial efficiency and using financial technology can be the key to building a more inclusive and sustainable investment ecosystem.

4.2.7. The Effect of Risk Perception on Investment Decision through Fintech

The results show that Risk Perception directly influences Investment Decisions, and through the mediation role of Fintech, with a path coefficient of 0.111. This shows that individuals with a higher risk perception are likelier to take advantage of fintech services before making investment decisions. A P-value of 0.000 indicates that this relationship is statistically significant. At the same time, a T-statistic of 3.609 (greater

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than 1.96) confirms that the mediating effect of fintech in this relationship is quite strong. In other words, individuals aware of the potential risks in investing tend to use fintech to obtain additional information before making more measured investment decisions.

These findings align with previous research suggesting that risk perception is important in adopting financial technology. A study by Pavlou and Gefen (2004) found that individuals with higher risk perception tend to seek out more information before making financial decisions, and digital technologies such as fintech can provide transparency and ease of access to the information needed. In the context of fintech, research by Yang et al. (2021) shows that the higher a person's risk perception of investment, the more likely they are to use fintech as a risk mitigation tool through data analysis and digital consulting. In addition, research by Lee and Shin (2018) also highlights that fintech can help individuals manage investment risk by providing more complete and real-time information so that they can make more informed decisions. Fintech allows users to access various features, such as risk alerts, investment simulations, and data-driven recommendations, which can help them assess investment risk more accurately. As such, fintech is a mediator that connects risk perceptions with more prudent and information-based investment decisions.

The implications of these results are important for fintech service providers and financial regulators. Fintech service providers can develop more transparent and analytics-based features to help investors with high-risk perceptions make better investment decisions. Meanwhile, from a policy perspective, financial regulators can encourage increased fintech and investment literacy to ensure that individuals with high risk perception can use fintech as an effective risk mitigation tool. Thus, financial technology can contribute more to creating a more stable and inclusive investment environment.

V. Conclusion

The study shows that fintech significantly mediates the relationship between financial efficacy, risk perception, and investment decisions. Financial efficacy and risk perception influence investment decisions directly and through fintech. Interestingly, a high-risk perception does not necessarily hinder investment decisions; Instead, it can encourage individuals to use fintech to manage and mitigate risk. Therefore, fintech companies must improve features that provide transparency and convenience for users, especially those with high-risk perceptions, to be more trustworthy and in demand.

In terms of financial education, this study suggests that improving people's financial efficiency can drive fintech adoption and better investment decisions. For regulators, it is important to create fintech regulations that provide greater protection to investors, so that they can reduce risk-related concerns and encourage more involvement in investments. The suggestion for further research is to explore more deeply the external factors that influence the use of fintech, such as culture, digital literacy levels, and government policies, to gain a more comprehensive understanding of fintech adoption in the context of investment.

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