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Determining the Priority Factors that Influence the Intention to Invest in Cryptocurrencies using Fuzzy Analytical Hierarchy Process

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Abstract

Cryptocurrency investment is a phenomenon that has gained popularity among Indonesian youth. However, the factors that influence their intention to invest in this digital asset class are not well understood. This study aims to identify and evaluate these factors using the Fuzzy Analytical Hierarchy Process (FAHP) method, which can handle uncertainty and ambiguity in decision making. The study applies the Unified Theory of Acceptance and Use of Technology (UTAUT) model as the theoretical framework, and considers six factors: social influence, financial literacy, facilitating condition, performance expectancy, effort expectancy, and hedonic motivation. The results show that social influence, financial literacy, and facilitating condition are the most important factors, while hedonic motivation is the least important. The study also ranks the sub-criteria within each factor according to their relative importance. The findings provide valuable insights for policymakers, investors, and educators in the field of cryptocurrency and blockchain technology.

Keywords : *Cryptocurrency, Investment, Fuzzy Analytical Hierarchy Process, Unified Theory Of Acceptance And Use Of Technology, Indonesia*

INTRODUCTION

Cryptocurrency investment has emerged as a widely embraced global phenomenon in recent times (Kozak & Gajdek, 2021). In Indonesia, there has been a notable surge in cryptocurrency investments, particularly among the younger populace (Santoso & Modjo, 2022). The attraction towards cryptocurrency investment in Indonesia can be attributed to several factors, including the potential for substantial returns, the decentralized nature of these digital assets, their global accessibility, and the increasing acceptance they have garnered from the public (Myers & Hinman, 2022). However, it is important to acknowledge that investing in cryptocurrencies also entails certain risks, such as price volatility and regulatory uncertainties (Liu et al., 2019).

The Unified Theory of Acceptance and Use of Technology (UTAUT) model serves as the fundamental framework for comprehending the adoption of technology, which encompasses cryptocurrencies as well (Gillies et al., 2020). UTAUT encompasses various constructs like performance expectations, effort expectations, social influences, and facilitating conditions, all of which directly impact the utilization of technology (Ebizie et al., 2022). Additionally, UTAUT introduces supplementary variables like habit, hedonic motivation, and price value, representing functional, intrinsic, and financial benefits, respectively, that influence technology adoption (Patharia et al., 2021). The UTAUT model has been extensively employed in numerous studies to examine the factors that influence cryptocurrency adoption, including trust, personal innovation, and perceived risk (Arias-Oliva et al., 2019). Furthermore, this model has been utilized to analyze the interrelationship between constructs such as performance expectations, effort expectations, social influences, facilitating

conditions, hedonic motivation, price value, trust, and personal innovation, all of which drive user intentions to adopt cryptocurrencies (Sair & Danish, 2018).

The Multi-Criteria Decision Making (MCDM) method aids researchers in evaluating factors as criteria in individual decision making (Yadegaridehkordi et al., 2018). One of the widely employed MCDM techniques is the Analytical Hierarchy Process (AHP), which was developed by Saaty in 1980 (Surya et al., 2022). AHP utilizes significant scale vectors of reciprocal matrices in the form of pairwise judgment matrices to assess a range of criteria and subcriteria in a given case (Xu et al., 2023). The pairwise judgment matrix is employed to assess the comparison between two criteria or subcriteria (Gupta et al., 2021). By utilizing the pairwise judgment matrix, researchers can determine the weights of each criterion or subcriteria (Patharia et al., 2021).

The purpose of this research is to identify and evaluate the factors that influence the intention to invest in cryptocurrencies among Indonesian consumers. By applying the Fuzzy Analytical Hierarchy Process (FAHP) method, this research aims to rank the importance of various factors derived from the Unified Theory of Acceptance and Use of Technology (UTAUT) model, such as performance expectancy, effort expectancy, social influence, facilitating conditions (Gupta et al., 2021). Additionally, this research also examines the role of financial literacy and hedonic motivation as the factors that affect cryptocurrency investment decisions. In this particular study, the researchers employed the FAHP, which is a modification of the AHP method. FAHP is used to address uncertainties or ambiguities that frequently arise in decision-making scenarios, particularly those involving qualitative factors (Patharia et al., 2021). In FAHP, uncertainty or vagueness is represented in the form of fuzzy numbers. Fuzzy numbers are numerical values that range between 0 and 1, signifying varying degrees of certainty (Inder et al., 2021). FAHP has proven to be highly effective in a multitude of fields, encompassing areas such as business, economics, and health (Sood et al., 2023). This method has been utilized to examine various factors that influence decision making, including customer satisfaction, product quality, and treatment effectiveness (Vinh, 2022). The findings of this research are expected to provide valuable insights for policymakers, investors, and researchers in the field of cryptocurrency and blockchain technology.

LITERATURE REVIEW

Cryptocurrency

Investment in cryptocurrencies necessitates the procurement and retention of digital currencies such as Bitcoin, Ethereum, or Litecoin with the aim of attaining profitability (Fang et al., 2022). These investments are facilitated through online platforms known as cryptocurrency exchanges, where investors can securely engage in the buying, selling, and storing of their digital assets (Muchlis Gazali et al., 2018). Cryptocurrencies operate on blockchain technology, which ensures the transparency and security of transactions due to its decentralized nature (Liu et al., 2019). Investors have the choice of holding onto their cryptocurrency for an extended duration, anticipating its appreciation over time, or engaging in short-term trading to exploit price fluctuations

(Huda & Hambali, 2020). The appeal of cryptocurrency investments lies in their potential for substantial returns and the growing acceptance of digital currencies across various industries (Myers & Hinman, 2022).

Cryptocurrency investments afford both prospects and risks. On one hand, investing in cryptocurrencies can yield significant returns, particularly during periods of market growth (Liu et al., 2019). The value of cryptocurrencies has displayed considerable volatility, resulting in substantial profits for certain investors (Fujiki, 2021). Furthermore, the decentralized nature of cryptocurrencies grants individuals greater autonomy over their investments, as they are not bound by the constraints imposed by traditional financial institutions or government regulations (Kozak & Gajdek, 2021). In contrast, the cryptocurrency market is highly speculative and can experience sudden price drops, rendering it a precarious investment (Handayani et al., 2023). The absence of regulation and oversight also exposes investors to potential fraud and security breaches. It is imperative for investors to conduct extensive research, comprehend the associated risks, and diversify their investment portfolio to mitigate potential losses (Zhao & Zhang, 2021).

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT model has evolved by assimilating eight other theoretical models that seek to analyze the behavior of individuals in adopting information technology. The eight models include the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behavior (TPB), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT) (Venkatesh et al., 2003). Over time, researchers have supplemented the UTAUT model with several additional factors to gain a deeper understanding of consumer behavior in relation to technology use. These factors encompass Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions, as well as the moderating effects of factors such as age, gender, and experience on Behavioral Intention.

The expectations of users regarding the advantages derived from the utilization of technology are escalating alongside their heightened expectations of the technology's performance. Performance Expectations instill confidence in individuals that the implementation of the technology will enhance their performance (Kurniasari et al., 2023). This confidence stems from an individual's inclination to employ a specific technology. The Performance Expectations of digital currencies provide users with assurance that transactions conducted using this technology will be swiftly and securely processed (Mensah & Mwakapesa, 2022). Performance Expectations as factors that positively influence one's inclination to utilize digital currencies (Gillies et al., 2020).

The level of exertion exerted by an individual to acquire knowledge of a novel technology is referred to as the Effort expectancy. Effort expectancy as an individual's degree of comfort in utilizing a system (Winata & Tjokrosaputro, 2022). Technologies that are user-friendly, flexible, and convenient have a greater likelihood of surviving. Effort expectancy are a pivotal

determinant in an individual's Behavioral Intention to adopt a specific technology (Sair & Danish, 2018). Some studies have demonstrated that the acceptance of financial technology is strongly contingent upon the level of complexity involved in comprehending it (Ebizie et al., 2022). Within this context, it is essential to examine whether Effort expectancy are associated with transactions involving cryptocurrencies. A study on the utilization of cryptocurrencies and discovered that Effort expectancy were one of the factors that positively influenced their adoption (Gupta et al., 2021). Changes in an individual's behavior that are influenced by individuals around them, leaders, and society at large are denoted as Social Influence. Social Influence is a manifestation of psychological phenomena that arise in response to Social Forces (Queiroz & Fosso Wamba, 2019). Social Influence serves as a means to effectuate positive changes within an individual that contribute to economic development. Social Influence as the extent to which society supports an individual in adopting a specific technology (Arias-Oliva et al., 2019). Prior research has substantiated that the speculative nature of cryptocurrencies has underscored the role of Peer Encouragement (Krafft et al., 2018). Individuals typically seek advice before embracing a particular product or service (Yeong et al., 2019). The Social Influence Factor is defined as the degree to which an individual believes that others consider it important to utilize the new system.

Facilitating conditions pertain to the extent to which an individual perceives the existence of technical and organizational infrastructure to support the utilization of the system. Performance Expectancy corresponds to the extent to which individuals believe that the use of the system will enable them to attain benefits in Job Performance (Wamba & Queiroz, 2019). Effort expectancy is defined as the magnitude of ease associated with utilizing system (Khazaei, 2020). Social Influence can be derived from family, friends, as well as individuals within one's immediate environment (Rana et al., 2017). Similarly, Social Influence plays a pivotal role in the inclination to employ cryptocurrencies. Social Influence constituted a contributing factor to cryptocurrency adoption. Facilitating Condition can be defined as a collection of supportive elements that are essential for enabling the utilization of a specific technology. These elements offer valuable insights that empower users to leverage such technologies (Gupta et al., 2021). In the realm of cryptocurrencies, which harness the cutting-edge blockchain technology, the absence of standardized guidelines from governments or corporations can facilitate cryptocurrency users in gaining valuable insights, both from a financial and technical standpoint. For instance, an online forum accessible to all individuals can serve as a platform for discussions (Yeong et al., 2019). The limited involvement of governments in regulating the use of cryptocurrencies can be considered a facilitating factor that encourages users to adopt cryptocurrencies. This is primarily attributed to numerous countries facing challenges in developing blockchain technology due to inconsistent government regulations (Nseke, 2018). Facilitating Condition is also frequently applied in the organizational and IT infrastructure contexts, encompassing systems, internet speed, cloud computing, and computerization. These

factors play a crucial role in supporting consumers in adopting technology, particularly blockchain (Wamba & Queiroz, 2019)

Hedonic motivation

Hedonic motivation pertains to the pleasant and comforting feelings that users derive from a specific technology (Venkatesh et al., 2012). In the context of cryptocurrency investments, these positive emotions are often associated with the potential increase in value resulting from such investments (Abbasi et al., 2021). Hedonic motivation can significantly influence users' intentions to invest in cryptocurrencies, especially when users are confident in the possibility of substantial returns due to cryptocurrency value fluctuations (Nseke, 2018).

Financial literacy

Financial literacy is defined as an individual's comprehension of important financial concepts, as well as their capacity and confidence to make informed financial decisions that align with their economic circumstances and life situation (Zhao & Zhang, 2021). The level of financial literacy, particularly among the younger generation, can impact their engagement in cryptocurrency investments. For instance, the lack of interest among Russian youth in investing in cryptocurrencies has been attributed to their limited understanding of this digital asset class (Khasanovich et al., 2020).

METHOD

This study employs six primary factors derived from the UTAUT (Unified Theory of Acceptance and Use of Technology) model, specifically performance expectancy, effort expectancy, social influence, facilitating conditions, financial literacy, and hedonic motivation. To assess the sub-criteria within each factor, this study utilizes indicators sourced from the previous research for the factors of performance expectancy, effort expectancy, social influence, facilitating conditions, and financial literacy (Gupta et al., 2021). Conversely, for the aspect of hedonic motivation, this study adopts indicators obtained from the previous research (Abbasi et al., 2021). The data collection tool employed in this study is a questionnaire, which has been developed based on the linguistic scale introduced by Saaty (1980) utilizing the pairwise judgment matrix table.

Table 1 List statement of each subcriteria

Factor	Source
Social influence (SI)	
SI1: The opinions of people I value provide advice on investing in Crypto.	Gupta et al. (2021)
SI2: People I consider important think I can invest in Crypto.	
SI3: People who influence me think I need to invest in Crypto.	
Financial literacy (FL)	
FL1: I want to invest in Crypto because I have adequate financial knowledge.	
FL2: I want to invest in Crypto because I have the capacity to handle any consequences to my finances.	Gupta et al. (2021)
Facilitating condition (FC)	
FC1: Crypto is aligned with other technologies I use.	
FC2: I have enough resources to invest in Crypto.	Gupta et al. (2021)
FC3: I have enough understanding to invest in Crypto.	
FC4: I can get help if I encounter difficulties due to investing in	

Crypto.	
Performance expectancy (PE)	
PE1: Investing in Crypto helps me improve my standard of living.	Gupta et al. (2021)
PE2: Investing in Crypto can help me achieve goals in my life.	
PE3: Investing in Crypto can help me accelerate the achievement of goals in my life.	
Effort expectancy (EE)	
EE1: Investing in Crypto is easy for me.	
EE2: It is easy for me to learn how to invest in Crypto.	Gupta et al. (2021)
EE3: It is easy for me to become an expert in investing in Crypto.	
EE4: The way Crypto is used is clear and I can understand it.	
Hedonic motivation (HM)	
HM1: I enjoy investing in Crypto.	
HM2: I feel comfortable investing in Crypto.	Abbasi et al. (2021)
HM3: I find investing in Crypto to be enjoyable.	

The questionnaire is administered via an online survey, distributed through social media and other online platforms, employing the convenience sampling technique. It was distributed to 350 cryptocurrency investors aged between 18 and 52 years, and received responses from 113 individuals, yielding a response rate of 32%. Subsequently, the obtained data were analyzed using the FAHP method to ascertain the relative weights of each factor and sub-criteria.

The Fuzzy Analytical Hierarchy Process (FAHP) is a decision-making technique that is derived from the Analytical Hierarchy Process (AHP) (Chou et al., 2019). It is specifically designed to tackle complex decision problems by breaking them down into hierarchical criterion levels and conducting pairwise comparisons to ascertain the significance of each criterion. Unlike AHP, which utilizes precise numerical values, FAHP employs natural linguistic terms to express expert judgments, representing fuzzy numbers that are defined within fuzzy membership functions (Yadegaridehkordi et al., 2018). This unique approach allows FAHP to effectively address decision-making problems that are characterized by ambiguity and uncertainty in criteria, while also providing a high degree of flexibility and ease of use (Vinh, 2022). In order to implement FAHP, experts assign fuzzy numbers to accurately represent the linguistic terms used in their assessments, thereby enabling a comprehensive evaluation of the decision problem at hand (Aristizábal Tamayo et al., 2020). As a result, FAHP has become widely recognized and commonly used in the field of multiple criteria decision making (MCDM), as it possesses the capability to effectively handle complex decision problems (Aungkulanon et al., 2023).

One specific application of FAHP lies in its ability to identify and evaluate the factors that are crucial in the adoption of new technologies, including cryptocurrencies (Gupta et al., 2021). Through the use of pairwise comparisons, FAHP allows experts to determine the relative importance of these factors (Inder et al., 2021). Given the inherent uncertainties and ambiguities associated with technology adoption decisions, expert can utilize fuzzy numbers and linguistic terms to express their judgments regarding the importance of different factors (Patharia et al.,

2021). The measurements obtained through FAHP can then be utilized to assess various factors such as security, usability, regulatory environment, market acceptance, and technological complexity, among others, all of which significantly influence the adoption of new technologies like cryptocurrencies (Sood et al., 2023). By implementing FAHP, decision makers are empowered to prioritize these factors based on their specific interests, enabling them to make well-informed decisions regarding the adoption of new technologies (Yadegaridehkordi et al., 2018). It is important to note that the context and requirements of organizations or individuals must be taken into account when utilizing FAHP in order to ensure that the decision-making process accurately reflects the specific circumstances at hand (Xu et al., 2023). The systematic and flexible approach offered by FAHP allows for a comprehensive evaluation and ranking of the factors that play a pivotal role in the adoption of new technologies, thereby enabling stakeholders to make informed decisions in the rapidly evolving field of cryptocurrencies.

The formulation of FAHP involves a series of steps that are designed to ensure the accuracy and reliability of the decision-making process (Patharia et al., 2021). These steps are as follows:

The response results obtained from experts are arranged and synthesized in matrix form, with each criterion and subcriterion being paired together. Triangular fuzzy numbers (TFN) are utilized to represent the response results (Gupta et al., 2021).

$$A = \begin{bmatrix} 1 & \tilde{a}12 & \dots & \tilde{a}1n \\ \vdots & 1 & \ddots & \vdots \\ \frac{1}{\tilde{a}31} & \frac{1}{\tilde{a}32} & 1 & \tilde{a}3n \\ \frac{1}{\tilde{a}41} & \frac{1}{\tilde{a}42} & \dots & 1 \end{bmatrix} \quad (1)$$

Geometric mean calculations are performed on the TFN values for each criterion and subcriterion. This step allows for the determination of fuzzy weights, which provide insights into the relative importance of each criterion and subcriterion (Gupta et al., 2021).

$$\tilde{r}_i = \sqrt[n]{(\tilde{a}_{i1} x \tilde{a}_{i2} x \tilde{a}_{i3} x \dots x \tilde{a}_{in})} \quad (2)$$

$$\widetilde{w}_i = \tilde{r}_i x (\tilde{r}_1 + \tilde{r}_2 + \tilde{r}_3 + \cdots + \tilde{r}_n)^{-1} \quad (3)$$

The fuzzy weights obtained in the previous step are then fuzzified using fuzzy terms. This process allows for the identification of the best non-fuzzy performance (BNP), which serves as a benchmark for evaluating the performance of different criteria and subcriteria (Patharia et al., 2021)

$$w_i = \frac{[(uw_i - lw_i) + (mw_i - lw_i)]}{3} + lw_i \quad (4)$$

Finally, the weights that have undergone defuzzification are normalized. This step ensures that the weights are adjusted to a standard scale, thereby facilitating accurate comparisons and evaluations (Patharia et al., 2021)

$$nw_i = \frac{(Wi)}{\sum(Wi)} \quad (5)$$

By following these steps, the formulation of FAHP guarantees a rigorous and systematic approach to decision-making, enabling decision makers to make well-informed choices based on reliable and comprehensive evaluations of the factors at hand (Gupta et al., 2021).

RESULTS AND DISCUSSION

The respondents of this study consisted of 113 cryptocurrency investors aged between 18 and 52 years, with the majority (52.2%) falling within the 25-31 age group. The respondents were predominantly female (57.5%), and most of them had an undergraduate degree (77.9%). The respondents came from various provinces in Indonesia, with the highest representation from Jawa Timur (18.6%), followed by DKI Jakarta (15%) and Jawa Barat (13.3%). The respondents also had different levels of monthly income, with the majority (63.7%) earning between 5 million and 20 million IDR. The respondents also varied in their investment experience, with the largest group (34.5%) having less than one month of experience, followed by 33.6% having one to five years of experience.

Table 2 Demographic profile of respondent

Category	n	%	Category	n	%	Category	n	%
Age			*Province*			*Monthly Income*		
18-24	6	5.3%	Sumatra Utara	5	4.4%	More than 20 Mil IDR	3	2.7%
25-31	59	52.2 %	Lampung	2	1.8%	5 Mil - 20 Mil IDR	72	63.7%
32-38	32	28.3 %	Sumatra Barat	1	0.9%	Less than 5 Mil IDR	38	33.6%
39-45	11	9.7%	Sumatra Selatan	2	1.8%			
46-52	5	4.4%	DKI Jakarta	17	15.0%	*Investment experience*		
			Jawa Barat	15	13.3%	Less than 1 Month	39	34.5%
Gender			Banten	8	7.1%	1 Month - 1 Year	29	25.7%
Male	48	42.5 %	DI Yogyakarta	9	8.0%	1 Year - 5 Years	38	33.6%
Female	65	57.5 %	Jawa Tengah	12	10.6%	More than 5 Years	7	6.2%
			Jawa Timur	21	18.6%			
Education			Bali	1	0.9%			
Academy	1	0.9%	Kalimantan Timur	8	7.1%			
Diploma III	2	1.8%	Kalimantan Barat	7	6.2%			
Undergraduate	88	77.9 %	Kalimantan selatan	3	2.7%			
Postgraduate	7	6.2%	Sulawesi Selatan	2	1.8%			
Elementary school/ Middle high school	1	0.9%						
Senior/ Vocational high school	14	12.4 %						

The findings of this study demonstrate that the investment intentions in cryptocurrencies are predominantly influenced by Social Influence, which holds the highest weight of 18.00%. Following closely is Financial Literacy, with a weight of 13.25%, and then Facilitating Condition with a weight of 12.23%. Performance Expectancy and Effort Expectancy carry similar weights of 10.00% and 10.18% respectively. On the other hand, Hedonic Motivation exhibits the lowest weight of 8.34%. These results suggest that social influence and financial literacy play significant roles in shaping an individual's inclination to invest in cryptocurrencies.

Table 3 Weight and Ranking of Local Criteria, Local Sub Criteria and Global Sub Criteria

Criteria	Local weight	Rank	Subcriteria	Local weight	Rank	Global weight	Rank
SI	0.1800	1	SI1	0.3458	1	0.0623	1
			SI2	0.2603	2	0.0469	3
			SI3	0.1727	3	0.0311	7
FL	0.1325	2	FL1	0.4160	1	0.0551	2
			FL2	0.2422	2	0.0321	6
FC	0.1223	3	FC1	0.2882	1	0.0353	4
			FC2	0.2068	2	0.0253	10
			FC3	0.1533	3	0.0188	14
			FC4	0.1197	4	0.0146	17
PE	0.1000	5	PE1	0.3308	1	0.0331	5
			PE2	0.2497	2	0.0250	11
			PE3	0.1699	3	0.0170	15
EE	0.1018	4	EE1	0.2819	1	0.0287	8

			EE2	0.2163	2	0.0220	12
			EE3	0.1661	3	0.0169	16
			EE4	0.1099	4	0.0112	19
HM	0.0834	6	HM1	0.3419	1	0.0285	9
			HM2	0.2391	2	0.0199	13
			HM3	0.1744	3	0.0145	18

Moreover, the study reveals considerable variations in the weights of sub-criteria within each criterion. Among the Social Influence sub-criteria, SI1 holds the highest weight at 34.58%, followed by SI2 with 26.03%, and SI3 with 17.27%. In the case of Financial Literacy, FL1 carries a weight of 41.60%, while FL2 has a weight of 24.22%. Within the Facilitating Condition criterion, FC1 holds the highest weight at 28.82%, followed by FC2 with 20.68%, FC3 with 15.33%, and FC4 with 11.97%. Similarly, within the Performance Expectancy criterion, PE1 holds the highest weight at 33.08%, followed by PE2 with 24.97%, and PE3 with 16.99%. As for the Effort Expectancy criterion, EE1 holds the highest weight at 28.19%, followed by EE2 with 21.63%, EE3 with 16.61%, and EE4 with 10.99%. Lastly, among the Hedonic Motivation sub-criteria, HM1 carries the highest weight at 34.19%, followed by HM2 with 23.91%, and HM3 with 17.44%. Research indicates that discussing investments in online social environments leads individuals to take greater risks in their investment choices (Gupta et al., 2021). This underscores the significance of social influences in cryptocurrency investment decisions. Furthermore, a study has indicated a positive association between financial literacy, investment experience, and investing in cryptocurrencies (Santoso & Modjo, 2022). However, investment experience holds greater influence in cryptocurrency investment decisions.

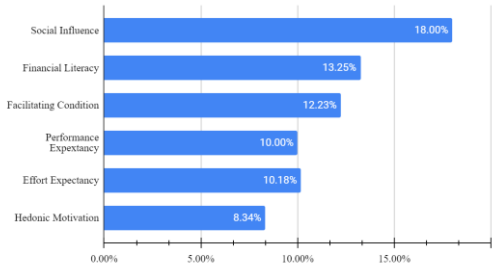

Figure 2 Weight of Criteria

In a study conducted in Indonesia, facilitating conditions and social influence emerged as the most influential indicators (Restuputri et al., 2023). Some studies highlight that performance expectations are the crucial factor for the success of a particular cryptocurrency (Gillies et al., 2020). While venture expectations also exert influence on cryptocurrency adoption, their impact is relatively weaker compared to other factors (Arias-Oliva et al., 2019). Additionally, hedonic motivation, which pertains to the pleasure gained from investing in cryptocurrencies, can also shape an individual's intention to invest (Abbasi et al., 2021). Nonetheless, further research is required to comprehend the extent to which these factors influence investment decisions (Purbandini et al., 2021).

The findings of this study revealed that the SI1 sub-criterion exhibited the highest weight of 6.23% and obtained the top ranking. It indicates that the opinions of valued individuals is the most important factor in the decision to invest in cryptocurrencies. Subsequently, FL1 followed closely with a weight of 5.51% and secured the second position. This suggests that having sufficient financial knowledge is a crucial factor in the decision to invest in cryptocurrencies. The SI2

sub-criteria achieved the third rank with a weighting of 4.69%. It indicates that the perception of important people about one's ability to invest in cryptocurrencies also plays an important role. Other sub-criteria possess weights ranging from 1.12% to 3.53%, with FC1 being the highest-weighted in this group. This suggests that the compatibility of cryptocurrencies with other technologies that an individual uses can influence their decision to invest in cryptocurrencies. This factor, however, was not among the most influential in the study, as other factors like social influence and financial literacy were found to have higher weights. The sub-criterion with the least weight is EE4 at 1.12%. It suggests that clarity and understanding of how cryptocurrencies are used are less influential factors in the decision to invest in cryptocurrencies. This ranking demonstrates that each sub-criterion possesses distinct characteristics and influences the intention to invest in cryptocurrencies in different ways. This diversity underscores the intricacy and multidimensionality of the factors impacting investment intentions in cryptocurrencies.

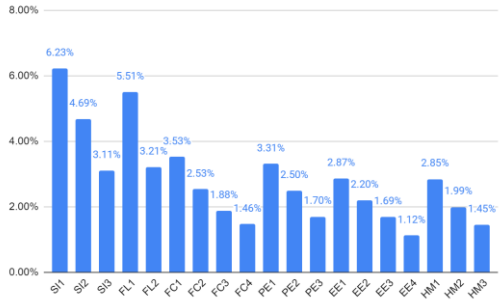

Figure 3 Weight of Global Sub-Criteria

The emergence of cryptocurrencies has attracted significant attention worldwide, as individuals increasingly view them as a feasible avenue for investment (Fujiki, 2021). In the Indonesian context, comprehending the fundamental factors that underlie the inclination to invest in cryptocurrencies is imperative for policymakers and investors alike (Handayani et al., 2023). Through an analysis of the categorization of factors influencing cryptocurrency investment in Indonesia, we can acquire a profound understanding of the primary drivers and considerations for individuals operating within this market .

CONCLUSION

This study aimed to identify and evaluate the factors that influence the intention to invest in cryptocurrencies among Indonesian youth. Using the Fuzzy Analytical Hierarchy Process (FAHP) method, the study ranked six factors derived from the Unified Theory of Acceptance and Use of Technology (UTAUT) model, namely social influence, financial literacy, facilitating condition, performance expectancy, effort expectancy, and hedonic motivation. The study found that social influence was the most important factor, followed by financial literacy and facilitating condition. Hedonic motivation was the least important factor. The study also ranked the sub-criteria within each factor according to their relative importance. The study contributes to the existing literature on cryptocurrency adoption and provides valuable insights for policymakers, investors, and educators.

However, the study also has some limitations that should be acknowledged. First, the study relied on a small sample of experts to provide judgments for the FAHP method, which may limit the generalizability of the results. Second, the

study did not consider other factors that may affect cryptocurrency investment intentions, such as risk perception, trust, or personal innovativeness. Therefore, future research should expand the scope of the study by incorporating more experts and criteria, as well as conducting empirical surveys to validate the FAHP results.

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