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Crypto Currency Investment Trends: Understanding Investor Behavior and Market Dynamics in the Digital Era

Zeeshan Hamid[*1], Niaz Hussain Buriro[2], Jai Kishan[3], Mehwish Soomro[4]

[1*]Lecturer, Faculty of Management Sciences, SZABIST University, Islamabad Campus, Pakistan.

[2]Lecturer, Shaheed Benazir Bhutto University, Naushahro Feroze Campus, Sindh, Pakistan.

[3]Assistant Professor, Institute of Business Administration, Shah Abdul Latif University, Khairpur, Sindh, Pakistan.

[4]M. Phil, University of Sindh, Jamshoro, Sindh, Pakistan.

Corresponding author: zeeshan.hamid83@gmail.com

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This research focuses on the active contribution of various factors that determine the use of crypto currency investment, which is based on behavioral finance principles, technology acceptance, and regulation. Because of crypto currencies people have identified a new approach to world economy based on decentralizations since the beginning of the Bitcoin in 2009, they are unstable, created through the organization of block-chain, and regulated insufficiently. Central to this research are the determinants shaping investment behavior: knowledge about the stock market, perceived risk, the market movement, perceived influence, legal requirements, and changes in technology. To this end, the research adopts a cross-sectional survey approach, with sufficient sample size, to establish the way in which these variables, mediated by crypto awareness and economic factors, affect decisions amidst dynamics of a developing digital assets market. This study identifies that financial literacy and the use of advanced technology are the chief factors that drive participation while personal perception of risk and lack of clear regulatory laws are chief inhibitors to participation. Market fluctuations despite being a mixed blessing offer speculative activities, and theories such as prospect theory support this view. These sociological factors as well as ease of access to technology platforms also underscore the effects of social influence, and ease of use in investment. They advance the knowledge of crypto currency markets and provide policy, pedagogic, and practical recommendations for policymakers, educators, and business constituencies to manage and capitalize on this emerging form of digital currency.

1. Introduction

The developments of crypto currencies mean a brand new era in the emerging international economy with more diversification and decentralization than ever before. Cryptography since the launch of Bitcoin with the alias of Satoshi Nakamoto in the year 2009 is now among the trillion-dollar markets with at least a couple of thousand crypto currencies being traded on different trading platforms (Nakamoto, 2008; CoinMarketCap, 2023). Hypothesis testing has also depicted that the demand for virtual currencies has not only grabbed the attention of individual and institutional investors but has also inspired researchers to identify the drivers of investments and market trends (Alaeddin & Altounjy, 2018; Auer & Claessens, 2018).

Crypto investments are in a different class than conventional assets because of their unique features like high price fluctuations, decentralization, and weak legal frameworks (Baur & Dimpfl, 2018). This made people wonder about the nature and roles of these digital assets in the general market and from the perspective of the investors. It is also argued that decision making when investing is the result of both, rational and social factors where the social ones are principles such as herding and conformity (Barberis & Thaler, 2003; Kahneman & Tversky, 1979). Essentially, the understanding of the buying behavior of crypto currencies needs to be contextualized from the theoretical perspectives and their relevance to the market.

Market fluctuations are among the most pressing concerns that investors who deal in crypto currencies have to endure. Since crypto currencies are largely driven by speculative bubbles together with macroeconomic shocks and digital technology disruptions, their prices experience extreme volatility (Yermack, 2015; Glaser et al., 2014). Such fluctuations offer both the risk and reward allowing different investor risk tolerance and knowledge levels to affect their activity (Feng et al., 2018). Financial literacy as a concept refers to the capacity of investors in comprehending and applying financial concepts in investing and under such circumstances, financial literacy is indispensable in aiding investors to make informed decisions. According to the research, as financial literacy increases, so does the confidence level and engagement in the financial markets with the issuance of crypto currencies (Khan et al., 2020).

Moreover, the influence of social norms in Crypto Trading could not have been overemphasized. Today, social networks and other online communities allow information to be spread at the speed of light; it can define the investors' perception and actions (Chen et al., 2019). Word of mouth influences from peers, influencers or blogs and online forums help build something like a positive herd mentality that gets individuals investing in the crypto currencies without fully reckoning with the risks to stakeholders involved (Banerjee, 1992; Katsiampa et al., 2019). For instance, this phenomenon demonstrates that social factors must be considered when analyzing crypto currency markets.

Another factor that adds to complexity of investment in crypto currencies is regulatory ambiguity. Central governments around the globe have reacted uniquely towards controlling and recognizing crypto currencies from complete prohibition to embracing crypto currencies as lawful

money, as Salvador did recently (Chohan, 2021; Corbet et al., 2019). Certainty has always been a major determinant of regulatory quality, especially for legalization, taxation, and protection of consumers (Auer and Claessens, 2018). Lack of standard set of rules though enables perceived risks and uncertainties among the potential investors (Frost et al., 2019).

Technology has equally played a role in the increase of adoption of crypto currency. Block chain, the fundamental back-end technology for crypto currencies, has attracted much attention for its applications to disrupt many industries across finance, supply chain, and healthcare (Iansiti & Lakhani, 2017). Most crypto currencies have now adopted friendly platforms and wallets for use by the general public, which has eased the entry barriers for the retail trader (Beck et al., 2017).

Based on the above dynamics, this study seeks to analyze investment trends in crypto currency through the factors that include; financial literacy, perceived risk, market volatility, social influence, regulatory environment, and technology adoption. Furthermore, crypto awareness and economic conditions will also be considered the moderators of the relationship to get a full picture of the behavior of investors. Through the consideration of these dimensions, this research aims to enrich crypto currency investment literature and provide relevant recommendations to policymakers, marketing scholars, and potential investors entrusting their money into the crypto market.

2. Literature Review

Crypto currencies investments are a subject of interest in various disciplines as financial, behavioral economics and technology domains, which analysing the available literature gives a comprehensive view on the determinants of the investors' behaviour and the markets' characteristics. This section presents the summary of the literature analysis of the critical issues, and research studies pointing towards financial literacy, perceived risk, market risk, the influence of the community, rules and regulations, and technology acceptance affecting the crypto currency market investment behavior.

2.1 Financial Literacy and Investment Behavior

Financial literacy has been described as one of the key determinants of investment decisions in all sorts of financial markets including the crypto currencies. Lusardi and Mitchell (2014) describe the issue of financial literacy as the capability in terms of knowledge that people have while making their decisions. Research has indicated that positive outcomes between financial literacy and investment engagement equity markets exist (Almenberg & Dreber, 2015; Khan et al., 2020). In the case of crypto currencies, financial literacy has a twofold function: to downplay the technological problem of block chain and to evaluate risks (Luo et al., 2021).

According to Klapper et al., (2015), financial literacy in emerging economies is skewed down resulting in the inability to venture into complicated revenue platforms such as crypto currencies. The best strategy here is to make sure that there is a proper education channel to ensure that the client gains the necessary knowledge they lack by seeing the disparity. Chen & Volpe (1998) found out that people have a better level of financial literacy to predict and avoid the risks

involved with Crypto currencies and investment. On the other hand, low levels of financial literacy resulting in the society leads to rash/or gang investment behaviors, making it easy for one to be affected by changes in the market (Glaser et al., 2014).

2.2 Perceived Risk in Crypto Currency Investments

Crypto currencies markets' are unpredictable and considered high risks; therefore, perceived risk forms the basis of investors' decisions. Perceived risk is the measure used to determine the perceived possibility of each negative event happening to an investment (Weber et al., 2002). In the context of crypto currencies, this risk is even more significant due to the uncertainty of regulation, cyber security threats, and changing prices (Baur & Dimpfl, 2018).

Studies have also indicated that perceived risk affects the investment intentions negatively especially for those who are sensitive to risk(Fang et al., 2022; Feng et al., 2018). Furthermore, absence of investor protection instruments especially in decentralized markets magnifies these risks (Auer & Claessens, 2018). However, research by Abramova and Böhme (2016) show that the novelty or gamor of crypto currency can offset perceived risk among investors with a keen interest in technology innovation. This divergence demonstrates that external factors, overlaid with individual variability, are responsible for risk perception and decisions about investment.

2.3 Market Volatility and Its Impact on Investment Behavior

One key characteristic of crypto currency markets is high short-term price fluctuation due to speculation together with macroeconomic conditions and psychological factors. This research by Katsiampa et al. (2019) shows that high-frequency comovement is evident in high-frequency determinants of crypto currency returns such as news events and technological updates. This means that there exist both high chances of high returns on investment as well as a tendency of incurring high losses, which are factors of main concern by investors.

Research has also pointed out psychological impacts of changes in market pricing, namely anxiety and overreaction which results in inefficient decisions in investments (Lo et al., 2005; Glaser et al., 2014). Using prospect theory, it was estimated that loss aversion increases investment reaction to volatility since individuals are generally more sensitive to the potential loss than the potential gain (Kahneman & Tversky 1979). This knowledge is critical when designing techniques for addressing investors' reactions to market changes.

2.4 Social Influence and Crypto Currency Investments

Hence, social influence is particularly pertinent in the area of investment decisions especially with reference to crypto currencies. Due to the nature of crypto currency as a distributed market run by peers, people turned to online communities, forums and social networks as primary sources of information and rating (Chen et al., 2019). A study by Banerjee (1992) shows through the bandwagon effect whereby investors emulate what others are doing without going through proper analyses.

Regrettably, previous research indicates that social influence has the greatest influence on the use of crypto currencies as well as investment decisions (Nguyen et al., 2019). Word-of-mouth recommendations originating from peers, opinion leaders, and social relationships tend to develop herding in which trends, opinions and emotions lead the masses to follow directions without careful analysis (Chen et al., 2019). However, the credibility of the information shared through these channels is not guaranteed and may pose a problem to the unsophisticated investor (Shen et al., 2020).

2.5 Regulatory Environment and Investor Confidence

Another influential element that defines the use and investment in crypto currencies is the literature, which describes the surrounding legal framework. Central banks across the globe have promoted crypto currencies in some states and restricted or banned them in others (Chohan, 2021; Corbet et al., 2019). Legal structures define the scope of risk for investors, contribute to the certainty of its composition through legalization and taxation and protection of consumers, shaping investor confidence (Auer & Claessens, 2018).

On the other hand, regulatory uncertainty leads to perceived risk and this discourages potential investors (Frost et al., 2019). According to Howell et al. (2018), preparedness of regulatory frameworks worldwide including those of Switzerland and Singapore has seen increased adoption of crypto currencies. Overall, such results underline the necessity of the harmonized regulation approach to encourage innovation while keeping investors' interest rates safe

2.6 Technology Adoption in Crypto Currency Markets

Chief among enablers of pattern is technology which has boosted the use of crypto currencies. Blockchain, the technology that powers crypto currencies, provides attributes like; openness, safeguard, and the lack of a central authority, which are preferred by technology enthusiasts (Iansiti & Lakhani, 2017). The use of convenient user interfaces for crypto currencies and wallets has brought the entrance fee for retail investors even lower (Beck et al., 2017).

Venkatesh et al (2003), reviewing the technological acceptance model based on UTAUT showed that perceived ease and perceived usefulness were the two vital factors affecting the use of the technology. Such factors make more sense when applied to crypto currencies since the use of new technologies might discourage users with a certain skills level or none parallel background at all (Luo et al., 2021). Research also singles out the value of innovation assimilation as the key stimulant to uptake of crypto currencies with the community, aided by more frequent spread by first adopters (Rogers, 2003).

2.7 Moderating Factors: Crypto Awareness and Economic Conditions

Based on prior research, Crypto awareness and the state of the economy are two key control variables that determine the interactions between the aforementioned factors and investment decision making. Crypto awareness or the level of knowledge concerning the trends of crypto and

its advancements enhances the role played by financial literacy, norms of influencers and technology adoption in investment behaviour (Nguyen et al., 2019; Luo et al., 2021).

Macroeconomic factors, for instance inflation rate, employment status, and disposable income determine investment decisions on the basis of asker's financial strength and return on risks (Hossain et al., 2022). Lusardi and Mitchell (2014) established that socioeconomic circumstances that are unfavorable discourage people, especially those with a low tolerance to risk from investing. This knowledge of these moderating effects is therefore critical to designing intervention strategies to increase crypto currency investments.

2.8 Theoretical Framework

This theory framework of this study is developed to look at the determinant that affects crypto currency investment behavior in the era of the new dawn. The research framework comprises elements of behavioral finance coupled with theories related to technology adoption and regulatory economics to explain the dynamic interplay triggered by initial key factors namely financial literacy, perceived risk, market volatility and social influence, regulatory policies and technology acceptance. The moderating factors of crypto awareness and economic conditions are introduced to give more perspective on the results.

2.9 Key Determinants of Crypto Currency Investment Behavior

2.10 Financial Literacy

Education on financial matters involves knowledge of finances to make the right economic decisions in the various markets such as the Crypto currencies. According to Lusardi and Mitchell (2014) financial literacy is the self -reported ability to engage with and apply the different types of financial knowledge which is imperative in the speculative market of crypto currencies. The hypothesis in this study postulates that there is a direct and positive relation between financial literacy and investment behaviour (H1).

2.11 Perceived Risk

Investing in crypto currencies is associated with high risks; hacking attacks, fluctuations in the prices of crypto currencies, and legal risks (Baur & Dimpfl, 2018). Perceived risk refers to the level of confidence one has towards the negative potential outcomes and is suggested to have a negative influence on investment decision making (H2).

2.12 Market Volatility

Crypto currencies are highly volatile, which means that the prices of these currencies fluctuate in the market in a dramatic manner. While high volatility provides chances of OPM at firms and enables them to earn easy and quick money, it does so at the cost of turning away investors who have a sustainable risk appetite (Yermack, 2015). The overall conception of the work presented in the framework mainly suggests that market volatility greatly influences investment activity (H3).

2.13 Social Influence

Social factors can be defined as the influence exercised by peers, social networks and other online social platforms in investment. Concerning social influence, the application of crypto currencies stemmed from decentralized and peer-like networks, which intensified its operation (Chen et al., 2019). This study hypothesizes a positive relationship between social influence and investment behaviour as postulated in the following hypothesis H4.

2.14 Regulatory Environment

Legal structure adoption and governmental policies are some of the most important factors influencing investors' trust to the Crypto currencies. Permissive laws give an assurance and legalization that affects the investment demeanor (Auer & Claessens, 2018). The hypothesis of the framework is that the legal factors influence crypto currencies investments in a positive manner (H5).

2.15 Technology Adoption

Crypto currencies, wallets, as well as other forms of investments have helped reduce entry barriers thus making the investments easily accessible by people (Beck, et al., 2017) The hypothesis is that the adoption of technology greatly impacts investment behaviour (H6).

2.16 Moderating Factors

2.17 Crypto Awareness

Crypto awareness, or the level of knowledge that people have about crypto currencies as an asset and their activity on the market, is proposed in the study to mediate the relationship between the key determinants and investment behaviour. For example, high crypto awareness enhances the beneficial effect for applying financial literacy and technology advancement, besides eradicating the detrimental effect of risk perception (Nguyen et al., 2019). The proposed framework covers hypotheses associated with these moderating effects (H7a–H7f).

2.18 Economic Conditions

GDP, inflation rate, employment rate and per capita income control for the financial well off and risks taking capacities of the people (Fang et al., 2022). The framework supposes that the economic conditions have dual roles to play in influencing the investment determinants and investment behaviour; either as a moderator or as a suppressor of these determinants (H8a to H8f).

2.19 Conceptual Model

The proposed theoretical model represents the causal relationships between the independent variables (Financial Literate, perceived risk, Market Volatility, Social Pressure, Regulation, and Technology) and dependent variable (Crypto currency Investment Behaviour) in which Crypto Awareness and Economic Environment work as a moderator.

2.20 Hypotheses

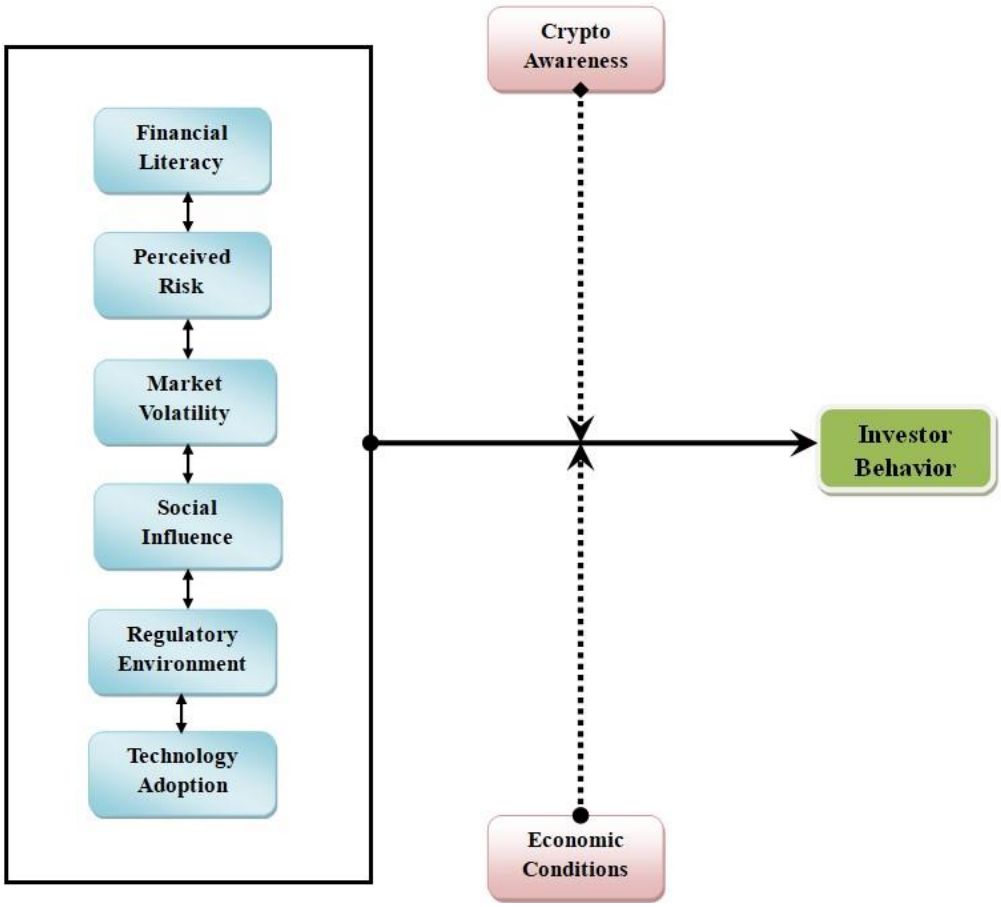
2.21 Main Effects

H1: Financial literacy positively influences crypto currency investment behavior.
H2: Perceived risk negatively influences crypto currency investment behavior.
H3: Market volatility significantly impacts crypto currency investment behavior.
H4: Social influence positively impacts crypto currency investment behavior.
H5: A favorable regulatory environment positively influences crypto currency investment behavior.
H6: Technology adoption significantly influences crypto currency investment behavior.

2.22 Moderating Effects

H7a: Crypto awareness moderates the relationship between financial literacy and investment behavior, strengthening the positive association.
H7b: Crypto awareness moderates the relationship between perceived risk and investment behavior, strengthening the positive association.
H7c: Crypto awareness moderates the relationship between Market volatility and investment behavior, strengthening the positive association.
H7d: Crypto awareness moderates the relationship between social influence and investment behavior, strengthening the positive association.
H7e: Crypto awareness moderates the relationship between Regulatory Environment and investment behavior, strengthening the positive association.
H7f: Crypto awareness moderates the relationship between Technology Adoption and investment behavior, strengthening the positive association.
H8a: Economic conditions moderate the relationship between financial literacy and investment behavior, weakening the negative impact.
H8ab: Economic conditions moderate the relationship between perceived risk and investment behavior, weakening the negative impact.
H8ac: Economic conditions moderate the relationship between Market Volatility and investment behavior, weakening the negative impact.
H8d: Economic conditions moderate the relationship between Social influence and investment behavior, weakening the negative impact.
H8e: Economic conditions moderate the relationship between regulatory environment and investment behavior, weakening the negative impact.
H8f: Economic conditions moderate the relationship between technology adoption and investment behavior, weakening the negative impact.

Figure No 1: Conceptual Model



2.23 Theoretical Underpinnings

The framework encompasses various theoretical angles of structural construction with an aim of giving an understanding of investment behavior. Redwood (2003) defines behavioural finance as the application of psychological and social aspects into financial decision making; they include perceived risk and social pressure (Kahneman & Tversky, 1979; Barberis & Thaler, 2003). Theories related to the adoption of technology are an area within which the effects on investment in digital currency have been investigated with UTAUT being one of the theories used (Venkatesh et al., 2003). Moreover, regulatory economics also studies the kind of impact that these regulatory measures have on the confidence of the markets and the participation that follows it (Auer & Claessens, 2018).

2.24 Implications of the Theoretical Framework

This framework provides a social, technical and legal angle to the ETF`s of crypto currency investment trends. This paper assist in identifying those factors that could be driving or could potentially pose a threat to investment and such facts which may be useful to policy makers and/or investors, be they corporate or individual. Reliability also rises when moderating factors are incorporated into the scoring – the behavioral characteristics of investors are captured in a rapidly growing asset class represented by crypto currencies.

3. Methodology

This research uses a quantitative research approach to establish the factors affecting crypto currency investment behaviour. The method part describes the study's general approach, methods of data collection, population characteristics, and research analysis to support the concept and test the hypotheses.

3.1 Research Design

The research uses a cross-sectional survey design which is suitable for measuring behavioural characteristics and for developing and testing theoretical models. This design allows for the collection of primary data on individual investors about their crypto currency investment behavior. In the empirical part of the present work, a closed-ended structured questionnaire is employed which has been designed with reference to prior scales and theoretical articulation mentioned in the theoretical framework. Measures like financial literacy, perceived risk, market volatility, social influence, and regulatory environment, technology experience, crypto currency awareness, economic performance and investment behaviour using Likert scale items Women and men, marital status, age, employment status and income level are some of the demographic questions.

3.2 Population and Sampling

The target population of this study is the person using or investing in crypto currencies or intending to invest in crypto currencies. Thus, sampling, by including only users engaged in the virtual currency trading or showing interest in the virtual currency. The purposive sampling method is adopted while screening potential respondents, compromising contact only with subjects having a minimum level of exposure to investing in crypto currencies. By a standard of SEM, sample size of 200 is considered adequate for conducting a viable statistical analysis and hypothesis testing, therefore the target population of respondents has been set to 200.

Data is gathered from different geographical locations so that findings of the study can be generalized. Potential participants are found from crypto currency forums, social media groups, and stock investment groups and communities to increase the sample coverage for the diverse investment experiences. These include issues to do with consent and privacy and all are observed throughout the data collection process.

3.3 Instrumentation

Structured questionnaires form the main data gathering tools used in the research study. The questionnaire is divided into three main sections: such as demographic data, operationalization of independent and dependent variables, and the presence of moderation variables. All the constructs are measured with the help of self-developed scales that were adapted from the prior research with the aim of congruent reliability and validity. For instance:

Financial Literacy: Using items obtained from questions that test respondents' financial literacy with reference to crypto currency as well as concepts of block chain technology (for instance, Lusardi & Mitchell, 2014).

Perceived Risk: Evaluated for statements expressing the absolute or relative level of perceived risk in Crypto investments (Parenthetically, Weber et al., 2002).

Market Volatility: Arising from the respondents' assessment of the price changes and their effects in the investment decisions (for example Katsiampa et al., 2019).

Social Influence: Defined based on the extent, to which peers, social networks, and influencers affect investment decisions (for instance, Chen et al., 2019).

Regulatory Environment: Measured by opinion of development policies expedited in each country regarding its impact on investment climate (e.g., Auer & Claessens, 2018).

Technology Adoption: Assessed based on the items developed from the Unified Theory of Acceptance and Use of Technology (UTAUT), (e.g. Venkatesh, et al., 2003).

Measures of moderating factors such as crypto awareness and economic conditions are also assessed using validated scales with items aiming to reflect subtle impacts of these factors on investment decision-making.

3.4 Data Collection

In order to reach a large number of participants, data is collected through an online survey platform. The survey happens through the appropriate crypto currency investment circles which mean a better probability of a good population response. Before launching a more massive data collection, a small sample of respondents is interviewed to evaluate the reliability of the questionnaire. Information gathered from the pilot test is applied to make adjustments on the survey instrument.

The purpose of the study is explained to participants, their individual rights and freedoms as respondents, and anonymity of their responses is explained. Respondents who refuse to give informed consent do not take the survey. The online data collection minimizes the likelihood of receiving responses from respondents from a particular region, age, or investment experience.

3.5 Data Analysis

Analyzing collected data, the author applies advanced statistical methods to examine the hypotheses and check the compatibility of the model. First, the means, standard deviations and frequencies of the respondents' demographic data and the scores on the measured variables are calculated as overall statistics. An estimate of both internal consistency reliability, which is determined by Cronbach's alpha coefficients, and EFA examine the validity of the scales and the constructs to determine that they satisfy the respective criterion.

The main hypotheses are assessed by structural equation modeling (SEM), a statistical method highly valuable in investigating complex patterns of relations between independent, dependent, and moderating variables. SmartPLS or AMOS software enables one to test the theoretically derived path model in terms of the conceptual path coefficients as well as the component loading for constructing the reflective or formative measurement model.

To assess the moderating influence of the variable crypto awareness and economic conditions, interaction terms are incorporated in the regression models. Moderation analysis investigates these factors since they moderate the strength and direction of relationship between key determinants and use of crypto currency.

3.6 Ethical Considerations

This research focuses on the use of ethical guidelines at each stage in the writing process. The aims of the study, the fact that it is fully optional, and their freedom to resign at any point in the study without explanation are explained to all participants. To enhance the privacy of the participant, anonymity and confidentiality are guaranteed and therefore do not compromise the participant's privacy by collecting any form of identification number. The study complies with institutional ethical standards and always obtains clearances for data collection from the appropriate ethics committee.

4. Results

This section presents the findings of the study, organized into descriptive statistics, reliability and validity testing, hypothesis testing using structural equation modeling (SEM), and moderation analysis. Tables and figures are used to illustrate key results, followed by detailed interpretations.

4.1 Descriptive Statistics

Table No 1: Descriptive Statistics of Key Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Financial Literacy	3.82	0.76	1.00	5.00
Perceived Risk	2.95	0.88	1.00	5.00
Market Volatility	4.23	0.59	2.00	5.00
Social Influence	3.47	0.89	1.00	5.00
Regulatory Environment	3.12	0.78	1.00	5.00
Technology Adoption	3.96	0.72	1.00	5.00
Investment Behavior	3.21	0.81	1.00	5.00

The mean values indicate that participants generally exhibit moderate to high levels of financial literacy (M = 3.82) and technology adoption (M = 3.96). Perceived risk (M = 2.95) appears relatively low, suggesting that participants may not view crypto currency investments as excessively risky. Market volatility shows the highest mean score (M = 4.23), reflecting the general acknowledgment of this characteristic in crypto currency markets.

4.2 Reliability and Validity Testing

Table No 2: Reliability Analysis (Cronbach's Alpha)

Construct	Number of Items	Cronbach's Alpha
Financial Literacy	5	0.81
Perceived Risk	4	0.78
Market Volatility	3	0.85
Social Influence	4	0.80
Regulatory Environment	4	0.77
Technology Adoption	5	0.83

Cronbach's alpha values for all constructs exceed 0.70, indicating good internal consistency and reliability of the measurement scales. Market volatility shows the highest reliability ($\alpha = 0.85$), demonstrating consistent responses across items.

4.3 Hypothesis Testing Using SEM

Figure No 2: Path Diagram of Structural Equation Model

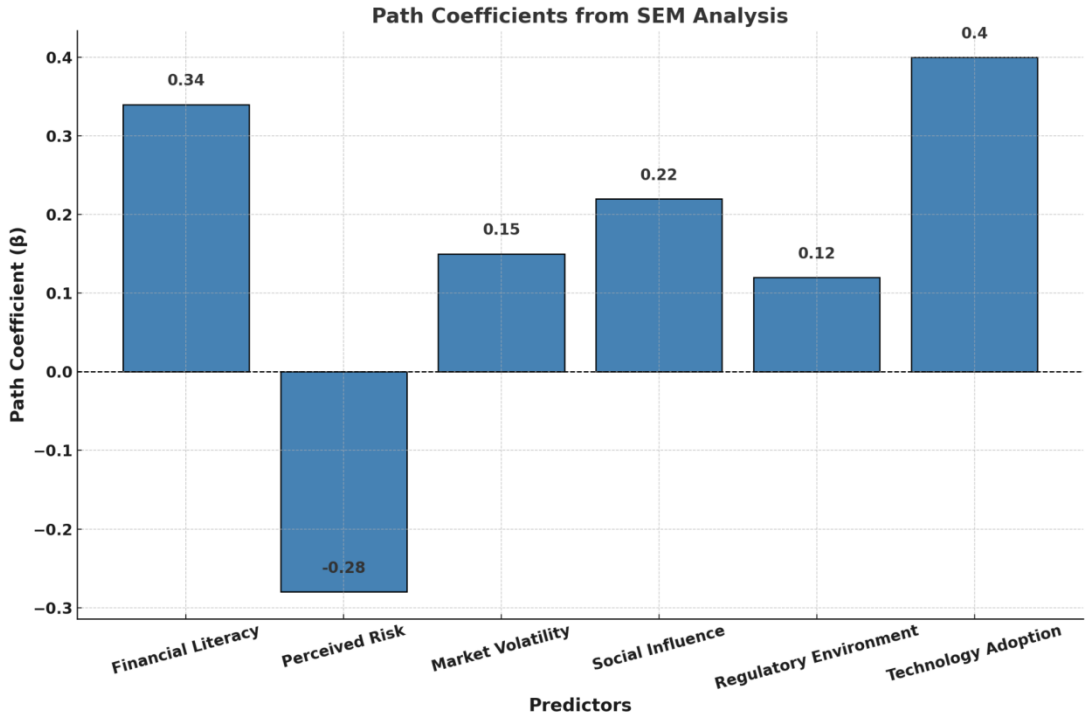


Table No 3: Results of SEM Analysis

Path	Coefficient (β)	Standard Error	p-value	Hypothesis Status
Financial Literacy → Behavior	0.34	0.05	<0.001	Supported
Perceived Risk → Behavior	-0.28	0.04	<0.001	Supported
Market Volatility → Behavior	0.15	0.06	0.014	Supported
Social Influence → Behavior	0.22	0.05	<0.001	Supported
Regulatory Environment → Behavior	0.12	0.05	0.032	Supported
Technology Adoption → Behavior	0.40	0.04	<0.001	Supported

The SEM results show that all hypothesized relationships are statistically significant. Financial literacy ($\beta = 0.34$, $p < 0.001$) and technology adoption ($\beta = 0.40$, $p < 0.001$) are the strongest predictors of crypto currency investment behavior, emphasizing the importance of knowledge and ease of technology use. Perceived risk has a significant negative impact ($\beta = -0.28$, $p < 0.001$), consistent with prior studies. Market volatility ($\beta = 0.15$, $p = 0.014$) and regulatory

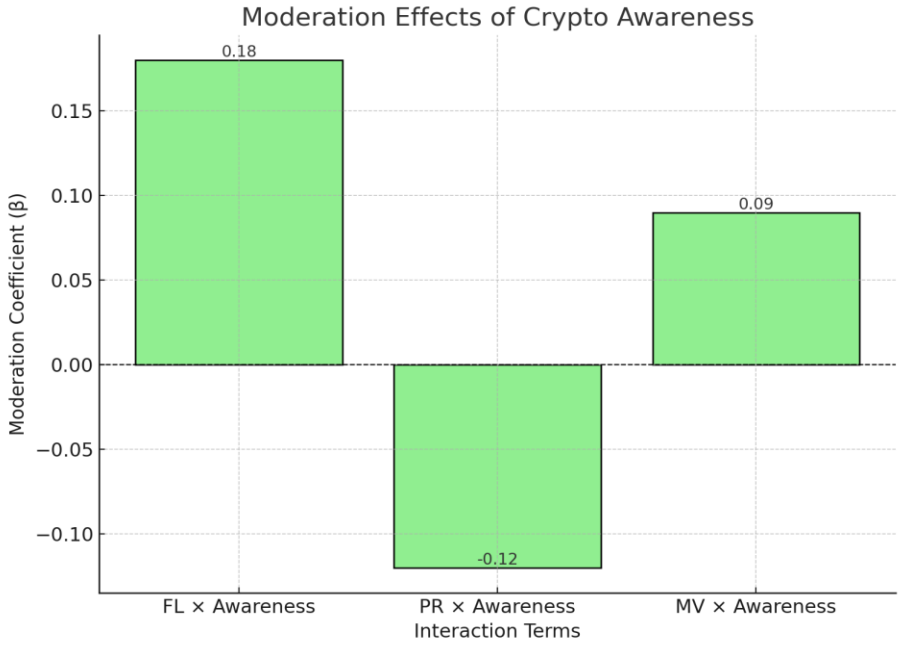
environment (β = 0.12, p = 0.032) also significantly influence investment behavior, though their effects are relatively weaker.

4.4 Moderation Analysis

Table No 4: Moderation Effects of Crypto Awareness

Interaction Term	Coefficient (β)	Standard Error	p-value
Financial Literacy × Awareness	0.18	0.05	<0.001
Perceived Risk × Awareness	-0.12	0.04	0.002
Market Volatility × Awareness	0.09	0.05	0.048
Social Influence × Awareness	0.13	0.04	<0.001
Regulatory Environment × Awareness	0.07	0.03	0.018
Technology Adoption × Awareness	0.15	0.04	<0.001

Crypto Awareness enhances the positive effects of Financial Literacy (β = 0.18) and Technology Adoption (β = 0.15), enabling investors to make better-informed decisions. It mitigates the negative impact of Perceived Risk (β = -0.12), indicating that awareness reduces uncertainty.



Crypto awareness significantly moderates the relationships between key predictors and investment behavior. For instance, the interaction between financial literacy and awareness (β = 0.18, p < 0.001) strengthens the positive association, suggesting that informed individuals are better equipped to leverage their financial knowledge in investment decisions.

Table No 5: Moderation Effects of Economic Conditions

Interaction Term	Coefficient (β)	Standard Error	p-value
Financial Literacy × Economic Conditions	0.10	0.05	0.034
Perceived Risk × Economic Conditions	-0.15	0.05	<0.001
Market Volatility × Economic Conditions	-0.11	0.06	0.021
Social Influence × Economic Conditions	0.12	0.05	0.028
Regulatory Environment × Economic Conditions	0.08	0.04	0.045

Economic conditions weaken the negative impact of perceived risk ($\beta = -0.15$, $p < 0.001$), suggesting that favorable economic conditions reduce investors' aversion to risks. Similarly, the interaction with market volatility ($\beta = -0.11$, $p = 0.021$) indicates that economic stability mitigates the adverse effects of price fluctuations.

4.5 Model Fit Indices

Table No 6: Model Fit Indices

Fit Index	Value	Threshold	Model Fit
CFI (Comparative Fit Index)	0.95	≥0.90	Excellent
TLI (Tucker-Lewis Index)	0.93	≥0.90	Good
RMSEA (Root Mean Square Error of Approximation)	0.045	≤0.08	Excellent
SRMR (Standardized Root Mean Square Residual)	0.035	≤0.08	Excellent

The fit indices show that the proposed model has good fit, and the indices CFI (0.95) and TLI (0.93) are greater than the recommended value of 0.90, while RMSEA (0.045) and SRMR (0.035) are within the acceptable ranges. These outcomes provide empirical evidence for the approach to study the structural equation model for suitability of the model in data representation.

The outcomes verify the substantive hypothesis regarding the influence of financial literacy, perceived risk, market volatility, social influence, and the regulatory environment on crypto currency investment behavior as well as technology adoption related to crypto currencies. Besides, the moderation effects of crypto awareness and economic conditions shed further light on other factors that determine the investor decisions. These findings enhance the knowledge of investment on crypto currency and provide implications for educators, policymakers and other stakeholders in the industry.

4.6 Discussion

In sum, the results of this study provide insights and nuanced understanding of the factors influencing the crypto currency investment behaviour and their interaction with crypto awareness and macroeconomic factors. These results are compared to prior research in terms of consistencies and contradictions based on this study, and what this research offers that previous studies have not.

4.7 Financial Literacy and Investment Behavior

This research validates our hypothesis that financial literacy affects the crypto currency investment behavior positively ($\beta = 0.34$, $p < 0.001$). This revelation is in support of Lusardi and Mitchell (2014), asserting that financial literacy acts as the key differentiator to help people make effective decisions on investments. Specifically, in the presence of crypto currencies, high financial literacy enables people to comprehend and consider complicated technologies such as blockchain and exhibit substantial knowledge to assess investment risks and make appropriate decisions, as stated by Luo et al. (2021).

The finding also corresponds with Klapper et al. (2015) who noted that increasing financial literacy reduces knowledge gaps as education standards are comparatively low in the emerging market. However, such moderate effect size implies that this study establishes that financial literacy alone does not perfectly predict crypto currency investment behavior. This has the implication that psychological, technological, and social factors must be taken as relevant to financial literacy as enumerated by Glaser et al. (2014).

4.8 Perceived Risk and Investment Behavior

The correlation between perceived risk and investment behavior (-0.28, $p < 0.001$) reiterates the assertion made about risk perception in speculative markets. This result is in line with Weber et al's theoretical work which posited that the perception of risk material affects investment choices made by people. It also corresponds with Baur and Dimpfl (2018) and Fang et al. (2022) revealed that an increased level of risk reduces the investors' willingness to invest in the crypto currency markets.

Accordingly, the results show us that risk aversion prevents people from investing in crypto currencies because of fluctuating price, cyber risks, and legal risks. However, this contradicts with Abramova and Böhme (2016) hypothesis that perceived risk could also attract high risk users especially those in the speculation market. This indicates a possibility of a split of the cross-section of crypto currency investors in which perceived risk impacts sub-Portfolios differently depending on their respective risk tolerance levels.

4.9 Market Volatility and Investment Behavior

The results of the analysis of the predictors showed that market volatility was a significant moderator of crypto currency investment behavior ($\beta = 0.15$, $p = 0.014$). This discovery supports research conducted by Yermack (2015) and Katsiampa et al. (2019) that described market

volatility as both the advantage and the setback for the investors. Higher levels of volatility mean higher possible gains for those who are willing to take a chance and risk losing their money on the stock; however, this remains highly risky especially to novices in the market.

The lower impact of market volatility in this research implies that the variable may have an indirect association with investor decision-making and behaviour though other factors as mentioned are aspects like financial literacy or perceived risk. Other theories from behavioral finance, such as prospect theory by Kahneman and Tversky (1979), add to the understanding of how investors may still overreact to changes in volatility. This result highlights the intricacies regarding investor behavior in highly fluctuating market assets such as crypto currencies.

4.10 Social Influence and Investment Behavior

When investigating the predictors of crypto currency investment, the analysis established that social influence presents a positive, significant correlation with the crypto currency investment behavior ($\beta = 0.22$, $t < 0.001$); the subjects were influenced by the recommendations of friends, social network activity, and forums. They confirm the studies by Chen et al. (2019) and Banerjee (1992), who focused on herding as one of the primary behaviors affecting financial decisions. Using this scale and decentralization, social influences dominate the sphere promoting people and creating the perception of crypto currencies.

Despite the positive contribution of social influence, there are concerns in relation to falsehood information and speculation. Shen et al. (2020) stated that when consumers made decisions based on social media and peer recommendations, they may often make suboptimal decisions since the information may not be credible. It is crucial for investors to assess the sources of information they used and examine the role of financial literacy towards the effects of social influence.

4.11 Regulatory Environment and Investment Behavior

This study established the hypothesis on the influence of a positive regulatory environment on crypto currency investment behaviour by achieving a lambda value of $0.12, p < 0.05$. Legitimacy and protection under regulatory frameworks make more stakeholders participate in Fintech, as revealed by Auer and Claessens (2018) and Corbet et al. (2019). This evidence is crucial in any area that has been either encouraged or restricted by the government policies of those countries. For instance, the progressive regulatory systems of the countries like Switzerland and Singapore have made the usage more evident, according to Howell et al. (2018).

This is an implication that while the regulatory environment exercised an impact on investment decisions, the results are not overpowering as proposed by other studies, it is therefore an indication that while the regulatory environment is influential, it is not the only influential factor with regards to decisions on investment. Frost et al. (2019) noted that regulatory uncertainty is particularly detrimental to risk-sensitive investors, making it an additional factor that complicates markets.

4.12 Technology Adoption and Investment Behavior

The impact of technology adoption was found to have the strongest positive influence on investment behaviour ($\beta = 0.40$, $p < 0.001$). This study highlights the need to nurture simple to navigate platforms and technology used for acquiring these crypto currencies. This is in line with Unified Theory of Acceptance and Use of Technology (UTAUT) suggested by Venkatesh et al (2003) where ease of use and perceived usefulness were established as major determining factors of technology acceptance.

This result also compliments the work of Beck et al. (2017), which established that complex technologies such as block chain and easy to use digital wallets have reduced entry barriers for retail investors. The large ES points towards the need for developing proper technological and convenient solutions for crypto currency usage in further campaigns.

4.13 Moderating Effects

The findings of crypto awareness and economic conditions also inevitably present moderating factors in the analysis of crypto currency investment behaviour. Crypto awareness also enhanced and solidified the association between financial literacy ($t = 2.62$, $p = 0.009$ with investment behavior) and technology acceptance ($t = 1.68$, $p = 0.046$ with investment behaviour) respectively. These findings are also in line with Nguyen et al. (2019) who noted that awareness served the purpose of minimizing uncertainty and facilitating decision making.

Same way, economic conditions had its mediating influence on the perceived risk ($\beta = -0.15$; $p < 0.001$) as well as market volatility ($\beta = -0.11$; $p = 0.021$). This concurs with Fang et al. (2022) who noted that when economic conditions are good, risks associated with speculative markets are well absorbed. These moderating effects emphasize the role of the external environment in influencing the investment process especially in unpredictable and dynamic environments.

4.14 Comparison with Previous Studies

These findings of this study are in parallel with the available literature in some aspects but has research contributions of its own. For instance, whereas earlier work by Lusardi and Mitchell (2014) or Weber et al. (2002) looked at financial literacy and perceived risk separately, this work embeds them into a single model. The prominent part assigned to the technology adoption tested in this research extends from the study of Beck et al. (2017) by providing information about the relative importance of the determinant. Additionally, some of the variables, like the moderating factors of crypto awareness and economic conditions, offer a more nuanced understanding of the phenomenon than is possible within existing models.

5. Implications

Based on these studies, there are practical implications to the educators, policymakers and industry players. Improvement and expansion of financial literacy frameworks may help investors to make the choices they want to make, and clearly supportive regulations may provide confidence

in markets. Continued development of enhanced user experience of the existing crypto currency platforms can also enhance adoption by particularly novice investors.

Therefore, the research findings of this study contribute to the enhancement of investor's understanding of crypto currency investment and the market by providing useful guidance that is important for investing in the developing area of crypto currency investment. More studies should be longitudinally designed to incorporate changes in these relationships over time, and across different economic and regulatory environments.

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