Migration Letters

Volume: 21, No: S8 (2024), pp. 600-617

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

The Awareness, Acceptance And Adoption Of Cryptocurrency With The Moderating Effect Of Trust: A Perspective Of TAM

*Muhammad Abdullah Idrees[1] , Sabeen Naeem Khan[2] , Muhammad Furquan[3] , Muhammad Umair Zafar[4]

Abstract

Cryptocurrencies are the digital currencies that gained popularity with blockchain technology because they were encrypted (Bitcoin, Ethereum) and changed global economic landscape profoundly. These one-of –a kind business conducts have become a major trend in the financial communities within an exceptionally short while, changing global economic activity. As useful as they are however, there continues to be high reluctance towards their use and practice due to vague ideas about the exactness of 'how it goes' So the present situation is that these knowledge gaps have become opportunities for development. This paper uses TAM to model the parsimonious adoption of awareness acceptance cryptocurrency. PLS-SEM was used to validate the model's results using a sample consisting of 332 people between eighteen and forty-two. The findings indicate a positive and statistically significant direct influence of cryptocurrency consciousness on the adoption of cryptocurrencies. With acceptance indicators toward cryptocurrencies, such as convenience and value are mediating elements for this positive relationship. The results, furthermore, strengthen the level of trust which is considered to be one crucial variable forming direct and indirect connections. These lessons reinforce the need for stimulating informed knowledge about cryptocurrencies that will help increase their prevalence in financial markets. Thereby, the development of awareness and myths about cryptocurrencies' adoption as well ease factors like usefulness or trust are to strengthen policymakers and financial sectors.

Keywords: *Cryptocurrency, Block Chain, FinTech, TAM.*

Introduction

Cryptocurrency has changed the global financial system, introducing a new definition of money (Johar et al., 2021) based on the blockchain and cryptog[1]raphy, a different type of digital or virtual currency called cryptocurrency is formed. In essence, blockchain is a distributed ledger that registers transactions on multiple computers across the network in order to create immutability. In the meantime, cryptography ensures integrity of transactions and protects anonymity for users (Kumar et al., 2023). Different from more traditional currencies printed by central banks, cryptocurrency operates outside the scope of established fiscal systems; independent of valuable assets such as gold and unsigned monetary authorities. These are

[1]Lecturer at Salim Habib University and Research Scholar at Ziauddin University.
[2]Assistant Professor at Hamdard University.
[3]Senior Lecturer at Bahria University.
[4]Alumni and Marketing Communications, Dow University of Health Sciences.
*Corresponding Author: m.abdullahidrees91@gmail.com

produced by a computational procedure called mining that utilize computing power to solve sophisticated mathematical puzzles and create as well as authenticate transactions in the cryptocurrency network. Though digital forms of money such as Apple Pay or PayPal are available via the internet, they have a central authority to operate and do not possess sufficient decentralization (Jalan et al., 2023). Real cryptocurrencies, with their innate decentralization, transparency and immutability have gained much traction in the modern financial and technological space.

As shown recently, digital payments value is expected to reach US$9.46 trillion in 2023 at a pace of overgrowth that will continue to exceed l1% annually and to lead for projection of US$14 .78trillion by prediction year (Siska, 5). With the advent of Internet, cash payments turned into online transactions and this nose dive changed the worldwide monetary systems (Sukumaran et al., 2022). First of all, the technological advances as well as higher consumer's accessibility have led to a growth in online transactions via cryptocurrency use (Kumar et al., 2021). However, cryptocurrency borderless characteristic as well as its simplicity and efficiency is attractive for many. The cryptocurrency system has indeed redesigned global financial infrastructure, leading to innovation among institutions on the same platform of digital transactions (Khan et al., 2020). This inertia has triggered monetary systems to reform and put policies that follow the technological advancement (Hasan et al., 2021).

Acquiring a thorough knowledge of cryptocurrencies is very important in the digital era. (Uematsu and Tanaka, 2019). The adoption of cryptocurrencies is a sign that there are revolutionary changes in the world's currency markets (Tandon et al., 2021). On the other hand, adoption is hampered by issues such as inadequate technology knowledge, lack of comprehension about online trading and legal barriers besides security concerns (Albayati et al., 2020; Li).

This study suggests that the understanding of cryptocurrency awareness, acceptance, and adoption is crucial in our current developing digital financial environment. At the front of financial innovation, cryptocurrency calls for profound knowledge into what leads to its adoption and rejection. Awareness indicates people's information concerning cryptocurrency; acceptance measures their readiness to take it for financial behavior, and adoption refers to the implementation of cryptocurrency in money via monetary operations. One of the most critical factors as a moderator is trust, which has an enormous impact on decision-making in terms of cryptocurrency. In a de-centralized transaction environment, trust becomes critical in influencing access or avoidance of cryptocurrency. The discussion of trust acting as the moderator allows understanding psychological processes that contributed to wider adoption and use of cryptocurrency in society.

In this light, the study seeks to investigate how awareness and acceptance of cryptocurrencies impacts adoption mediated by trust. The focal technology in the study is cryptocurrency and TAM is its theoretical framework. The TAM theory suggests that technology acceptance is driven by the usability and usefulness of its implementation, which in turn determine how it will be adopted (Davis 1989). Drawing generalizations as to TAM, this research proposes awareness that greater comprehension improves consumers' experience of the usability and utility attributed to cryptocurrencies. In addition, trust is recommended as a moderating variable reinforcing the relationship between awareness acceptance and adoption by reducing fears and uncertainties due to technological innovations especially in financial transactions where credibility security is essential. In addition to being practically and conceptually useful, the study helps develop empirical knowledge about cryptocurrency acceptance by revealing essential drivers of mass adoption. Additionally, it offers pragmatic solutions to policymakers,

financial institutions as well tech developers for bridging most of the gaps and getting cryptocurrency adopted via education-focused campaigns and safety measures.

Literature Review

Theoretical Framework: Technology Acceptance Model (TAM)

TAM is very useful in doing both the prediction as well as explanation of technologies concerning adoptions of the behavior. TAM is rooted in two fundamental constructs that influence one's intention to accept and adopt a new technology: According to Davis (1989), PEOU and PU which are measure of attitude towards adoption of technology by individuals will be addressed. PEOU describes the psychological effort people need to go through to accept a new digital tool (Sagheer, Faleem, & Junaid, 2021). Individuals are found to favor technologies that are easy to use, involving little expenditure on energy and time. Consequently, a technology that is easier to use stands a higher probability of being adopted. Specifically, PU relies on the thought that an individual will adopt technology with the intention that it will make them perform better (Fagan et al., 2012). The slogan portrayed that the technologies plus machines are better off managing this than human since there are better in improving productivity and efficiency. Therefore, they are also very willing to buy EVs (Lu et al., 2022). UPT and AP are, respectively, perceptions of a product's value and perceived ease of use that result in the willingness to adopt a new technology (Davis 1989).

TAM is sound base, thus driving customers to accept innovations by making them right decisions in that aspect (Lim, 2018). Our study thesis is the influence of TCA's elements including PEOU and especially PU concern regarding customers' acceptance viewpoint of cryptocurrency adoption. Noteworthy, a lot of researchers working on applied behavioral science in relation to the adoption of innovative technologies have consistently used TAM as a basic theory for the scholarship (Kumar et al., 2021). Just like several crypto world fluctuations that have led to many scholars thinking of cryptocurrency exchange including that of not understanding its role as an exchange medium (Khan, et al., 2020). It is hereby the (TAM) concept is applied to fill in the applications of digital currencies. Such a framework is developed highlighting elements that may influence the adoption of cryptocurrencies. The fact, that intentions are the most critical aspects before the activists do something for the purpose of changing people's viewpoints and thoughts is worth being remembered (Davis, 1989).

Cryptocurrency

Cryptocurrency is also referred to as digital, virtual or electronic money that uses cryptography for security. The idea was first featured in the white paper published in 2008 under the recognized pseudonym Satoshi Nakamoto. The ideas were implemented in the year 2009 (Tauni et al., 15). On the other hand, these assets build upon the theory of decentralization of control and hence they violate the major components of traditional banking systems that strive for increased financial independence and equity.

New studies of the modern period explicitly connect cryptocurrency with the areas of remittance and trade (Parate et al., 2023). As cryptocurrency become even more of an economic eminence, nations would hardly avoid it so it is becoming a universally accepted digital currency. It is the capitalization of the independence, the privacy and the opportunities, mainly some of the individual's envy from the central banks.

Cryptocurrency comprises two components: The crypto, abbreviation for the cryptography protecting personal data and financial transactions, and acting as a medium of the exchange defined as cryptocurrency. Cryptos in particular have shaken up the financial lives in many

impoverished societies as shown commonly at the global scene. Surprisingly, some cryptocurrencies have a capped supply that can act as an anti-inflationary mechanism and can be in contrast to fiat currencies, which policy is determined by the different banks' policies. What's more, the sheer number of consumers who choose crypto can also cause an alteration in the patriation standards for branches and traditional services as interest rates stand to be affected as well as profitability of the banks. Interestingly, cryptocurrency is a digital currency that has some key advantages, which are Texan, speedier, more dependable, and cheaper than those issued by the state (Entrialgo, 2017). On the past several years, crypto has witnessed a meteoric rise and although it hasn't been the most common way of trading indices (Kher et al., 2021), it is very well known and used. Consequently, these study examines single peoples' intentions to cryptocurrency adoption.

The central financial markets which include the USA, is in the lead in research and trial of cryptocurrency as a part of their capital market system (Hasgül et. al., 2023). Although constraints still exist — technical solutions are progressing to address the issues of today, and it is projected that the use of cryptocurrencies in international finance is yet to be determined.

Despite the fact that Pakistan has a cash-based economy, which is different from the young population and the rising internet connection, the former two factors are susceptible to becoming conducive to the absorption of digital payments. The significant feature of cryptocurrency being a creditworthy financial instrument in the countries like Pakistan, which is identified as developing, is the most interesting point here. While the analysis of historical data (Arpaci et al., 2023) has shown that the adoption of virtual networks of currencies for payment methods over the old-fashioned ones has increased in such areas, still, there are a lot of questions that can be raised across the issue of cryptocurrency regulation. While people appreciate the element of simplicity in the daily operations and the fact that the charges are reduced to the minimum level, there are diverse reactions all over the world (Gaikwad & Mavale 2021). The current direction of change in international finance is undecided yet, particularly concerning individual challenges arising in the remittances area (Howson and de Vries, 2022).

Cryptocurrency Awareness and Adoption

The awareness can be viewed as the key element on which the implementation of emerging technologies, according to Schumpeter's diffusion innovation theory, because it is the awareness that provides pre-condition for the following ‘adoption’ stage (Lu et al., 2022). Many of the previous two investigate and uncover the association between the consciousness levels and usage of cutting-edge applications. Inherently, the implication of individual awareness includes an education regarding the benefits, use-constraints and recommended codes of conduct involving a technology as per (Zou et al., 2023). This can be called an information revolution which is a big thing affecting and sometimes leading people to accept quickly. Behavioral intention which earlier precisely predicted the user adoption of diverse technologies is currently being considered to be the risk mitigation measures associated with selecting incorrect innovations ("Emerging Technology Adoption Is Influenced By Both Behavioral Intention and Risk Mitigation Measures," 2022). Our hypothesis is based on the following assumption:

H1. Cryptocurrency awareness positively influences cryptocurrency adoption.

The Mediating Role of Cryptocurrency Ease of Use

User-friendly is one of the fundamental factors for acceptance or rejection as more convenient and easier technologies have high chances to be adopted worldwide. Among others, TAM

focuses on the usability factor for ensuring accessibility, responsiveness and adaptability of technologies (Lim 2018). Overall, research evidence informs of a high correlation between ease of use and behavioral intentions concerning technology adoption (Shahzad et al., 2021). Our research investigates how bolstering ease of use can facilitate broader cryptocurrency adoption, proposing:

H2. Cryptocurrency ease of use significantly mediates the relationship between cryptocurrency awareness and adoption.

The Mediating Role of Cryptocurrency Usefulness

Effectiveness is simply the perception of consumers that adopting a new technology will increase their efficiency (Lim, 2018). Studies show that the higher consumers perceive cryptocurrency as useful, the more apt they are to adopt it (Kim et al., 2021). Fagan et al., (2012) and Salas, demonstrate that usefulness has been one of the essential determinants of TAM as it is a central aspect in measuring technological innovations. In this study, we discuss online platforms as mediums for measuring the effectiveness of cryptocurrency. The proposed hypothesis is:

H3. Cryptocurrency usefulness significantly mediates the relationship between cryptocurrency awareness and adoption.

The Moderating Role of Cryptocurrency Trust

Trust in innovative technologies means that the consumer feels safe, confident and sure of their use (Quan et al., 2023). Therefore, trust is important in deciding people's safety and how confident they are to embrace new technology (Akther & Nur, 2021). It enhances the uptake of technology, particularly in their nascent stages (Hasan et al., 2022). Trust in cryptocurrency ensures financial and personal information safe and reflects trust adoption. Our study explores the moderating role of trust, proposing:

H4a. Cryptocurrency trust significantly moderates the relationship between cryptocurrency awareness, ease of use, and adoption.

H4b. Cryptocurrency trust significantly moderates the relationship between cryptocurrency awareness, usefulness, and adoption.

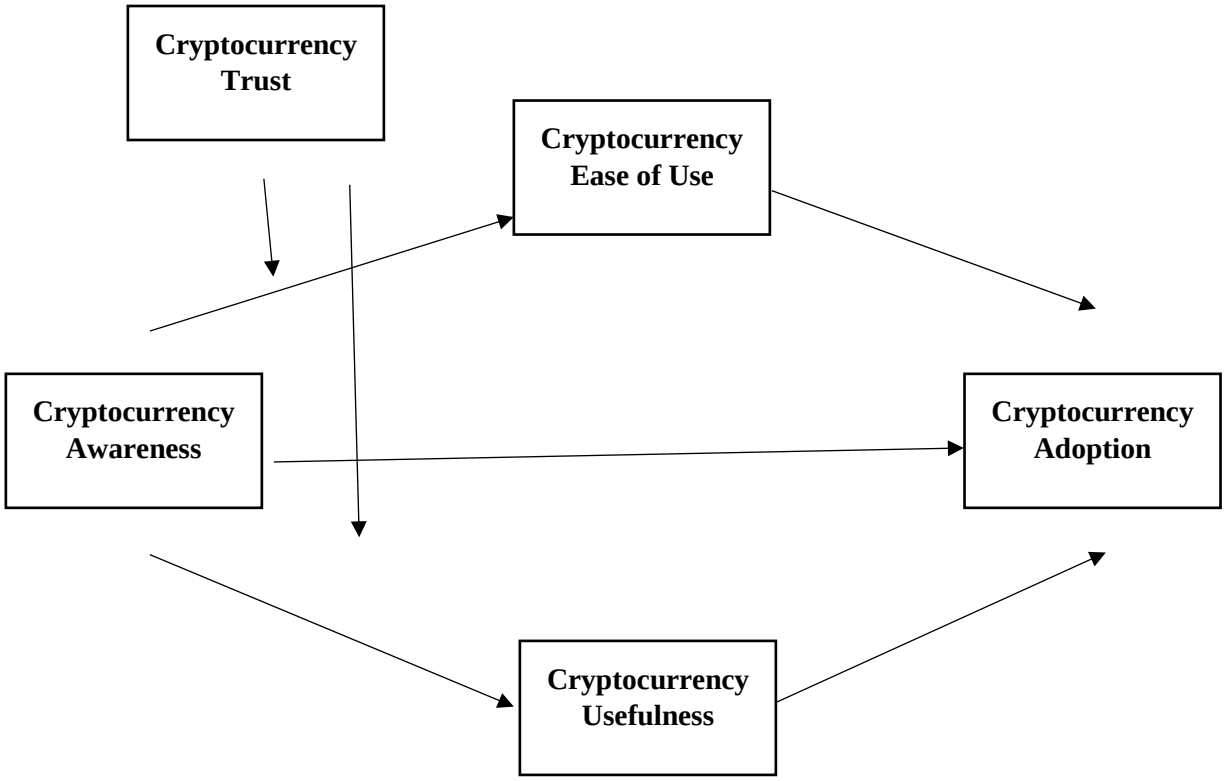

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Fig. 1 Conceptual Framework

Methodology

The survey which was the research method provided the awareness, acceptance and adoption of cryptocurrency among the people who participated in the survey. An up-to-date questionnaire was written according to the existing literature (Sohail et al., 2021) to establish the process of data collection which will be used by this study. The survey items had Likert scale measurement ranging from one through five. A significantly growing number of people in Pakistan see the bright future for cryptocurrency. Karachi was then chosen as the population to have the pilot study. The sampling area, a unique hub of community citizens and dynamic economic activities covering a wide range of public-, governmental-, and private-owned institutions, is set to provide a unifying factor from among the different classes of the community such as university students, government/private employees or business owners (Shahzad et al., 2021). That at the beginning stage was the requirement question which has integrating the participants who are having specific features of digital tools usage and internet use to ones who were potential option for cryptocurrency adoption. In the trial, all individuals who shared the mentioned criteria were recruited as participants. The total number of physical questionnaires was 551 and was proved to be valid for those willing to participate. The response data comprising of the 332 answers that underwent handling missing values, outliers and inconsistencies were found to be the suitable ones for the follow up analysis and therefore usable response rate of more than 60% was reached. This shows the extent to which the

researcher agrees with Roscoe's 's (1975) empirical inquiry range of between 30 and 500 takes into account. The representative humankind was also proved to be technically aware as all the respondents were familiar with the use of electronic gadgets and nearly half of them (39%) spent more than 7 hours daily on the internet. So that the participants talked about the facts honestly we, the organizers will inform the strict confidentiality.

Analysis

Demographic Profile

The sample of the study included a broad representation of people with differing demographic features. Table 1 provides a complete description of respondents by gender, age group, education level and occupation.

Within the 332 respondents, gender distribution was relatively balanced, with women constituting a slight majority at 54% (n: 154 men therefore accounted for 46% (n: [178]). The age distribution indicated a significant proportion of young participants, with 71% (n: 235) comprising of those 18 to 30 years, whilst the remaining percentage is made up by individuals within the age groups for ages between aged thirty-one and forty.

Regarding educational qualifications, 45% (n: A total of 150) participants held a bachelor's degree, while 35% (n: Another 2% (n: 7) might have had alternative educational credentials, perhaps from online courses.

Examining professional backgrounds, the majority of participants, 66% (n: Is age consonant with the case that 218 people were students? Business owners and private sector employees each constituted 13%.

Table 1 Profile of participants.

Demographics	Frequency (n: 332)	Percentage (100%)
Gender		
Female	178	54%
Male	154	46%
Age		
18 to 30 years	235	71%
31 to 40 years	97	29%
Education		
Diploma	52	16%
Bachelor's degree	150	45%
Master's degree	115	35%
Doctoral degree	8	2%
Others (e.g., online courses)	7	2%
Occupation		
Student	218	66%
Government employee	25	8%
Private employee	44	13%
Business owner	45	13%

Measurement Model

The research used the PLS-SEM method to measure reliability, convergent validity and discriminant validity of the measurement model. The main statistical indices represented in Table 2 include Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE) for each construct.

In terms of reliability, the Cronbach's alpha values for all construct exceeded .70 indicating that there is high-level internal consistency. The constructs' reliability is also strengthened by the composite reliability values, which go beyond 0.7 comfortably.

AVE served as the measure for convergent validity, which was evident through strong correlations among items within a construct where values consistently exceeded 0.5. For discriminant validity, the FL criterion was used to ensure that for each construct AVE's square root exceeded its highest value with any other constructed.

Construct	Item	Factor Loadings	Mean	Standard Deviation	CR	AVE	Source
Cryptocurrency Awareness	CA1	0.853	3.834	1.051	0.952	0.712	(Sagheer et al., 2022)
	CA2	0.869					
	CA3	0.876					
	CA4	0.881					
	CA5	0.865					
	CA6	0.778					
	CA7	0.838					
	CA8	0.785					
Cryptocurrency Ease of Use	CEoU1	0.847	4.055	0.967	0.929	0.687	(Chen and Aklikokou, 2020)
	CEoU2	0.848					
	CEoU3	0.811					
	CEoU4	0.844					
	CEoU5	0.864					
	CEoU6	0.756					
	CEoU7	0.786	3.926	0.894	0.941	0.727	(Albayati et al., 2020)
Cryptocurrency Usefulness	CU1	0.837					
	CU2	0.843					
	CU3	0.858					
	CU4	0.900					
	CU5	0.886					
Cryptocurr	CT1	0.856	4.096	1.018	0.921	0.699	(Shahzad et al., 2018)
	CT2	0.842					
	CT3	0.808					

ency trust	CT4	0.811					
	CT5	0.861					
	CAd1	0.874	3.781	0.942	0.949	0.789	(Shahzad et al., 2018)
	CAd2	0.866					
Cryptocurrency Adoption	CAd3	0.908					
	CAd4	0.902					
	CAd5	0.890					

Table 3 Correlation matrix.

Construct	1	2	3	4	5
1. CAd	**0.888**				
2. CEoU	0.378	**0.829**			
3. CU	0.244	0.23 3	**0.853**		
4. CA	0.379	0.66 2	0.3 07	**0.844**	
5. CT	0.335	0.55 7	0.2 64	0.5 39	**0.836**

Structural Model

The examination of the structural model provided an understanding on relationships among constructs and assessed hypothesized pathways using bootstrapping in PLS-SEM. Table 4 presents a summary of the results.

The hypothesis (H1) which was positive relationship between cryptocurrency awareness and adoption as indicated by a large significant β value of 0.192 at the level off. This shows an inversive relationship between increased understanding of cryptocurrencies and the probability of adoption, pointing to the necessity for development programs aimed at enhancing awareness.

Furthermore, heightened cryptocurrency awareness positively influenced perceived ease of use (β: Usefulness: β0.281, $p < .05$); Ease of use (β: The perception of ease of use (β = 0.220, $p < 0.1$) and usefulness (β = .134., P < o..5o). were identified as significant determinants for adoption. Trust in cryptocurrency significantly enhanced both ease of use (β: .224, $p < 0.01$) and usefulness (β: The R2 statistics showed that model explained51.3% of the variance in ease-of use, 48.7 % on Usefulness and 61.0 for adoption indexes values respectively.

Mediation Effects

The indirect hypothesis concerning the mediating role of ease in illustrates cryptocurrency influence on adoption through its significant β-value. Consequently, H2 finds support. Likewise, the mediation path from cryptocurrency awareness through its perceived usefulness to adoption (H3) is established using a significant β-value of 0.038 ($p < .05$). Thus, H3 is supported.

Importantly, mediating effects reveal how an independent variable impacts a dependent A positive β-value of 0.103 for H2 signifies that when cryptocurrency awareness rises, so does the ease factor which in turn influences increased adoption levels This emphasizes the significance not only in creating awareness of cryptocurrencies but also ensuring that users find it user friendly. However, when potential users can easily use the cryptocurrencies, it increases their likelihood of adoption particularly if they are knowledgeable enough. Analogically, the positive beta value of 0. It also emphasizes that it is not only important to perceive cryptocurrencies as an unusual technology but rather as a real instrument with clear advantages. However, a knowledgeable person who views cryptocurrencies as effective should be more likely to embrace them.

Moderation Effects

The proposed Hypothesis 4a that cryptocurrency trust moderates the relationship between awareness, ease of use, and subsequent adoption is confirmed with a large prominent value of Beta at (0.164) p <. Finally, trust is found to operate as a mediating variable between the level of awareness about cryptocurrency and perceived usefulness on adoption (H4b) with β-value showing significance at p<.05 thereby supporting H4b

Although the moderating effect of cryptocurrency trust on relations in H4a and Since β-value for this latter variable is determined as 0.165, it means that increasing level of confidence towards crypto will increase strength even more, rather than awareness and ease will predict adoption show positive relation. The trust increases the performance of awareness on adoption via smoothness. In other words, if cryptocurrency is trusted more, the awareness of individuals must influence perceptions about use convenience and increase adoption rates. Similar to this, the β-value of +0.117 for H4b represents a positive correlation between awareness and usefulness that supports relationship predicting adoption by cryptocurrency trust. This means that the price of cryptocurrency has a stronger impact on usefulness when they trust such currency. Contrastingly, this greater appreciation of being beneficial makes them more likely to adopt cryptocurrency.

Table 4 Structural Model

Hypothesis and relationship	β-value	Mean	Standard Deviation	t-value	p-value	Outcome
Panel A. Main effects						
H1. CA → Cad	0.192	0.186	0.078	2.466	0.014	Supported
CA → CEoU	0.470	0.468	0.058	8.070	0.000	
CA → CU	0.288	0.286	0.061	4.821	0.000	
CEoU → Cad	0.220	0.224	0.069	3.210	0.001	
CU → Cad	0.134	0.136	0.056	2.386	0.017	
CT → CEoU	0.224	0.229	0.054	4.182	0.000	
CT → CU	0.220	0.222	0.056	3.918	0.000	

Panel B. Mediating effects						
H2. CA → CEoU → CAd	0.103	0.105	0.036	2.870	0.004	Supported
H3. CA → CU → CAd	0.038	0.039	0.018	2.180	0.030	Supported
Panel C. Moderating effects						
H4a. CA × CT → CEoU → CAd	0.164	0.051	0.020	8.291	0.013	Supported
H4b. CA × CT → CU → CAd	0.117	0.039	0.018	6.579	0.030	Supported
Panel D. R^2						
CEoU R^2 = 0.515.						
CU R^2 = 0.148.						
CAd R^2 = 0.189.						

Discussion

In the age of digital transformation, when technology tends to penetrate all industries and sectors, a number of significant transformations have taken place in the world of finance. Financial transactions have witnessed a paradigmatic change due to cryptocurrency-a new financial instrument. From the very beginning these digital assets have triggered discussion not only about technical details but also raised questions on awareness, usage and trust. Our work sets to advance the above discussion by focusing on awareness, acceptance, and adoption of cryptocurrency.

With regards to cryptocurrency awareness as the main antecedent, our research supports that a well-articulated knowledge or understanding of cryptocurrencies is an essential precondition for its adoption. This is consistent with the common-sense idea that people are more inclined to interact if they understand what it means.

Our research further highlights the central contribution of cryptocurrency usability and functionality to adoption. These parameters define what the user will encounter and how much of a tangible benefit is considered by engaging with cryptocurrency. Cryptocurrency is easy to use highlights the essence of a user-friendly experience in technological acceptance as reflected by Chen and Aklikokou (2020). People are more likely to avoid a technology if they find it complicated or unavailable, despite being aware of its presence. In contrast, the utility of cryptocurrency demonstrates palpable gains users get from technology. This agrees with Theiri et al. (202), who suggested that perceptions of the usefulness of technological innovation can have a tremendous effect on one’s willingness to embrace it.

Considering cryptocurrency trust as a mediator, however our stands make it clear that the mediation role of trust between awareness and adoption is also remarkable. This supports Zafar et al.'s (2021) statement that trust can greatly reduce the uncertainty and perceived risks related to new technological solutions. Cryptocurrency trust becomes critical in the world of digital transactions when no cash is handled, but a smooth change from physical to virtual currencies need be attained.

Theoretical Implications

As the technology continues to evolve and especially in financial systems, existing theories requires constant reevaluation. It is an opportune context for assessing the adaptability and applicability of established theories that cryptocurrencies, transformative in nature with intrinsic complications to facilitate examination. The investigation of TAM application and extension for the understanding of cryptocurrency adoption that we conducted highlights how flexible is this model. It also emphasizes on necessity to evolve it in accordance with current technological challenges.

By applying TAM to cryptocurrencies as done in this study, the theoretical perspective becomes virgin territory. This extension is an affirmation of the dynamic nature as well as flexibility that TAM holds, thus creating proof for its use even in early and unstable environments such cryptocurrency. It creates a framework that charts the complexities behind cryptocurrency adoption and as such provides an outline which future researchers may build upon to embark into more detailed nuances within this growingly relevant yet under-theorized area.

According to our study, the integration of awareness in TAM makes it more than a secondary factor; instead, it provides good standing between emerging technologies such as cryptocurrency and their users. This enhancement seems to imply that, for new technologies in particular, some minimal level of knowledge or consciousness may be necessary before users can determine ease of use or value. Future theoretical studies may concentrate on developing awareness, potential barriers and the progressive impact of user acceptance as technologies develop.

Adding trust into TAM, especially in the financial arenas clarifies with diverse features of belief as an intermediator. This research acknowledges the delicate balance consumers have to handle between logical considerations of utility and emotional concerns related to trust when opting for financial technologies. The moderating effect of trust calls for further exploration into the facets of building, sustaining and repairing this belief within cryptocurrency applications.

This research is a collaborative effort to respond to scholarly demands as an academic progression. It not only reinforces its pertinence but also creates the foundation for potential return advances. Such knowledge can then be enlarged through the iterative and collaborative approach from future researchers.

Practical Implications

Although having strong academic fundamental, what has been found with this research is applied in the real life setting especially for policymakers, financial institutions and developers of technology. With day-to-day life becoming increasingly influenced by the digital world, it is relevant to comprehend what drives adoption of technology in financial sphere including cryptocurrencies.

So the right attitude towards cryptocurrency awareness among policymakers and. To this end, making sure that the general population has an elementary understanding of what digital currencies is composed of; how these assets work and operate along with its advantages as well disadvantages also know about possible implications it can bring upon financial landscape becomes a need. Such collaborations between government, educational and financial institutions may result in awareness campaigns or workshops which address different demographic groups to participate. This would help collapsing the fear of uncertainty related to cryptocurrencies leading them into a popular methodology.

The improvement of cryptocurrency trust requires the dual effort in technological and perceptual aspects. As for the technology's center, consisting of cryptographic algorithms and blockchain that ensures safety and clarity, peripheral platforms should be constantly upgraded regarding security features. Clear communication that helps to take away the mystery around the technical aspects of blockchain and cryptography may encourage consumers' trust. Second, regulatory guidelines promote trust. Policymakers should implement such regulations that would ensure protection from user without stifling innovation, model laws for crypto trading platforms (crypto exchanges), transparency in initial coin offerings(ICO's) and creating formal legal structures within the domain of dispute resolution related to cryptocurrency.

The interplay between awareness, ease of use and usefulness emphasizes the need for tailoring education and outreach initiatives. A generalized approach may not be ideal but policymakers and institutions should take demographic variations in technological literacy and financial illiteracy into account while formulating outreach programs. Different groups can benefit from exploring a variety of educational formats, including digital workshops mobile apps, conventional seminars and books.

With the help of our research, informed policymaking is enabled as we explore various factors that influence cryptocurrency adoption. Acknowledging the role of trust, policymakers may encourage transparency and accountability in cryptocurrency cash flows through periodic audits or establishing oversight bodies for surveillance activities on operations pertaining to crypto currencies. The informed plans on cryptocurrency regulation can find the middle ground between user protection and innovation promotion.

Conclusion

Cryptocurrencies have been identified as a critical paradigm shift in the fast-changing digital landscape, which accelerated our understanding of finance and monetary transactions. The adoption and extension of the Technology Acceptance Model (TAM) into cryptocurrency provides this study with a deeper understanding of how innovative financial technologies are accepted and adapted.

These results support the notion that awareness is a crucial element of assimilation. A high level of understanding strongly supports consumers' views about accessibility and practicality in cryptocurrencies. Notably, the original TAM constructs of ease to use and usefulness still predict cryptocurrency adoption which is an indication that the model has significant relevance in terms of novel context. As a key moderating variable, trust exceeds the built-in cryptographic nature and blockchain foundations of crypto money influencing adoption via psychological aspects involving security and dependability.

The theoretical validity of TAM shows the advertence of TAM which could be applied in myriad of situations irrespective of its degree of novelty/nastiness like domain of cryptocurency. The factor in the model, having the belief and confidence, is one of the contribution in this research and brings a clarity, using the cryptocurrency or not. Researcher says that knowledge of cybersecurity topics like cryptography and blockchain are essential to understand the conditions of diffusion of technology information in financial settings, and social factors such as trust and awareness convincingly determine these orientations of thought.

For the politicians, institutions and research teams involved, the outcome will find applicability in the real world policies and could even usher in financial and tech revolution. Cryptocurrency suppliers would be able to pinpoint consciousness and confidence contribute to an open, transparent platform with stakeholders due to the realization of the importance and fundamental

role of these characteristics in encouraging cryptocurrency adoption. The cryptocurrency world is gradually getting better with the education programs which help people to become more confident and also understand terminologies used in the world of cryptocurrency better. The arcana is also tightened with the sophisticated security arrangements which are used to protect from the crypto attack and fulfilling the purpose.

Just as a full-fledged trial requires area of improvement, academic search also yield lots of prospects for research. The area left for further research is the natural question on the long term sustainability of cryptocurrency, the complexities involved in the evolution of regulations and setting up the integration mechanisms with other social and behavioral factors to give a background to the adoption model. Constant value of user acceptance and trust will become more and more important so as cryptocurrency and new devices, structures come out.

The study is considered as important as it has a huge gap towards it because some limitations are also still relevant that creates grounds for further research. An almost exclusive examine of graduate students entails an inquiry into why variations occur among a certain group of individuals of which comprise the populations studies. To augment the geographical space but prioritize the global comparison of crypto adoption for international comparison, we may get some more reasons. The following unquantifiable parameters that are likely to have an effect on TAM such as government investments, society dynamics and level of technology might need to be put under the category of TAM. Based on the fact that informational gaps in terms of the long-term sustainability of cryptocurrencies and sub-issues of Bitcoin mining need to be further looked at in the next research endeavors. The fact that only data collection at one-time point in the process might be resolved with the use of a longitudinal research designing in the next study is one of the areas that is related to temporal limitation.

To conclude, we come to a point where digital currencies demonstrate an ability to remodel our financial reality. Despite, but the exploitation of these plans requires comprehension of and addressing many-sidedness of user understanding, acceptance, and embracement as described in this study. While our findings might not be comprehensive, I hope they will be basis for further development in the field of cryptocurrency. This is done through research and academic as well as practical activities and as a result we will be glad to live in a clear and open digital currency environment.

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