

The determinants of the intention to use cryptocurrency for financial transactions: The mediating role of perceived risk in the UTAUT framework

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Abstract: Cryptocurrency is experiencing exponential growth, attaining a total market capitalization of 3.86 trillion dollars in 2025. The research focuses on examining the factors affecting the intention to use cryptocurrency for financial transactions in Lebanon. In a high-risk economy where trust in banks has been devastated since the 2019 banking crisis, it is crucial to analyze the factors that influence the willingness to adopt cryptocurrencies. This study employs the partial least squares method, the SEM model, and the bootstrapping technique on a sample of 400 Lebanese entrepreneurs and business owners who either use cryptocurrencies or intend to include them in their firm's financial activities. By examining the relationship between independent variables such as social influence, financial literacy, and perceived risk, and their impact on the intention to use cryptocurrency for financial transactions, the research contributes to both academic understanding and practical implications regarding the adoption of this innovative technology in emerging countries. Empirical results indicate that social influence and financial literacy significantly affect the intention to adopt cryptocurrencies. However, perceived risk did not diminish the willingness to adopt cryptocurrencies. This study addresses a gap in the literature by highlighting the factors influencing the intention to use cryptocurrencies for financial transactions in Lebanon.

Keywords: Behavioral intention, Cryptocurrency, Financial literacy, Perceived risk, Social influence, Structural equation modeling.

1. Introduction

The cryptocurrency market has developed significantly over the past decade, reaching a new record in October 2025 with a market capitalization of \$3.86 trillion, driven by Bitcoin and other factors [1]. Cryptocurrency, which emerged in 2009, refers to decentralized digital currencies that utilize encryption for transaction verification. Cryptocurrencies are digital tokens created through cryptographic algorithms and are transferred via cyberspace and blockchain protocols [2]. Individuals using digital currency are rewarded through transaction fees [3]. Cryptocurrency leverages blockchain technology, where information cannot be modified or tampered with [4]. In addition, it facilitates decentralized monetary transactions, enhancing business efficiency while reducing operational time and costs [5]. Bitcoins have been raised at exponential rates and have changed the way the world economy works since transactions are safe, fast, and traceable [6].

Developing nations are extensively employing digital currencies because they offer an opportunity to modernize and democratically transform their economies and connect with the "unbanked" population [7]. Cryptocurrencies help entrepreneurs gain more control over their own finances. This makes them an appealing choice for people in countries where trust in banks and the financial system is diminished [8].

Although cryptocurrency offers a plethora of benefits for its users, it has many drawbacks, such as the risks that come with digital currencies, the technical and financial difficulties of using them, and the fact that people aren't sure how owning them would affect their social status [9]. There are ongoing concerns regarding the predictability of the dynamic behavior of crypto assets and the applicability of market parameter forecasts in trading strategies aimed at achieving higher profits [10].

While cryptocurrency adoption in certain emerging markets and underdeveloped economies has surpassed that of developed economies [11], limited research has focused on the factors influencing cryptocurrency adoption in developing regions [12]. This study addresses the need to investigate the main factors that influence the intention to adopt and use cryptocurrency in the Lebanese market for financial transactions.

2. Materials and Methods

2.1. Theoretical Background and Hypotheses Development

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh et al. [13] to predict one's intention to use a new technology or adopt a new method of payment [13] uncovered that social influence and facilitating conditions are the main antecedents influencing users to adopt technology.

This study examines the intention to use cryptocurrency for financial transactions, analyzed with the UTAUT model, which shows that the intention to adopt or use new technology can be predicted by social influences. Al-Amri et al. [14] integrated the perceived risk and financial literacy into the willingness to adopt cryptocurrencies for financial transactions and stated that the number of individuals and companies that adopt cryptocurrency technology as a financial tool and mode of payment is still very low.

2.2. Social Influence

According to Venkatesh et al. [13], social influence is the extent to which a person observes what others think of a specific system to be employed. As a result, a person's readiness to accept cryptocurrencies or use new technologies is influenced by the ideas and behaviors of their friends, family, and coworkers. Previous studies have shown that peer groups, family, and other current technology users' opinions have a major influence on an individual's behavioral intent to use and adopt a technology [15]. Based on the UTAUT model, social influence is a strong predictor of a person's intention to use new technology or adopt a new payment method [16]. According to Patil et al. [17], behavioral intention to adopt technology is positively impacted by social influence. A study conducted by Farivar et al. [18] confirmed that individuals shape their social identity within their social community, which allows them to decrease the perceived risk associated with adopting and using a new product.

Hypothesis 1: Social influence has a positive impact on the intention to use cryptocurrency for financial transactions.

2.3. Financial Literacy

Financial literacy and awareness are defined as the ability and skills of an individual to use and handle financial assets appropriately at a given time, Islam and Grönlund [19]. Hastings et al. [20] defined financial literacy as the capability to make decisions about one's finances that are in one's best interest; therefore, financial literacy makes it easier for individuals to understand the advantages of cryptocurrencies, including their potential for investment opportunities, decentralization, and financial inclusion. Dabbous et al. [21] assert that financial literacy is a crucial factor influencing cryptocurrency adoption for financial transactions. Chan et al. [22] stated that financial literacy affects the extent to which individuals understand and value the potential usefulness of cryptocurrencies.

Hence, the following hypothesis.

Hypothesis 2: Financial literacy and awareness positively influence the intention to adopt cryptocurrency for financial transactions.

2.4. The Impact of Financial Literacy on Perceived Risk

The adoption of cryptocurrency as a form of payment in the business industry poses a plethora of risks. The absence of rules, vulnerability to cyberattacks, high volatility, and lack of legal guarantees are just a few of the many factors that have hampered sectors [23]. In addition, the fluctuations in Bitcoin's value demonstrate how susceptible cryptocurrencies are to changes in the market. Additionally, many users and platforms have experienced hacker attacks regularly, which has led people to decide against adopting and utilizing cryptocurrencies. The results of empirical research indicate that the perception of risk negatively affects the propensity to accept new technology or use cryptocurrency as a strategy [18]; however, Dabbous et al. [21] reinforced that financial literacy and awareness diminish the perceived risk level because cryptocurrency users have a greater chance to use and adopt cryptocurrencies if they have a greater understanding of the new technology.

Hence, the following hypothesis is suggested.

Hypothesis 3: Financial literacy and awareness have a negative impact on Perceived Risk.

2.5. Perceived Risk

According to Abramova and Böhme [24], the term "perceived risk" describes how users view the unpredictability and potential drawbacks of using cryptocurrencies for online payments and money transfers. The four first-order constructs that make up this structure are also obtained from the factor analysis: Financial Losses (FL) are associated with possible financial losses; Legal Risk (LR) is associated with Bitcoin's ambiguous legal status and lack of widespread regulation; Operational Risk (OR) is associated with possible system vulnerabilities and the irreversibility of Bitcoin transactions; and Adoption Risk (AR) is associated with the uncertainty surrounding Bitcoin's acceptance by merchants in the future.

According to Faqih [25], financial risk is the level of financial uncertainty that results from implementing a new system or product. Numerous factors, including the lack of laws, the high degree of volatility, susceptibility to cyberattacks, and the absence of legal guarantees, have made it difficult for industries to accept cryptocurrencies as a form of payment [23]. Additionally, hackers have attacked numerous individuals and platforms on a regular basis; this makes cryptocurrency risky. Hence, the following hypothesis is suggested.

Hypothesis 4: Perceived risk has a negative influence on the intention to use cryptocurrency for financial transactions.

2.6. The Mediating Effect of Perceived Risk

According to Dabbous et al. [21], acceptance of cryptocurrencies is influenced by people's knowledge of financial technology. They also showed that users' perceived risk is reduced when they are aware of financial technologies. In a similar disposition, Mutahar et al. [26] claimed that a thorough grasp of a novel technology or system could reduce perceived risk and boost adoption. As a result, the following theory has been suggested.

Hypothesis 5: Perceived risk mediates the relationship between financial literacy and the intention to use cryptocurrency.

3. Research Methodology

3.1. Research Design

This research paper adopted a quantitative research methodology grounded in the UTAUT theory developed by Venkatesh et al. [13] to examine the antecedents of business owners' intention to use cryptocurrency for financial purposes. A five-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree) was used to measure the study variables and items. Structural Equation Modeling

(SEM) was adopted to assess the relationship between the independent variables and the dependent variable [27]. The survey was distributed online to 400 respondents using Google Forms and was sent to entrepreneurs, SME leaders, CEOs, CFOs, and business owners in Lebanon.

SMART PLS 4 was used to conduct the evaluation of the measurement model and to test and validate hypotheses. The bootstrapping technique with 5,000 iterations and a 95% bias-corrected confidence interval was used to test indirect effects [28].

3.2. Research Constructs and Items

The three construct variables of social influence, usefulness, financial literacy, and perceived risk serve as the independent variables studied to influence the intention to use cryptocurrency for financial transactions as the dependent variable. Additionally, the mediating effect of perceived risk was examined.

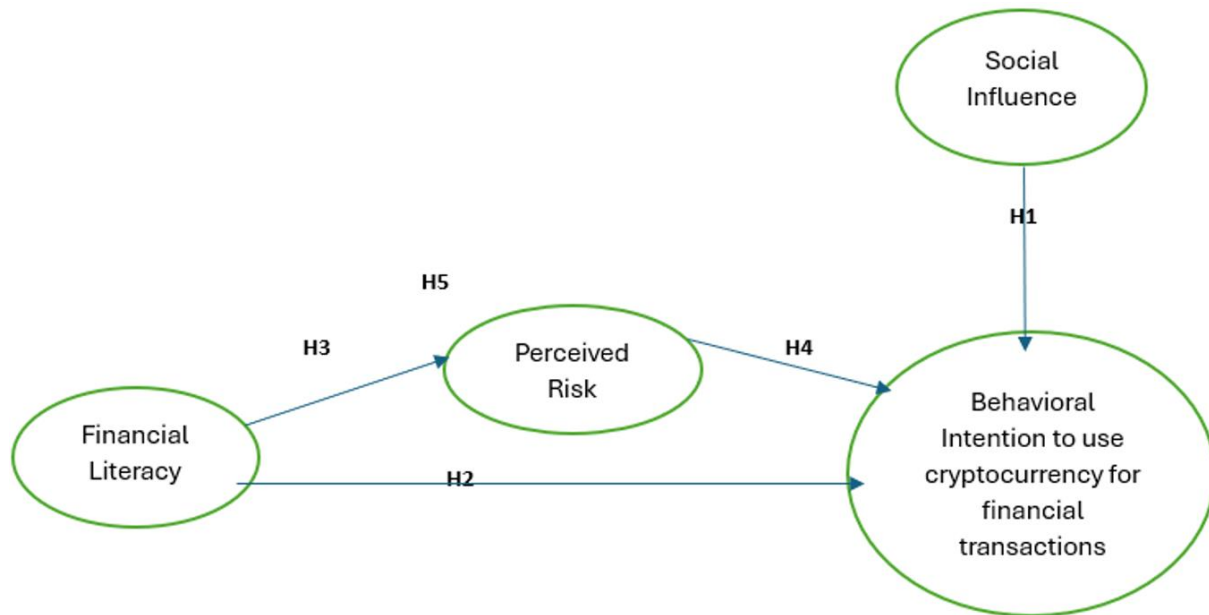


Figure 1.
Conceptual Framework created by the author.

Table 1.
Demographic Profile of Respondents (N = 400).

Attribute	Value	Frequency	Percentage
Gender	Female	155	38%
	Male	245	62%
Age	18–24	18	4.50%
	25–34	57	14.20%
	35–44	179	44.80%
	45–54	110	27.50%
	55–64	29	7.20%
	65+	7	1.80%
Marital Status	Divorced	45	11.30%
	Married	233	58.30%
	Single	117	29.30%
	Widowed	5	1.20%
Employment Type	Business Leaders – Decision Makers	86	21.50%
	CFO – Auditors	46	11.50%
	Entrepreneurs & Business Owners	80	20.00%
	Small–Medium Enterprises CEO	64	16.00%
Annual Income	\$0–\$29,999	34	8.50%
	\$120,000+	42	10.50%
	\$30,000–\$59,999	116	29.00%
	\$60,000–\$89,999	78	19.50%
	\$90,000–\$119,999	90	17.70%
Education	Bachelor Degree	151	37.75%
	High School	10	2.50%
	Less than High School	1	0.25%
	Master Degree	156	39.00%
	PhD or Doctoral Studies	71	17.75%
	Technical Diploma	11	2.75%

4. Results

Cronbach's alpha and composite reliability were used to validate the construct reliability. All Average Extracted Variance values shown in Table 2 are higher than the required minimum threshold of 0.5 [29]. Additionally, every CR and CA number is greater than 0.7, which is the lowest permissible level [30]. Consequently, the results prove that the model has adequate reliability and convergent validity.

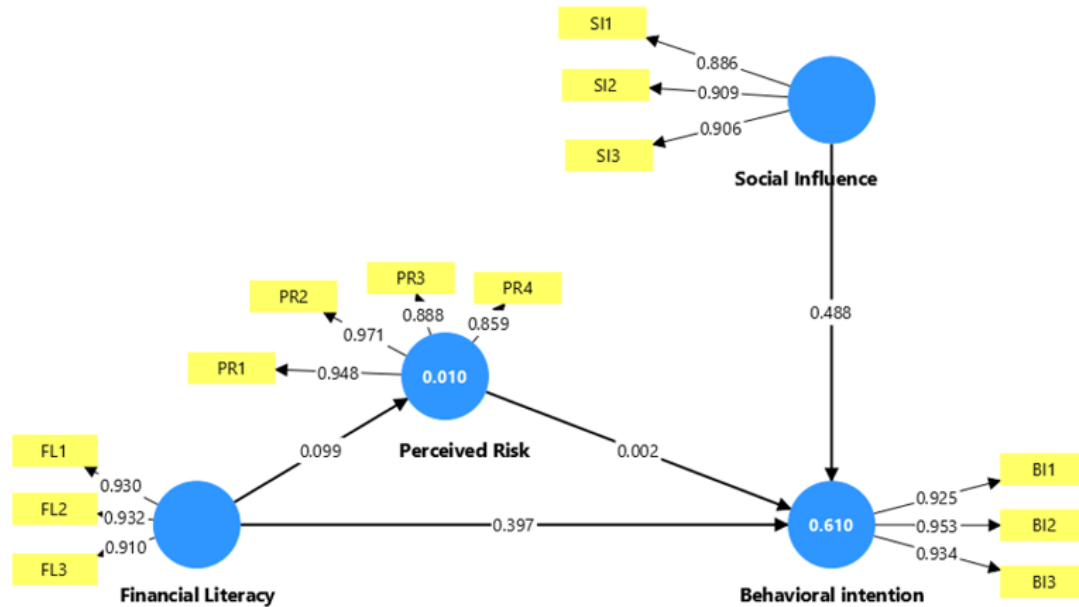


Figure 2. Structural model results illustrating the relationships among social influence, financial literacy, perceived risk, perceived ease of use, perceived usefulness, attitude, and behavioral intention.

4.1. Assessment of Measurement Model: Reliability and Validity

Table 2. Measurement of Reliability and Convergent Validity.

Variables	Items	Loading	CA	CR	AVE
Behavioral Intention to Use Cryptocurrency	BI1	0.925	0.931	0.956	0.879
	BI2	0.953			
	BI3	0.934			
Financial Literacy	FL1	0.930	0.915	0.946	0.854
	FL2	0.932			
	FL3	0.910			
Perceived Risk	PR1	0.948	0.945	0.955	0.842
	PR2	0.971			
	PR3	0.888			
	PR4	0.859			
Social Influence	SI1	0.886	0.883	0.928	0.811
	SI2	0.909			
	SI3	0.906			

Table 3. Correlation matrix and square root of AVE values.

Variables	Behavioral Intention	Financial Literacy	Perceived Risk	Social Influence	$\sqrt{\text{AVE}}$
Behavioral Intention	1.000	0.666	0.076	0.707	0.937
Financial Literacy	0.666	1.000	0.099	0.551	0.924
Perceived Risk	0.076	0.099	1.000	0.071	0.917
Social Influence	0.707	0.551	0.071	1.000	0.901

The Fornell and Larcker [27] criterion was employed to assess the discriminant validity. The square roots of the Average Variance Extracted ($\sqrt{\text{AVE}}$) were compared to the corresponding inter-construct correlation values. Results indicated that all $\sqrt{\text{AVE}}$ values exceeded the inter-construct

correlation values; therefore, discriminant validity is supported, as shown in Table 2. Additionally, SRMR=0.042, which is below the threshold value of 0.05, indicating an excellent model fit.

Table 4.
Structural Model estimation results.

Constructs	Original Sample (O)	Mean (M)	Standard Deviation (STDEV)	P Values	Hypothesis Verification
Financial Literacy → Behavioral Intention	0.397	0.397	0.046	0.000	Supported
Financial Literacy → Perceived Risk	0.099	0.096	0.074	0.180	Not Supported
Perceived Risk → Behavioral Intention	0.002	0.000	0.050	0.962	Not Supported
Social Influence → Behavioral Intention	0.488	0.487	0.043	0.000	Supported

Table 3 presents the results of the SEM. The table consists of sample means, standard deviations, p-values, and hypothesis verifications.

4.2. Assessment of the Structural Model

The structural model examined the hypothesized relationships among constructs. The results in Table 4 and Figure 1 reveal the path coefficients, standard deviations, p-values, and test the hypotheses. Social influence has a strong positive impact on behavioral intention ($\beta = 0.488$, $p < 0.001$), supporting H1. Financial literacy has a significant positive influence on behavioral intention to use cryptocurrency ($\beta = 0.397$, $p < 0.001$), supporting H2. Conversely, financial literacy did not significantly influence perceived risk ($\beta = 0.099$, $p = 0.180$); therefore, H3 was not supported. Similarly, the effect of perceived risk on behavioral intention was not significant ($\beta = 0.002$, $p = 0.962$), rejecting H4. These results indicate that both social influence and financial literacy are the main antecedents to business owners' intention to use cryptocurrency for financial transactions in Lebanon, while perceived risk does not play a significant role in shaping behavioral intention within the Lebanese context.

4.3. Mediation Results

Table 5.
Mediation estimation results.

Relationship	Original Sample (O)	Mean (M)	Standard Deviation (STDEV)	P Value	Hypothesis verification
Financial Literacy → Perceived Risk → Behavioral Intention	0.000	0.001	0.005	0.965	Not Supported

The mediation effects of perceived risk were examined using the bootstrapping technique. This method employed 5000 samples created with a 95% bias-corrected confidence interval. If the p-value is less than 0.05, mediation is present. Table 4's findings demonstrate that the mediation effect is not supported. Perceived risk does not mediate the relationship between financial literacy and behavioral intention; therefore, even if individuals are financially literate about cryptocurrency usage, this will not eliminate the risk. In addition, even if perceived risk is high, it does not affect the behavioral intention of individuals to adopt cryptocurrency.

5. Discussion

This research paper elucidates the behavioral intentions of Lebanese businesses regarding the adoption of cryptocurrency for financial transactions. The findings of this study, rooted in the UTAUT model and illustrated by the main variables of social influence, financial literacy, and perceived risk, offer

extensive knowledge about the antecedents of business owners' intention to adopt cryptocurrency in emerging markets.

The results support the positive impact of social influence and financial literacy on the intention to adopt cryptocurrency. This supports earlier findings by Venkatesh et al. [13] and Dabbous et al. [21], indicating that in countries experiencing financial instability, such as post-crisis Lebanon, the behavior of peers, family, and influential networks significantly influences technology adoption. The positive impacts of financial literacy correspond with Chan et al. [22], emphasizing that enhanced financial acumen enables individuals to assess risks and possibilities more clearly, fostering proactive involvement with emerging systems like blockchain and cryptocurrency assets. As for perceived risk, the findings showed unexpected results both as an independent variable and as a mediator. Both as a direct predictor and as a mediator. Although a plethora of scholarly findings demonstrated that perceived risk negatively influenced the behavioral intention to adopt cryptocurrency, in addition, it also showed that perceived risk mediates the relationship between financial literacy and behavioral intention [24] and Chang et al. [23]. This research contributed to a different finding regarding perceived risk. Individuals in Lebanon were not affected by the perceived risk of cryptocurrency adoption. The study's new findings contribute to academic research, where technology adoption risk is less than the risk of trusting the banking system, which failed to save people's money.

6. Conclusions

This study provides both theoretical and practical implications regarding the adoption of cryptocurrency in unstable economic contexts. Empirical evidence indicates that social influence and financial literacy are key determinants of the intention to use cryptocurrency for financial transactions among Lebanese entrepreneurs. However, contrary to conventional expectations, perceived risk did not significantly impact cryptocurrency adoption, nor did it mediate the relationship between financial literacy and behavioral intention to adopt cryptocurrency. This deviation from previous research suggests that in regions affected by crises, risk may become normalized in decision-making processes. In theory, this broadens the Unified Theory of Acceptance and Use of Technology (UTAUT) framework by challenging the general applicability of perceived risk as a determinant in all situations. Practically, this indicates that financial education and awareness, along with social influence, are far more effective than merely reducing perceived risk. The research has some limitations. First, it focused on a specific demographic of entrepreneurs and SMEs in Lebanon. Second, it concentrated on emerging markets where distrust in the banking system prevails and did not examine other emerging markets without financial crises. Third, it emphasized only three main variables: social influence, financial literacy, and perceived risk, while other variables, such as trust in crypto, regulatory support, and risk aversion, were not studied. Fourth, this research employed solely a quantitative methodology. Future studies are encouraged to explore other emerging markets and demographics. Additionally, researchers should examine different variables to assess cryptocurrency adoption and utilize qualitative research methods to gain in-depth insights into behavioral intentions to adopt cryptocurrency.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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