

Revisiting UTAUT in the Digital Finance Era: The Mediating Role of Financial Literacy in Crypto Investment Behavior

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Abstract

Purpose: This study is to analyze the effect of Unified Theory of Acceptance and Use of Technology (UTAUT) variables, including Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, on cryptocurrency investment decisions, with financial literacy serving as a mediating variable.

Methodology: This study employs a quantitative method using Partial Least Squares-Structural Equation Modeling (PLS-SEM). Data were collected through an online questionnaire distributed to 254 respondents who actively use cryptocurrency investment platforms in Indonesia.

Results: The result of the study reveal that Performance Expectancy, Effort Expectancy, and Social Influence do not significantly affect cryptocurrency investment decisions. In contrast, Facilitating Conditions have a positive and significant indirect effect on investment decisions through financial literacy. Financial literacy also has a role for significant mediating in strengthening the relationship between technology acceptance factors and investment behavior.

Conclusions: Financial literacy plays an important role of decisions related to cryptocurrency investment, while facilitating conditions strengthen investment behavior by improving users' financial understanding. These findings highlight the importance of combining technology acceptance factors with financial capability in explaining cryptocurrency investment behavior.

Limitations: This study is limited to respondents in Indonesia and relies on self-reported data collected through an online questionnaire, this condition may reduce the extend to which the findings can be generalized.

Contributions: This research contributes to the knowledge in financial technology and digital investment by highlighting the mediation effect of financial literacy on UTAUT variables and cryptocurrency investment decisions.

Keywords: *Cryptocurrency, Digital Investment, Financial Literacy, Investment Decisions, Unified Theory of Acceptance and Use of Technology (UTAUT)*

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1. Introduction

In Indonesia, the development of digital technology has become the main driver of the transformation of the global financial area. Financial Technology (FinTech) has brought major changes how people access and use financial services, forming an ecosystem that is more efficient, inclusive, and adaptive to the demands of the digital age. FinTech has become an important factor of financial inclusion by providing services, including digital wallets, Peer-to-Peer lending (P2P lending), and crowdfunding. At

the same time, digital transformation has accelerated the financial sector through the adoption of FinTech ([Bollaert, Lopez-de-Silanes, & Schwienbacher, 2021](#)). The existence of FinTech supports the Indonesia Stock Exchange (IDX) in improving public knowledge of stock fundamentals prior to making investment decisions ([Dewi, 2022](#)). Moreover, FinTech has a crucial role in advancing financial literacy. FinTech platforms may also strengthen investors' financial knowledge and decision quality because financial literacy has been shown to positively influence application-based investment decisions ([Zima, Dharma, & Susilowati, 2025](#)). Many FinTech platforms now provide educational content, financial management tips, and investment tools that encourage wiser financial decision-making ([Dewi, 2022](#)). Research has shown that, beyond financial literacy, digital literacy and financial self-efficacy contribute to the adoption of FinTech services, indicating that users' readiness to use financial technology is determined not only by system convenience but also by their ability to understand and manage digital financial services ([Islam & Khan, 2024](#)).

FinTech's rapid evolution has opened the path for crypto investment to develop as a new form of digital financial innovation. Global crypto activity even surpassed the 2021 bull market record, reflecting growing public interest in digital assets ([Dianty, 2022](#)). In Indonesia, the Indonesia Stock Exchange (IDX) recorded an increase of more than 744,000 young investors throughout 2024, in line with capital market education initiatives conducted by the Financial Services Authority (*Otoritas Jasa Keuangan* /OJK), which reached 19.1 million participants. Global cryptocurrency activity has also increased significantly since the end of 2023, reflecting the growing interest in digital investment instruments, although these assets involve substantially higher risks compared with conventional instruments such as money market mutual funds (*Reksa Dana Pasar Uang*/RDPU) and bonds. Money market mutual funds (RDPU) can serve as an attractive alternative investment option, particularly for investors seeking relatively stable returns with lower risk exposure. ([Muharni & Rahayu, 2023](#)).

Crypto assets are experiencing a tremendous surge in adoption in Indonesia. Even though crypto is associated with substantial risk and significant price fluctuations, it continues to gain attention, particularly from younger investors. Based on the Chainalysis report, Indonesia ranks third in crypto adoption globally in 2024, up from seventh position in the previous year ([Chainalysis, 2024](#)). Financial literacy is closely associated with crypto literacy in crypto asset investment, as investors with a stronger understanding of financial concepts are more capable of recognizing the features of digital assets and are more likely to seek professional advice when making investment decisions ([M. Jones, T. J. Luu, & B. Samuel, 2024](#)).

The Commodity Futures Trading Supervisory Agency (Bappebti) in Indonesia has issued regulations governing the legal status of crypto asset investment activities through a strict registration and supervision mechanism for each service provider. Bappebti reported that the value of crypto asset transactions in Indonesia reached IDR 556.53 trillion during the January-November 2024 period, representing a 356.16 percent increase compared with the same period in the previous year, when the total stood at IDR 122 trillion. The growth of crypto asset trading transactions that continues to increase is a form of public trust in crypto asset trading in Indonesia. The high interest in investment needs to be balanced with an increase in people's financial literacy.

The 2024 National Survey on Financial Literacy and Inclusion (*Survei Nasional Literasi dan Inklusi Keuangan*/SNLIK) reported a substantial increase in Indonesia's financial literacy rate, from 21.84% in 2013 to 65.43% in 2024. This report align with evidence showing that financial literacy is a significant determinant of investment decision-making, even when investors are also influenced by cognitive biases such as overconfidence and availability bias ([Jonathan & Pradana, 2025](#)). This success reflects the success of educational programs carried out by the government, financial institutions, and the industrial sector. As the biggest segment of the Indonesian population, Generation Z is expected to play a crucial role in the nation's future economic development. Strong financial literacy may enable them to serve as effective agents of change. ([Hernawati et al., 2024](#)). Among Gen Z investors, financial literacy has been shown to have a significant influence in cryptocurrency investment decision-making, and this effect may also operate through herding behavior as a mediating mechanism ([Arriqoh & Zoraya, 2024](#)). Table 1 shows the increase in the level of financial literacy from 2013 - 2024.

Table 1. National Survey on Financial Literacy and Inclusion (SNLIK) 2024

Year	Financial Literacy Level (%)
2013	21.84
2016	29.66
2019	38.03
2022	49.68
2024	65.43

This research adopts the UTAUT approach which was introduced in 2003. This model aims to understand individual behavior in accepting technology through four main aspects ([Venkatesh, Morris, Davis, & Davis, 2003](#)). Performance Expectancy represents investors' belief that crypto technology can increase investment effectiveness and profitability. Effort expectancy refers to users perception of how easy digital investment platforms are to use, even though such platforms are often complex. Social Influence describes how the views of community, social media, or peers can influence a person's investment decisions. While Facilitating Conditions highlights the importance of technical support, infrastructure, system security, and the availability of investment applications that facilitate user activities ([Mensah & Amenuvor, 2022](#)).

This study further highlights financial literacy as a mediating variable that has the potential to modify the relationship between UTAUT constructs and investment decisions, either by strengthening or weakening it. This study is aimed at providing a deeper understanding of the digital investment behavior of the Indonesian people ([Oktavian & Maika, 2020](#)). Another research also supports the applicability of UTAUT in digital financial services, showing that behavioral intention and actual technology use can be explained through UTAUT-based models in mobile banking environments ([Putro & Sugiat, 2025](#)).

This study applies the UTAUT framework to examine individual behavior in technology acceptance through four key constructs, such as performance expectancy, effort expectancy, social influence, and facilitating conditions ([Venkatesh et al., 2003](#)). In the cryptocurrency investment, these constructs are relevant for explaining how investors perceive the usefulness, ease of use, social pressure, and supporting infrastructure of digital investment platforms. The study also analyzes financial literacy as a mediating factor that may enhance or reduce the relationship between UTAUT constructs and cryptocurrency investment decisions.

Although FinTech and cryptocurrency adoption have grown rapidly in Indonesia, the determinants of cryptocurrency investment decisions remain insufficiently explained. Prior studies have widely examined FinTech adoption, digital financial behavior, and the role of financial literacy in investment decisions. However, limited research has integrated the UTAUT framework with financial literacy to explain cryptocurrency investment decisions, particularly in the Indonesian context. Most previous studies tend to focus either on technology acceptance or on investment behavior separately, leaving a gap in understanding how technology-related factors translate into actual investment decisions through investors' financial capability. Financial literacy is particularly important in cryptocurrency investment because crypto assets are highly volatile, complex, and risky. Therefore, this study aims to analyse the effects of performance expectancy, effort expectancy, social influence, and facilitating conditions on cryptocurrency investment decisions, with financial literacy as a mediating variable among active users of cryptocurrency investment platforms in Indonesia.

2. Literature Review and Hypotheses Development

The Unified Theory of Acceptance and Use of Technology (UTAUT) represent a theoretical framework that integrates several previous theories of technology acceptance to explain how and why individuals adopt and use technology. UTAUT aims to explain individual intentions and behaviors in using new technologies through a more integrated and predictive approach ([Venkatesh et al., 2003](#)). In cryptocurrency, the UTAUT model remains relevant for explaining investment behavior and can be extended by incorporating perceived enjoyment and risk factors to capture the unique characteristics of investment decisions in digital assets ([Bland, Changchit, Cutshall, & Pham, 2024](#)). Previous findings

reveal that the adoption of cryptocurrency is associated with behavioral constructs and technology acceptance, indicating that adoption frameworks such as UTAUT and similar models remain relevant in explaining interest in and decisions regarding crypto investment ([Almajali, Masa'Deh, & Dahalin, 2022](#)). In cryptocurrency investment, risk perception and electronic Word-of-Mouth (e-WOM) within online communities have been shown to influence investment decisions, and this effect may be strengthened through trust developed within digital communities ([Vianus & Haryono, 2026](#)). Financial literacy represents the ability to understand and apply financial information in an effective manner for economic decision-making ([Miko et al., 2023](#)).

Interest in cryptocurrency investment is affected by financial literacy and the quality of accounting information ([Rafikah, 2026](#)). Investment decisions are the process by which an individual, family, or organization determines how to use their financial resources to achieve specific financial goals ([Safryani, Aziz, & Triwahyuningtyas, 2020](#)). Investment decisions are also defined as the actions of individuals in allocating assets into financial instruments to earn future profits ([Rosmiwilujeng, Satyawan, & Paino, 2023](#)). Risk tolerance and financial literacy may help explain how heuristic biases influence investment decisions, suggesting that investment decisions are not always formed directly by behavioral bias ([Kasoga, 2021](#)).

Financial literacy may also strengthen or alter the relationship between behavioral biases and investment decisions, making it appropriate to position this variable as an intervening or moderating factor in investment behavior models ([Adil, Singh, & Ansari, 2022](#)). Beyond initial adoption, extended UTAUT2 has also been shown to explain continued behavior in digital financial services, suggesting that technology-acceptance variables remain relevant for understanding sustained user engagement in financial platforms ([Wahyuningtyastuti & Ariyanti, 2025](#)). Financial literacy functions not only as foundational knowledge but also as a potential mediator in the relationship between financial behavior, overconfidence, risk perception, and investment decisions ([Yanti & Endri, 2024](#)).

Recent literature has further highlighted the close relationship between cryptocurrency and financial literacy. As crypto assets become more widely adopted, investors are increasingly required not only to understand the technical use of digital platforms but also to evaluate financial risks, market volatility, and the long-term consequences of investment decisions. Recent evidence have found a positive link between cryptocurrency literacy and financial literacy, suggesting that those who are more knowledgeable about digital assets generally possess higher levels of financial knowledge ([M. Jones, T. Luu, & B. Samuel, 2024](#)).

In addition, research finds that financial literacy is generally higher among cryptocurrency investors than among non-owners, although the relationship differs across user types, indicating that financial literacy plays an crucial role, but nuanced role in crypto participation ([Hayashi & Routh, 2025](#)). Other recent findings also show that financial literacy shapes how individuals perceive Bitcoin, with more financially literate respondents being more likely to view it as a speculative asset rather than as money ([Cascavilla, 2024](#)). Therefore, in cryptocurrency investment, financial literacy should not be viewed merely as basic knowledge, but as an important mechanism that supports individuals in making more rational and informed investment choices. The research framework of this study is presented in Figure 1 below.

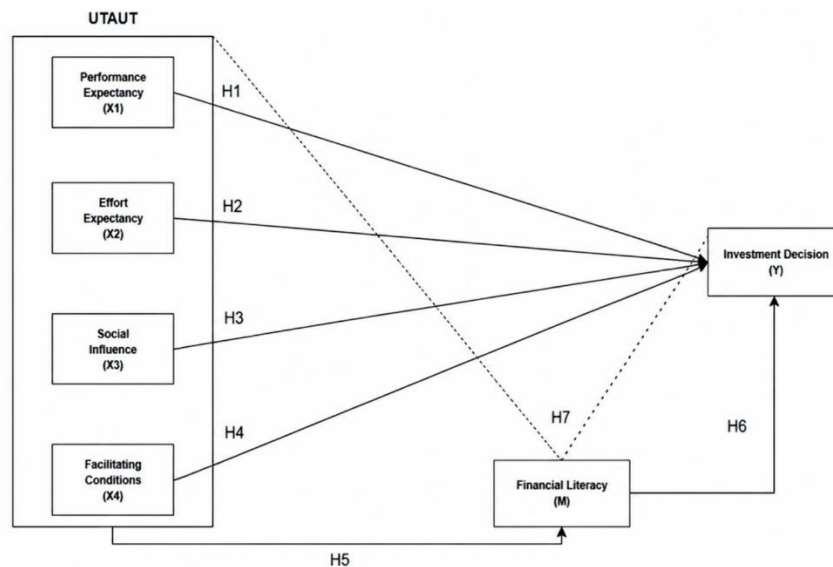


Figure 1. Research framework

Based on the research framework, the hypotheses of this study are presented as follows:

- H₁*: Performance Expectancy (PE) has a positive effect on investment decisions
- H₂*: Effort Expectancy (EE) has a positive effect on investment decisions
- H₃*: Social Influence (SI) has a positive effect on investment decisions
- H₄*: Facilitating Conditions (FC) have a positive effect on investment decisions
- H₅*: Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions have a positive effect on Financial Literacy
- H₆*: Financial Literacy has a positive effect on Crypto Investment Decisions
- H₇*: Financial Literacy mediates the influence of UTAUT Variables (PE, EE, SI, FC) on Crypto Investment Decisions

3. Research Methodology

This research applies a quantitative method with an explanatory research type to analyze the association between UTAUT variables, financial literacy, and cryptocurrency investment decisions in Indonesia. The object of the research is people who have invested in crypto assets through digital platforms. A purposive sampling technique was employed to determine the sample according to predetermined criteria, such as have invested in crypto at least once in the last six months, are ≥ 17 years old, and understand the basics of digital investing.

Using the Slovin formula with an error tolerance of 5%, a total of 254 respondents were selected. Data collection was carried out through an online questionnaire measured on a five-point Likert scale, which was compiled based on indicators of UTAUT constructs, financial literacy, and investment decisions. The instruments were tested through validity (outer loading > 0.7) and reliability (Cronbach's Alpha > 0.7). This study analyzed the data using the PLS-SEM method with SmartPLS 4.0, included analysis of outer model evaluation, inner model evaluation, and mediation testing to investigate the role of financial literacy in the relationship between UTAUT constructs and crypto investment decisions ([Chin, 1999](#)).

The sample was selected using purposive sampling to ensure that all respondents had experience relevant to the study in cryptocurrency investment, were mature enough to make financial decisions, and understood basic digital investment concepts. The questionnaire was divided into two sections: respondent demographics and measurement of Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Financial Literacy, and Investment Decisions. Each item was measured on a five-point Likert scale and were adapted from previous studies to fit the cryptocurrency investment context. The questionnaire was distributed online through digital channels commonly used by crypto investors.

4. Results and Discussions

Based on the analysis, 55.5% of the majority have known cryptocurrencies for more than 3 years, 38.6% for 1-3 years and 5.9% have known crypto for less than 1 year. Data of 55.5% on knowing/knowing crypto for more than 3 years shows that most of the respondents are crypto investors who have known cryptocurrencies for a long time, so they already know what cryptocurrencies are today. Based on the analysis, as many as 55.5% of respondents have medium category investment funds (IDR 1-5 million per month). This shows that respondents have relatively stable financial capacity, so the investment decisions they make are likely to be made rationally, planned, and oriented towards medium to long-term goals.

The Tokocrypto platform is the most dominant used (31.5%), followed by Nanovest (24.4%) and Binance (20.5%). These findings indicate a preference for platforms that are accessible, reputable, and offer interfaces that support investment decisions. Most of the respondents were male (64.6%), which is consistent with the previous research findings that investment interest in high-risk assets tends to be higher in the male group. The dominant age group was in the range of 31-40 years (49.6%). These findings show that most respondents belong to the productive generation with relatively stable incomes, who usually have a greater interest in investing in instruments with high return potential such as crypto. The majority of respondents had completed a bachelor's degree (62.2%).

This relatively high level of education is expected to correlate positively with respondents' analytical ability to understand risks, analyze market information, and make rational investment decisions. The majority of respondents work as self-employed (26.4%) and private employees (22.8%). This indicates that respondents have income that can be allocated for investment. The job profile also illustrates that most respondents are an active economic group that has the potential to be motivated to develop their assets through investment ([Safryani et al., 2020](#)).

Table 2. Respondents' answers performance expectancy

Respondents' Answers to Performance Expectancy								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	PE1	3	17	24	109	101	1050	High
2	PE2	8	16	64	117	49	945	High
3	PE3	5	23	48	85	93	1000	High
Average		5.3	18.6	45.3	103.6	81	998.3	High

Table 2 shows the tabulation data findings that the three indicators in the Performance Expectancy variables (PE1, PE2, and PE3) obtained a total score of 1050, 945, and 1000, with a high category. This illustrates that most respondents consider the use of mobile internet to be very helpful for them in accessing their accounts, monitoring the growth of crypto assets, and increasing the chances of making profits. Thus, it can be concluded that respondents feel real benefits from using technology to support their investment activities.

Table 3. Respondent response effort expectancy

Respondents' Answers to Effort Expectancy								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	EE1	7	12	33	87	115	1053	High
2	EE2	8	17	45	104	80	993	High
3	EE3	5	24	35	95	95	1013	High
Average		6.6	17.6	37.6	95.3	96.6	1019.6	High

Table 3 shows three indicators in the effort expectancy variable (EE1, EE2, and EE3) show a total score of 1053, 993, and 1013, all of which are in the high category. This data indicates that respondents feel that the use of mobile internet for crypto investments is relatively easy to understand and operate. The

app's interface is considered simple, the transaction process is not complicated, and it doesn't require excessive effort to learn how to use it.

Table 4. Social influence respondents' answers

Respondents' Answers to Social Influence								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	SI1	6	16	35	102	95	1026	High
2	SI2	4	21	49	96	84	997	High
Average		5	18.5	42	99	89.5	1011.5	High

Table 4 shows two social influence indicators (SI1 and SI2) obtained a total score of 1026 and 997 respectively in the high category. This shows that respondents receive influence from the social environment in investment decision-making. Recommendations, suggestions, and examples from people they trust play a significantly role in driving decisions to use the mobile internet as a means of crypto investment.

Table 5. Respondent answers facilitating conditions

Respondents' Answers to Facilitating Conditions								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	FC1	7	13	27	113	94	1036	High
2	FC2	9	22	51	121	51	945	High
3	FC3	6	27	46	108	67	965	High
Average		7.3	20.6	41.3	114	70.6	982	High

Table 5 shows the FC1, FC2, and FC3 indicators have total scores of 1036, 945, and 965, all in the high category. These findings show that respondents already have adequate facilities and infrastructure to support investment activities, including access to devices, internet connectivity, as well as the required technical knowledge and support. This condition makes it easier for respondents to take advantage of crypto investment platforms without significant obstacles.

Table 6. Financial literacy respondents' answers

Respondents' Answers to Financial Literacy								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	LK1	4	17	34	90	109	1045	High
2	LK2	6	18	45	122	63	980	High
3	LK3	6	28	48	103	69	963	High
4	LK4	5	31	47	112	59	951	High
5	LK5	10	27	49	118	50	933	High
6	LK6	13	24	57	97	63	935	High
Average		7.3	24.16	46.6	107	68.83	967.83	High

Table 6 shows six financial literacy indicators (LK1-LK6) obtained a total score between 933 and 1045, with the average score in the high category. These results reflect that respondents have a good knowledge of crypto market activity, follow information developments through news and social media, and actively seek out additional sources of information such as analytical reports or webinars. This good level of literacy supports respondents' capacity to manage risk and make informed investment decisions.

Table 7. Investment decision respondents' answers

Respondents' Answers to Investment Decision								
No	Items	Frequency of Respondents' Answers					Score	Valuation
		STS(1)	TS(2)	N(3)	S(4)	SS(5)		
1	KI1	4	17	27	96	110	1053	High
2	KI2	4	19	56	109	66	976	High
3	KI3	8	21	43	91	91	998	High
4	KI4	10	19	34	101	90	1004	High
5	KI5	11	26	47	99	71	955	High
Average		7.4	20.4	41.4	99.2	85.6	997.2	High

Table 7 shows the five investment decision indicators (KI1-KI5) each obtained a total score ranging from 955 to 1053 in the high category. This data shows that respondents tend to consider various important aspects before investing, such as risk, amount of capital, and market situation. A high score indicates that respondents' investment decisions are more planned and based on careful considerations (Safryani et al., 2020).

4.1 Validity Test Results

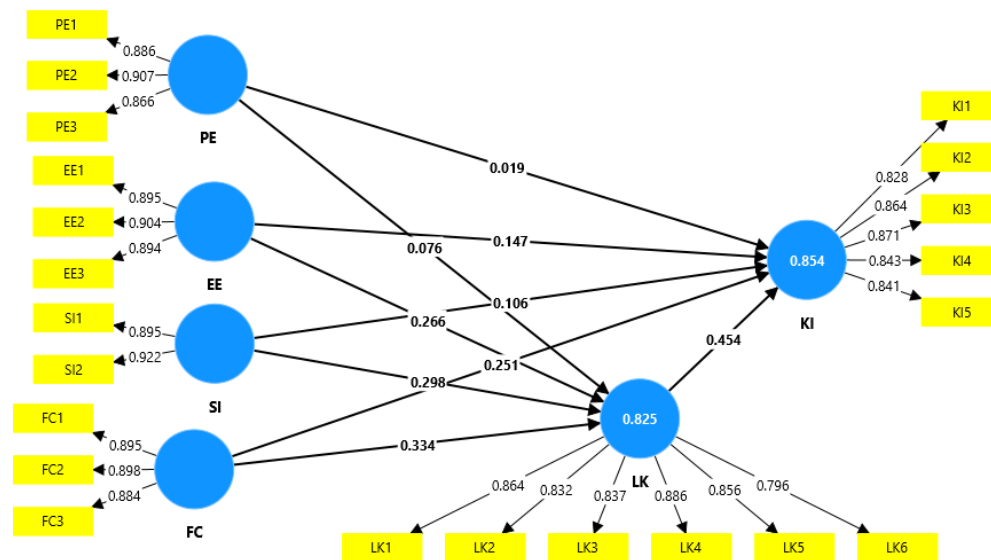


Figure 2. Outer loadings

Table 8. Validity test results

No	Indicators	PE	EE	SI	FC	LK	KI	Average Variance Extracted (AVE)
1	PE1	0.886						0.786
2	PE2	0.907						
3	PE3	0.866						
4	EE1		0.895					0.806
5	EE2		0.904					
6	EE3		0.894					
7	SI1			0.895				0.825
8	SI2			0.922				
9	FC1				0.895			0.797
10	FC2				0.898			
11	FC3				0.884			
12	LK1					0.864		0.786
13	LK2					0.832		

14	LK3					0.837		0.715
15	LK4					0.886		
16	LK5					0.856		
17	LK6					0.796		
18	KI1						0.828	0.722
19	KI2						0.864	
20	KI3						0.871	
21	KI4						0.843	
22	KI5						0.841	

Based on Table 8 the outcomes of the SmartPLS data analysis, the outer loading value of all variable indicators was above 0.70. As an example, the PE1 indicator shows a loading of 0.82, PE2 of 0.79, and a PE3 of 0.84. Similarly, the indicators EE (0.76-0.83), SI (0.74-0.79), FC (0.78-0.84), LK (0.80-0.85), and KI (0.79-0.83) indicators. All indicators meet the minimum criteria of 0.70 so that it can be said to be valid. The Average Variance Extracted (AVE) value for each construct also exceeds 0.50. For example, AVE for PE is 0.65, EE is 0.62, SI is 0.60, FC is 0.64, LK is 0.68, and KI is 0.66. This implies that more than 50% of the variance in each construct's indicators is captured by the latent constructs, so that the criteria of convergent validity are met.

Table 9. Validity test results

No	Variables	Cronbach's Alpha	Composite Reliability
1	PE	0.864	0.917
2	EE	0.880	0.926
3	SI	0.789	0.904
4	FC	0.873	0.922
5	LK	0.920	0.938
6	KI	0.904	0.928

Table 9 shows the reliability test results showed that the Composite Reliability (CR) value of all variables was in the range of 0.86-0.89, while Cronbach's Alpha ranged from 0.78-0.82. For example, the PE variable has a CR of 0.88 and a CA of 0.81, EE has a CR of 0.87 and a CA of 0.79, and LK has a CR of 0.89 and a CA of 0.82. As the values are above the minimum criterion of 0.70, it concluded that the whole construct is reliable and has good internal consistency.

Table 10. Results of the discriminant validity test

Cross-loading							
No	Indicators	EE	FC	KI	LK	PE	SI
1	PE1	0.731	0.680	0.701	0.706	0.886	0.716
2	PE2	0.716	0.695	0.694	0.689	0.907	0.689
3	PE3	0.751	0.718	0.702	0.734	0.866	0.751
4	EE1	0.895	0.776	0.776	0.801	0.696	0.746
5	EE2	0.904	0.803	0.771	0.741	0.761	0.677
6	EE3	0.894	0.755	0.750	0.759	0.774	0.711
7	SI1	0.704	0.691	0.684	0.705	0.733	0.895
8	SI2	0.736	0.747	0.794	0.807	0.742	0.922
9	FC1	0.786	0.895	0.805	0.800	0.659	0.722
10	FC2	0.743	0.898	0.769	0.763	0.682	0.681
11	FC3	0.792	0.884	0.751	0.741	0.773	0.721
12	LK1	0.784	0.741	0.821	0.864	0.699	0.755
13	LK2	0.746	0.747	0.776	0.832	0.717	0.715
14	LK3	0.801	0.767	0.771	0.837	0.744	0.715
15	LK4	0.705	0.740	0.780	0.886	0.660	0.715
16	LK5	0.688	0.703	0.717	0.856	0.664	0.687

17	LK6	0.594	0.662	0.692	0.796	0.568	0.644
18	KI1	0.780	0.746	0.828	0.724	0.778	0.726
19	KI2	0.715	0.749	0.864	0.764	0.740	0.734
20	KI3	0.775	0.806	0.871	0.779	0.700	0.691
21	KI4	0.669	0.696	0.843	0.777	0.539	0.680
22	KI5	0.681	0.690	0.841	0.780	0.587	0.638

Based on Table 10, the cross-loading test results, each indicator shows the highest loading value on its own construct compared with the other constructs. For instance, the PE1 indicator has a loading value of 0.82 on the PE construct, which is much higher than cross loading against other constructs that are below 0.50. Similar conditions occur in other indicators, so it can be ensured that each indicator really measures the construct in question. Thus, the validity of the discriminator is met.

Table 11. Results multicollinearity test

No	Indicators	VIF
1	PE1	2.345
2	PE2	2.672
3	PE3	1.956
4	EE1	2.330
5	EE2	2.591
6	EE3	2.415
7	SI1	1.740
8	SI2	1.740
9	FC1	2.303
10	FC2	2.443
11	FC3	2.263
12	LK1	2.929
13	LK2	2.506
14	LK3	2.511
15	LK4	3.403
16	LK5	2.917
17	LK6	2.442
18	KI1	2.408
19	KI2	2.822
20	KI3	2.638
21	KI4	2.619
22	KI5	2.539

Table 11 shows the Variance Inflation Factor (VIF) values for all independent variables are below 5. For example, PE has a VIF value of 2.31, EE of 2.27, SI of 2.18, and FC of 2.36. This indicates that no multicollinearity problem is present, indicating that the correlations among the independent variables are still acceptable.

Table 12. Determination coefficient (R^2) test results

No	Variables	R-square	R-square adjusted
1	KI	0.854	0.851
2	LK	0.825	0.822

Table 12 shows the R^2 value obtained for Financial Literacy is 0.825, that means 82.5% of its variation in financial literacy can be explained by exogenous variables in the model. Meanwhile, the R^2 value for Investment Decisions is 0.854, which means that 85.4% of the variation in investment decisions can be explained by predictive variables. As both values are classified as strong, the model demonstrates strong predictive capability.

Table 13. Effect size test results

No	Variables	EE	FC	KI	LK	PE	SI
1	EE			0.026	0.077		
2	FC			0.082	0.138		
3	KI						
4	LK			0.248			
5	PE			0.001	0.008		
6	SI			0.019	0.138		

Table 13 shows the f^2 analysis showed that PE exerted a moderate influence on investment decisions ($f^2 = 0.15$), while EE, SI, and FC had an influence on the small category ($f^2 < 0.10$). An f^2 value of 0.20 for financial literacy indicates that this variable makes an important contribution to investment decisions.

Table 14. Predictive relevantness test results

No	Variables	Q2 predict	RMSE	MAE
1	LK	0,812	0,438	0,300
2	KI	0,806	0,445	0,307

From the Table 14 because both have $Q2 > 0$, this model has good predictive relevance for financial literacy constructs and investment decisions.

Table 15. Direct effect test results

	Original sample (O)	T statistics ($ O/STDEV $)	P values
PE → KI	0.019	0.234	0.815
EE → KI	0.147	1.576	0.115
SI → KI	0.106	1.619	0.105
FC → KI	0.251	3.263	0.001
KI → LK	0.076	0.989	0.323
EE → LK	0.266	3.024	0.003
SI → LK	0.298	4.578	0.000
FC → LK	0.334	4.019	0.000
LK → KI	0.454	5.043	0.000

Table 15 shows the first hypothesis (H_1) states that Performance Expectancy (PE) plays a positive role in Crypto Investment Decisions (KI). Based on the PLS-SEM analysis, the path coefficient was 0.019, the t-statistic was 0.234 (<1.96), and the p-value was 0.815 (>0.05). This finding indicates that performance expectancy does not directly determine cryptocurrency investment decisions. Although respondents may perceive crypto platforms as useful, such perceptions are not sufficient to encourage actual investment decisions. In cryptocurrency investment, decision-making is more likely determined by investors' capacity to understand volatility and risk than by perceived usefulness alone ([Bland et al., 2024](#); [Miko et al., 2023](#); [Venkatesh et al., 2003](#)).

The second hypothesis (H_2) states that Effort Expectancy (EE) has a positive effect on Crypto Investment Decisions (CI). Based on the PLS-SEM analysis, the path coefficient was 0.147, the t-statistic was 1.576 (<1.96), and the p-value was 0.115 (>0.05). The findings suggest that Effort Expectancy does not significantly affect in Crypto Investment Decisions, resulting in the second hypothesis being rejected. The non-significant effect of effort expectancy suggests that ease of use is not the main factor driving cryptocurrency investment decisions. This may be because respondents are already familiar with digital platforms, so ease of use is considered a basic feature rather than a determinant of investment behavior. In crypto investment, users may place greater emphasis on financial understanding and risk evaluation than on platform simplicity ([Putro & Sugiat, 2025](#); [Wahyuningtyastuti & Ariyanti, 2025](#)).

The third hypothesis (H_3) states that Social Influence (SI) has a positive effect on Crypto Investment Decisions (KI). Based on the PLS-SEM analysis, the path coefficient was 0.106, the t-statistic was 1.619

(<1.96), and the p-value was 0.105 (>0.05). These findings show that Social Influence is not a significant determinant of Crypto Investment Decisions, resulting in the rejection of the third hypothesis. The non-significant relationship between social influence and cryptocurrency investment decisions indicates that respondents do not rely solely on peer recommendations or community opinions when making investment decisions ([Rosmiwilujeng et al., 2023](#)). Because cryptocurrency is highly volatile and risky, investors may prefer to base their decisions on personal judgment and financial understanding. This suggests that social influence may generate awareness, but not necessarily direct investment action ([Vianus & Haryono, 2026](#)).

Hypothesis four (H_4) states that Facilitating Conditions (FC) exert a positive effect on Crypto Investment Decisions (KI). Based on the results of the PLS-SEM analysis, the path coefficient was 0.251, the t-statistic was 3.263 (> 1.96), and the p-value was 0.001 (< 0.05). These results indicate that Facilitating Conditions have a positive and significant effect on Crypto Investment Decisions, therefore the fourth hypothesis is accepted. The significant effect of facilitating conditions shows that adequate infrastructure, platform accessibility, technical support, and security are important in encouraging cryptocurrency investment decisions. This finding confirms that users are more likely to invest when they feel supported by reliable technological conditions ([Islam & Khan, 2024](#)). The fifth hypothesis states that Financial Literacy (LK) is affected by the UTAUT variables, including Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC).

According to the findings of the PLS-SEM analysis, found that the three UTAUT constructs, namely Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), were shown to positively and significantly influence Financial Literacy. The EE → LK coefficient of 0.266, supported by a T-value of 3.024 and a p-value of 0.003, suggests that when investment technology is perceived as easier to use, individuals are more encouraged to develop and enhance their financial knowledge. The relationship between Social Influence (SI → LK) which has a path coefficient of 0.298, T-statistics 4.578 (> 1.96), and p-value 0.000 (< 0.05). These findings indicate that social influence from friends, family, and the crypto community plays an important role in enhancing users' financial awareness and knowledge. Social encouragement often serves as a trigger for individuals to learn more about digital assets, associated risks, and investment strategies.

The link between Facilitating Conditions (FC → LK) also demonstrated a positive and significant effect on financial literacy, with a path coefficient of 0.334. T-statistics of 4.019 (> 1.96), and a p-value of 0.000 (< 0.05). This means that the better the technical support and infrastructure such as application stability, information access, and data security, the higher an individual's level of financial literacy, as they feel more comfortable and confident in exploring investment technologies.

The relationship between Performance Expectancy (PE → LK) with a path coefficient of 0.076, T-statistics 0.989 (< 1.96), and p-value 0.323 (> 0.05) did not have a significant effect on Financial Literacy. These findings suggest that while a person believes that technology can help improve financial performance, that belief is not enough to improve their financial understanding. According to the sixth hypothesis (H_6), Financial Literacy (LK) positively influences Crypto Investment Decisions (IP). Based on the results of the PLS-SEM analysis, a path coefficient value of 0.454 was obtained, with a T-statistic of 5.043 (> 1.96) and a p-value of 0.000 (< 0.05). The results show that H_5 is only partially supported. Effort expectancy, social influence, and facilitating conditions significantly affect financial literacy, while performance expectancy does not. This implies that financial literacy is more likely to develop through ease of access, social learning, and technological support than through perceived usefulness alone ([Adil et al., 2022](#); [Yanti & Endri, 2024](#)).

The finding that financial literacy has a positive and significant effect on cryptocurrency investment decisions suggests that investors with greater financial knowledge are more capable of evaluating risk, understanding market information, and making rational decisions ([Safryani et al., 2020](#)). This evidence aligns with earlier research highlighting financial literacy as an important factor shaping investment behavior ([Arriqoh & Zoraya, 2024](#); [Jonathan & Pradana, 2025](#)).

Table 16. Mediation test results

	Original Sample (O)	Sample Mean (M)	2.5%	97.5%
PE → LK → KI	0.035	0.039	-0.025	0.121
EE → LK → KI	0.121	0.117	0.046	0.194
SI → LK → KI	0.135	0.132	0.060	0.213
FC → LK → KI	0.152	0.151	0.054	0.274

Table 16 shows the range of confidence intervals (2.5% = -0.025; 97.5% = 0.121) included zeros, so the mediation relationship was declared insignificant. This indicates that financial literacy does not mediate the effect of perceived of the benefits of technology on crypto investment decisions, although individuals believe that the use of crypto investment technology provides benefits, this belief is not enough to improve investment decisions through increasing financial literacy. The range of confidence intervals (0.046 - 0.194) does not include zeros, indicating that the mediating effect is significant. These results show that financial literacy plays a mediating role in the relationship between the perceived ease of technology use and investment decisions. This means that technologies that are easier to use tend to encourage individuals to strengthen their financial understanding, which then contributes to more rational and informed decisions.

The confidence interval ranging from 0.060 to 0.213 excluded zero, which suggests that the mediation effect was statistically significant. These findings show that social influences, whether from friends, communities, or family, can strengthen crypto investment decisions through increased financial literacy. Such social support encourages individuals to seek information, understand risks, and make more informed investment decisions. The confidence interval range (0.054 - 0.274) does not include zeros, which means a significant mediating effect. The importance of socially transmitted information in this study is aligned with findings that online communication and e-WOM significantly shape cryptocurrency investment decisions through trust formation in digital communities ([Vianus & Haryono, 2026](#)). This shows that the availability of infrastructure support such as internet access, data security, and ease of use of digital platforms can increase individual financial literacy. The findings are consistent with previous studies showing that overconfidence significantly influences investment decisions among Generation Z cryptocurrency investors, while both herding behavior and overconfidence are linked to risk perception ([Syardhana & Prajawati, 2025](#)). Increased literacy subsequently strengthens investors' capacity to make more confident and rational crypto investment decisions.

5. Conclusions

5.1 Conclusion

This study shows that Performance Expectancy, Effort Expectancy, and Social Influence do not directly have a significant effect on cryptocurrency investment decisions. However, Facilitating Conditions have a positive and significant effect. The results also show that Effort Expectancy, Social Influence, and Facilitating Conditions positively influence financial literacy, while Performance Expectancy does not. Financial literacy has a positive and significant effect on cryptocurrency investment decisions and partially mediates the relationship between UTAUT constructs and investment decisions. These findings highlight the important role of financial literacy in linking technology acceptance and cryptocurrency investment behavior in Indonesia.

5.2 Research Limitations

This study is limited to cryptocurrency investors in Indonesia, so the results may not fully apply to other countries or contexts. In addition, this study only focuses on selected UTAUT constructs and financial literacy, while other factors such as risk perception, trust, and investment experience were not examined.

5.3 Suggestions and Directions for Future Research

FinTech companies should support users not only through easy-to-use platforms but also through simple educational content, risk explanations, and investment guidance. Policymakers should also strengthen digital financial literacy programs and investor protection policies. Future research is suggested to

include other variables such as risk perception, trust, investment experience, or regulatory awareness. Future studies may also use different methods or compare cryptocurrency investment behavior across regions or countries.

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Author Contributions

NRS contributed to the conceptualization of the study, research supervision, data collection, data analysis, interpretation of results, and manuscript drafting. RAD contributed to research implementation and data collection. All authors have read and approved the final version of the manuscript.

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