



A STUDY ON THE IMPETUSES AND CONTESTS IN THE ESPOUSAL OF CRYPTOCURRENCY FOR DIGITAL PAYMENTS

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Abstract: *The deciding factor in the emergence of cryptocurrency as a global currency depends on the level of acceptance it gains in society. The study is based on primary data collected from a targeted sample of 750 respondents. A theoretical model based on UTAUT and TTAT was developed. A purposive sampling technique was adopted for the study, and the required data were collected using a well-structured and pre-tested questionnaire. PLS-SEM analysis has been used to assess the theoretical model of the study. The study established that perceived threat, attitude, and social influence are the significant factors affecting the adoption of cryptocurrency in India. Effort expectancy and performance expectancy have a considerable impact on the intention to use via attitude. In contrast, perceived severity and perceived susceptibility significantly affect the intention to use via perceived threat. Financial literacy and facilitating conditions don't seem to impact the intention to use cryptocurrency as a medium of exchange in India.*

Keywords: *Cryptocurrency, Bitcoin, Medium of Exchange, Digital Payments, UTAUT, TTAT, Attitude, Social Influence, Perceived Threat, Intention to Use, PLS-SEM.*

INTRODUCTION

Cryptocurrency is electronic money developed with blockchain technology that controls its production and protects transactions while concealing its users' identities. Crypto means cryptography, a type of computer technology used for security, concealing information, and establishing identities. Cryptocurrencies are a type of digital money that is meant to be faster, cheaper, and more dependable than traditional government-issued currency. Rather than relying on the government to generate your money and banks to keep, transfer, and receive it, users deal directly with one another and store their own funds.

The first cryptocurrency (Bitcoin) came into existence on Jan. 3, 2009, when Satoshi Nakamoto mined the genesis block of bitcoin. The code embedded in the coinbase reads "The Times Jan/03/2009 Chancellor on brink of second bailout for banks". **Pagliery (2014)** stated the code showed Nakamoto's distrust in the current fiat currency system. Interestingly, many started to believe there was sound reasoning behind this distrust. This shows Nakamoto's lack of trust in the existing monetary system.

Cryptocurrency transactions are generally relatively inexpensive and quick since users may send money directly without going through an intermediary. To avoid fraud and manipulation, each cryptocurrency user may record and verify their own transactions and the transactions of other users simultaneously. The digital transaction records are referred to as a "ledger," and this ledger is open to the public. Transactions become more efficient, permanent, safe, and transparent with this public ledger. Cryptocurrencies do not require you to trust a bank to store your money because of public records. They don't need you to trust the individual you're conducting business to pay you. Instead, thousands of individuals can watch the money being delivered, received, confirmed, and recorded. There is no need for trust in this system.

Darlington (2014) postulates that Bitcoin is advantages to underdeveloped economies due to its ability to solve hyperinflation, counterfeiting, etc. Many Governments have started to put regulations on the usage of cryptocurrency, and it is seen as a positive sign towards its adoption.

With proper regulations, cryptocurrency will become less volatile and safe for common people to use. However, whether cryptocurrency becomes a future medium of exchange purely depends to a larger extent on the ease with which people accept the usage of cryptocurrency. Many studies have been done in the last decade on cryptocurrency, but most of these studies were focused on the financial asset nature of cryptocurrency, and only a very few studies had been focused on its medium



of exchange function. Hence, the present study aims to focus on the motivations and threats in the adoption of cryptocurrency for digital payments.

LITERATURE REVIEW

Properties of a Medium of Exchange

Meneger (1892) argues that “the law has not produced money; it is a social, not a state-run institution at its core. The idea of being sanctioned by the state is foreign to it.” Thus, this social institution of money, on the other hand, has been refined and fitted to the many and diverse needs of an evolving trade by official recognition and regulation, just as customary rights have been perfected and modified by statute law.

Kiyotaki (1989) defined commodity money as “when a commodity is accepted in trade not to be consumed or used in production, but to be used to facilitate further trade, it becomes a medium of exchange and is called commodity money.”

Ritter (1995) conducted a study to answer “how did it become possible to trade seemingly worthless slips of paper for tangible goods? by presents an equilibrium analysis of the transition from barter to fiat money.” The author states that the explanation is based on the intervention of a self-interested government that must be able to convincingly claim that money will be limited.

Problems in the existing Fiat Money System

McCabe (1989) investigated, “will people hold money when they have the knowledge that fiat money will become valueless after a period of time.” On the basis of Nash equilibrium, they argued that non-cooperative, self-interested individuals would not use fiat money as a society will refuse fiat money in the last period.

Cohen (2000) postulated that technological advancements may eventually lead to the creation of entirely new rivals to today's top currencies: various innovative forms of money based on digital data, collectively known as electronic money, which will eventually begin to replace bank notes and checking accounts as standard means of payment in some way. Some of these emerging electronic currencies may one day outsell any of today's most popular international currencies.

Lucas (2000) explored the welfare cost of monetary inflation and found a negative relationship between inflation and welfare. The study suggested that welfare can be increased by reducing interest rate and inflation, but the interest rate has to be positive and not be zero or negative otherwise, deflation will happen in the economy.

Taskinsoy (2019) postulated that the gold standard and Bretton Woods' intrinsic weaknesses left the US more vulnerable to the eventual convertibility crisis; as a result, US policies intensified inflation, which led to the system's demise. The existing international monetary system, which is in dire straits, will face the same fate.

Cryptocurrency as Future Money

Alzahrani & Daim (2019) suggests that cryptocurrency users make decisions mainly from social and economic perspectives. Investment opportunity, business acceptance, subjective norms, global attention and privacy are the major criteria influencing the adoption of cryptocurrency.

Al-Amri, Zakaria & Habbal (2019) found that adoption of cryptocurrency as medium of exchange is still low due to the fact that many are perceiving cryptocurrency as a financial investment rather than as a medium of exchange. Nevertheless, they also found evidence for the growing tendency among crypto owners to use them for payments.

Sohaib, Hussain, Asif & Ahmad (2019) found that technology readiness, optimism, security, comfort in use and innovativeness are the major factors in the end-user adoption behaviour of cryptocurrencies.



Mazambani & Mutambara (2019) found evidence that perceived behavioural control and attitude have positive impact on the intention to adopt cryptocurrency. They also found that subjective norm has negative non-significant influence on the adoption of cryptocurrency.

Oliva, Borondo & Clavero (2019) postulate that cryptocurrency and blockchain will transform the way we transact, just like Internet have transformed the way we communicate. They found that performance expectancy and the willingness to manage risk are the major factors affecting the intention to use cryptocurrency.

Saieh, Ibrahim, Noordin & Mohadis (2020) that perceived ease of use, perceived usefulness, financial concern, emotionality and Shari'ah compliance are the factors influencing the intention to use cryptocurrency in Islamic countries.

Saiedi, Brostrom & Ruiz (2021) found evidence that perceived failings of the existing monetary system, low trust on banks and hyperinflation were the major reasons for the adoption of cryptocurrency as a medium of exchange. However, their study also found evidence that bitcoins are used for their usefulness in engaging in illicit trade.

Abbasi, Tiew, Tang, Goh & Thursamy (2021) states that trust, price value, performance expectancy, personal innovativeness and effort expectancy are the factors positively affecting the end-user's intention to adopt blockchain based cryptocurrencies.

Kiyotaki & Wright (1989) postulates that for a commodity to become a medium of exchange it must have three properties viz., low storage cost, high marketability and social acceptance. The storage cost of cryptocurrency is lower than any other commodity and it has very high marketability because of its liquidity, saleability and portability. However, the social acceptance for cryptocurrency is growing but still in its infancy. In developed economies like US cryptocurrency adoption is very rapid. The interest displayed in cryptocurrencies by international leaders such as Bill Gates, Mike Tyson, Lionel Messi, and others demonstrates this. The news of Elon Musk's \$1.5 billion bitcoin investment and Tesla's acceptance of cryptocurrency payments has raised cryptocurrency awareness. PayPal integrated bitcoin to their wallets in April 2021, and it appears that Facebook, Visa and Master Card seem to have similar plans. However, there is lack of research on the level of adoption of cryptocurrency in emerging economies like India. It is essential for cryptocurrency to be adopted in countries like India to become a true global currency. Hence, the study aims to find out the impetuses and contests in the espousal of cryptocurrency in India.

THEORETICAL FRAMEWORK

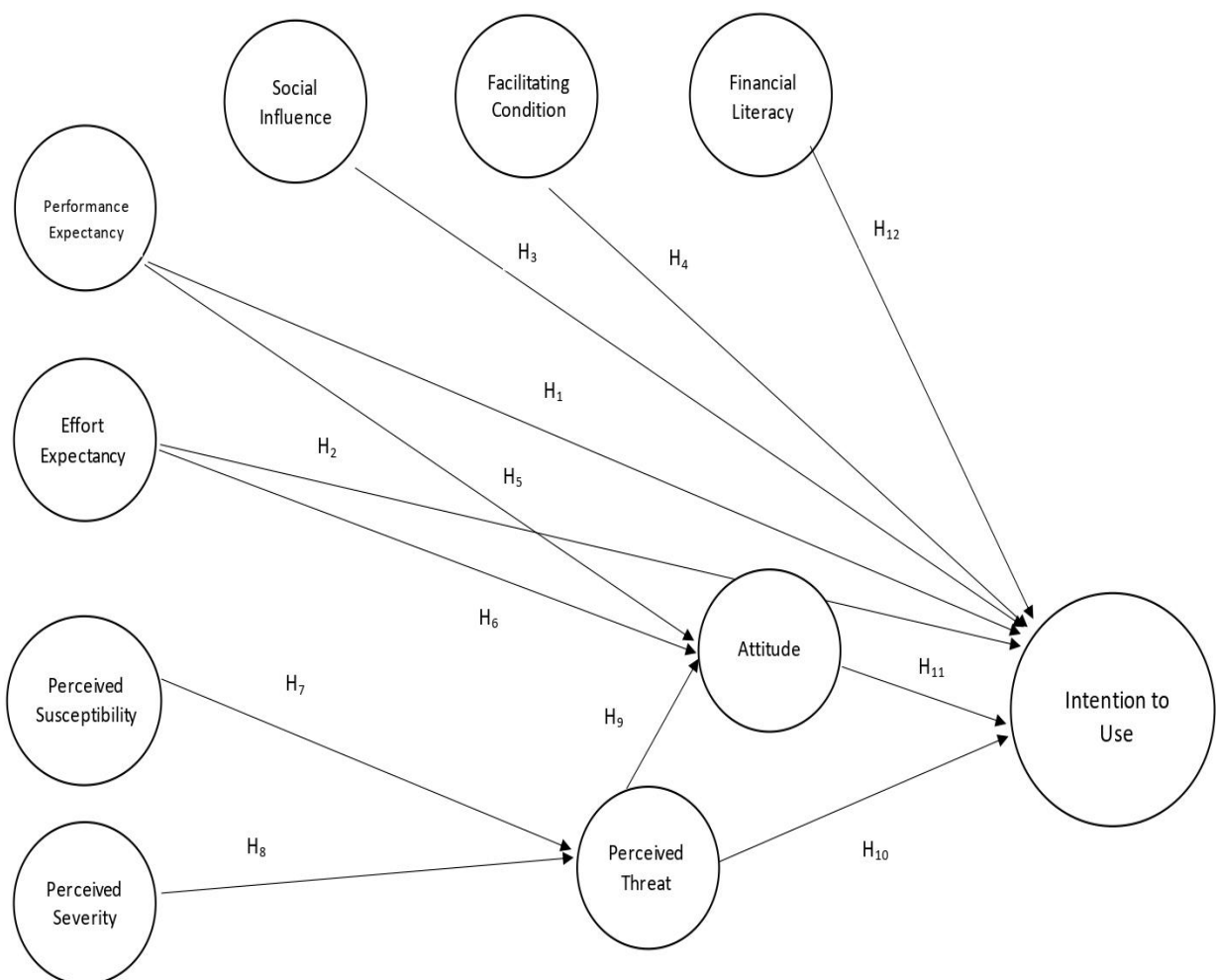
In order to study the impetuses and contests in the espousal of cryptocurrency as a medium of exchange, theoretical model has been developed (Figure 1), on the basis of two theories - "Unified Theory of Acceptance and Use of Technology (UTAUT)" (**Venkatesh et al., 2003**) and "Technology Threat Avoidance Model (TTAT)" (Liang & Xue, 2009). "Facilitating Condition, Social Influence, Performance Expectancy, Effort Expectancy and Attitude" (**Dwivedi et al., 2019; Rana et al., 2016**) are the variables adopted from UTAUT. "Perceived Susceptibility, Perceived Severity and Perceived Threat" are the variables adopted from TTAT. Further, **Hastings et al. (2013)** argue the significance of financial knowledge on the use of money and investments in the economy. Hence, "Financial Literacy" has been added as a variable in the model.

VARIABLE DEFINITION

- **Intention to Use:** The degree of willingness of an individual to use cryptocurrency as a medium of exchange. (**Venkatesh et al., 2012**)
- **Attitude:** An individual's positive or negative feelings about the use of cryptocurrency as a digital currency. (**Cao et al., 2021**)
- **Performance Expectancy:** An individual's belief that using cryptocurrencies can support him/her become financially efficient. (**Venkatesh et al., 2012**)
- **Effort Expectancy:** The extent of convenience involved in using cryptocurrencies. (**Venkatesh et al., 2012**)

- **Facilitating Condition:** The perception that there is a system in place to facilitate the use of cryptocurrencies. (Venkatesh et al., 2012)
- **Social Influence:** The extent to which a person believes society thinks they should use cryptocurrencies. (Venkatesh et al., 2012)
- **Perceived Susceptibility:** An individual's fear that using cryptocurrencies might be outlawed. (Liang and Xue, 2009)
- **Perceived Severity:** An individual's fear that using cryptocurrencies will be harmful. (Liang and Xue, 2009)
- **Perceived Threat:** The degree to which a person thinks using cryptocurrencies is dangerous and riskier. (Liang and Xue, 2009)
- **Financial Literacy:** An individual's belief that he is financially knowledgeable. (Hastings et al., 2013)

Figure 1: Theoretical Model of the Study



Control Variables: Gender, Age and Income (Lammer et al., 2020)

Hypotheses of the Study

- H₁ - Performance Expectancy will have a significant influence on the intention to use cryptocurrency as a medium of exchange
- H₂ - Effort Expectancy will have a significant influence on the intention to use cryptocurrency as a medium of exchange



H₃ - Social Influence will have a significant influence on the intention to use cryptocurrency as a medium of exchange

H₄ - Facilitating Conditions will have a significant influence on the intention to use cryptocurrency as a medium of exchange

H₅ - Performance Expectancy will have a significant influence on the attitude towards the use of cryptocurrency as a medium of exchange

H₆ - Effort Expectancy will have a significant influence on the attitude towards the use of cryptocurrency as a medium of exchange

H₇ - Perceived Susceptibility will have a significant influence on the perceived threat of using cryptocurrency as a medium of exchange

H₈ - Perceived Severity will have a significant influence on the perceived threat of using cryptocurrency as a medium of exchange

H₉ - Perceived threat will have a significant influence on the attitude towards the use of cryptocurrency as a medium of exchange

H₁₀ - Perceived threat will have a significant influence on the intention to use cryptocurrency as a medium of exchange

H₁₁ - Attitude will have a significant influence on the intention to use cryptocurrency as a medium of exchange

H₁₂ - Financial Literacy will have a significant influence on the intention to use cryptocurrency as a medium of exchange

METHODOLOGY

The study is mainly based on primary data. The opinions of the respondents were collected using a well-structured and pre-tested questionnaire. The purposive sampling technique has been used for the study as the respondents must have a reasonable awareness of cryptocurrency to answer the questionnaire. All the respondents selected were cryptocurrency investors who invest and trade in predominant cryptocurrencies.

G*Power software has been used to compute the required sample size needed for the proposed research model. The result of the analysis showed that the required sample size is 262, to ensure statistical accuracy of the model and to reduce Type I and II error, the sample size is fixed at 750 (nearly three times the needed sample size). It is believed that the increased sample size will ensure the robustness of the results.

“Web Power software” was used to assess “Mardia's multivariate skewness and kurtosis” in order to analyse the normalcy of the data gathered (*Cain et al., 2017*). The data do not exhibit multivariate normality, as can be observed from the image where the p-values for skewness and kurtosis were both less than 0.5. PLS-SEM is regarded as an appropriate method for the study in such a case when the data lack normality and distributional concerns are significant (*Hair et al., 2019*). Consequently, PLS-SEM has been carried out utilising SMART PLS software in order to evaluate the study's structural model.

RESULTS AND ANALYSIS

Assessment of the Measurement Model

Hair et al. (2019) guidelines on how to report PLS-SEM results have been followed for measurement model assessment. In this study, the individual indicator variables are reflective in nature. *Hair et al. (2019)* state that “assessment of reflective measurement models comprises of measuring the internal reliability, internal consistency, convergent validity, and discriminant validity.” Internal reliability is ensured by looking into the indicator loadings, which are shown in Table 1.

Table 1: Indicator Loadings

Construct	Item	Loading
	PE01	0.837
	PE02	0.849



Performance Expectancy	PE03	0.818
	PE04	0.901
	PE05	0.835
Effort Expectancy	EE01	0.868
	EE02	0.896
	EE03	0.869
	EE04	0.897
Facilitating Condition	FC01	0.874
	FC02	0.895
	FC03	0.841
	FC04	0.91
Financial Literacy	FL01	0.766
	FL02	0.888
	FL03	0.784
Social Influence	SI01	0.911
	SI02	0.912
	SI03	0.871
Perceived Severity	PSE01	0.866
	PSE02	0.821
	PSE03	0.762
	PSE04	0.844
	PSE05	0.894
Perceived Susceptibility	PS01	0.772
	PS02	0.874
	PS03	0.891
Perceived Threat	PT01	0.783
	PT02	0.762
	PT03	0.845
Attitude	AT01	0.94
	AT02	0.884
	AT03	0.939
Intention to Use	IU01	0.916
	IU02	0.874
	IU03	0.923

Source: Primary Data

Note: PLS-SEM analysis is done using SMART PLS software.

Saari et al. (2021) postulate that “indicator loadings explain the amount of variance shared between the individual variables and the construct associated with them.” Indicator loadings ensure the indicator reliability of reflective measurement models. It can be seen in Table 1 that all the indicator loadings of our measurement models are more than the recommended critical value of 0.708 (**Hair et al., 2019**). The crucial value of 0.708 denotes that the corresponding construct adequately provides item dependability by explaining more than 50% of the variation of the related indicator. Thus, we can say that our model has satisfactory indicator reliability.



After ensuring indicator reliability, the next step is to assess internal consistency and convergent validity. The internal consistency of reflective constructs is evaluated using the composite reliability and ρ_A , while the convergent validity of reflective constructs is evaluated using AVE (Average Variance Extracted). The composite reliability, ρ_A and AVE of our assessment model are shown in Table 2. It has been inferred from Table 2 that both the composite reliability and ρ_A lies in between the recommended thresholds of 0.70 and 0.95. and all the AVE values surpass the recommended threshold value of 0.5. Thus, we can say that our reflective assessment model has a satisfactory level of internal consistency as well as convergent validity.

Table 2: Reliability and Validity

Constructs	ρ_A	Composite Reliability	Average Variance Extracted
Performance Expectancy	0.908	0.926	0.806
Effort Expectancy	0.912	0.934	0.779
Social Influence	0.928	0.926	0.806
Facilitating Condition	0.909	0.932	0.775
Financial Literacy	0.865	0.855	0.663
Perceived Severity	0.899	0.922	0.704
Perceived Susceptibility	0.808	0.884	0.718
Perceived Threat	0.718	0.84	0.636
Attitude	0.913	0.944	0.85
Intention to Use	0.889	0.931	0.818

Source: Primary Data

Note: PLS-SEM analysis is done using SMART PLS software.

The final step in the assessment of the reflective measurement model is to ensure discriminant validity, which explains the extent to which each construct is empirically separate from the other constructs. *Saari et. al (2021)* state that “HTMT (Heterotrait-monotrait) ratio is used to assess the discriminant validity of the model.” The HTMT values are shown in Table 3. HTMT is the mean correlation value of items across constructs in relation to the geometric mean of average correlations for items measuring the same construct. When HTMT values are high, discriminant validity is said to be low. It can be seen from Table 3. that all the HTMT values of our reflective measurement model are significantly lower than the conservative threshold limit of 0.85. Thus, it can be said that the discriminant validity of our model is satisfactorily established.



Table 3: HTMT Ratio of Correlations

	Attitude	Effort Expectancy	Facilitating Condition	Financial Literacy	Intention to Use	Perceived Severity	Perceived Susceptibility	Perceived Threat	Performance Expectancy
Effort Expectancy	0.744 [0.678; 0.806]								
Facilitating Condition	0.431 [0.343; 0.520]	0.385 [0.300; 0.469]							
Financial Literacy	0.331 [0.236; 0.425]	0.335 [0.239; 0.423]	0.418 [0.326; 0.509]						
Intention to Use	0.576 [0.482; 0.667]	0.474 [0.384; 0.559]	0.345 [0.257; 0.433]	0.347 [0.255; 0.444]					
Perceived Severity	0.102 [0.050; 0.199]	0.092 [0.061; 0.170]	0.041 [0.036; 0.111]	0.187 [0.108; 0.278]	0.269 [0.171; 0.367]				
Perceived Susceptibility	0.081 [0.045; 0.174]	0.053 [0.037; 0.141]	0.022 [0.24; 0.112]	0.118 [0.072; 0.188]	0.193 [0.093; 0.292]	0.077 [0.063; 0.137]			
Perceived Threat	0.292 [0.182; 0.399]	0.264 [0.168; 0.365]	0.219 [0.155; 0.319]	0.316 [0.215; 0.423]	0.848 [0.788; 0.902]	0.453 [0.343; 0.564]	0.344 [0.234; 0.457]		
	Attitude	Effort Expectancy	Facilitating Condition	Financial Literacy	Intention to Use	Perceived Severity	Perceived Susceptibility	Perceived Threat	Performance Expectancy
Performance Expectancy	0.395 [0.305; 0.480]	0.340 [0.249; 0.426]	0.332 [0.245; 0.416]	0.301 [0.211; 0.393]	0.330 [0.243; 0.415]	0.058 [0.049; 0.118]	0.113 [0.062; 0.207]	0.237 [0.147; 0.335]	
Social Influence	0.421 [0.338; 0.500]	0.367 [0.277; 0.453]	0.457 [0.363; 0.548]	0.495 [0.394; 0.591]	0.486 [0.406; 0.565]	0.169 [0.095; 0.255]	0.129 [0.076; 0.220]	0.387 [0.291; 0.478]	0.310 [0.221; 0.395]

Source: Primary Data

Note: PLS-SEM analysis is done using SMART PLS software.

The figures in brackets indicate the lower and upper bound of the 95% confidence interval.



ASSESSMENT OF THE STRUCTURAL MODEL

The guidelines of *Hair et al. (2019)* has been followed for structural model assessment of the study. According to *Hair et al. (2019)*, “assessment of the structural model involves three important things viz., checking the collinearity issues, checking the relevance and significance of path coefficients and checking the models’ explanatory and predictive power.” The results of our structural model were shown in Table 4, and the significance of the path coefficients with relevant hypothesis has been separately shown in Figure 2.

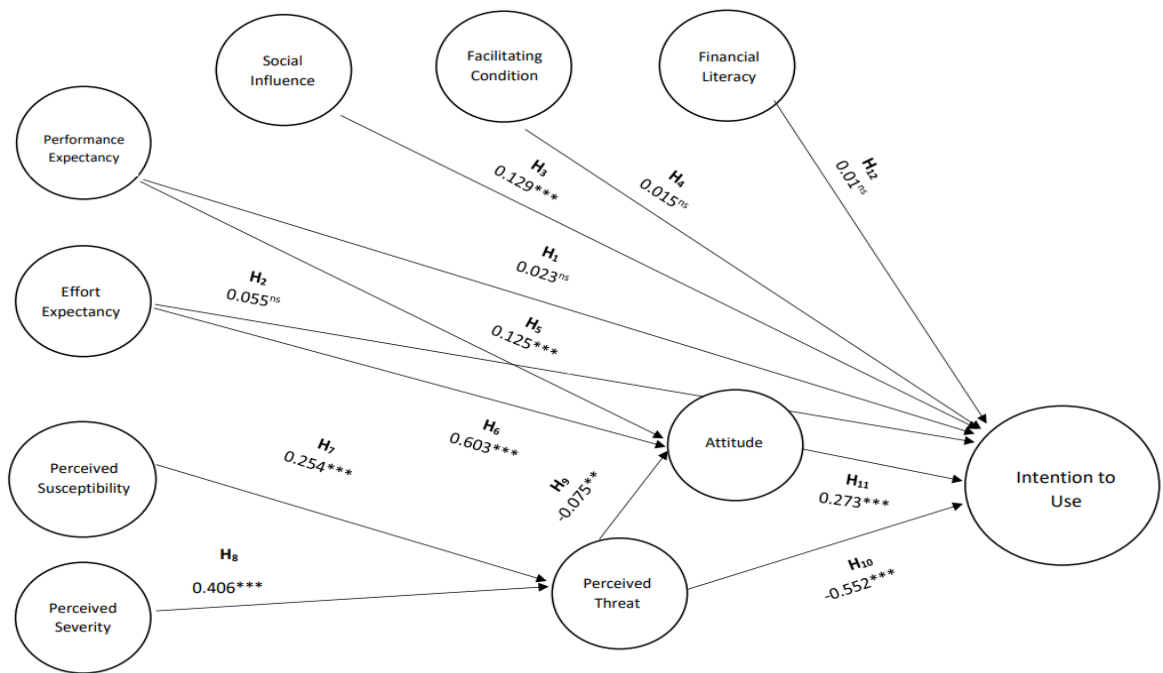
In model, collinearity issues has been checked using the Variance Inflation Factor (VIF). It can be seen from Table 4 that the VIF values are close to 3 and lower. The largest inner VIF value of our model construct is 2.108 (*Hair et al., 2019*). Thus, we can say that “collinearity is not at a critical level in the inner model and will not affect the regression results.” In the next step, the path coefficients’ significance and size has been assessed. With respect to control variables, gender has significant impact on four constructs, namely performance expectancy ($B = -0.143$), social influence ($B = -0.181$), financial literacy ($B = -0.166$), and perceived threat ($B = 0.192$); age has a significant impact on six constructs, namely performance expectancy ($B = -0.227$), effort expectancy ($B = -0.188$), perceived severity ($B = 0.164$), facilitating condition ($B = -0.127$), financial literacy ($B = -0.258$), and perceived threat ($B = -0.204$); and income has significant impact on seven constructs namely performance expectancy ($B = 0.587$), effort expectancy ($B = 0.234$), perceived susceptibility ($B = -0.146$), social influence ($B = 0.330$), facilitating condition ($B = 0.288$), financial literacy ($B = 0.202$), and perceived threat ($B = -0.201$). However, control variables don’t have any significant impact on the endogenous construct of the model.

Figure 2 illustrates the size and significance of path coefficients between the endogenous and exogenous constructs. It can be seen from figure 2 that perceived susceptibility ($B = 0.254$) and perceived severity ($B = 0.406$) has a significant positive correlation with the perceived threat. Further, perceived threat ($B = -0.075$) has a significant negative correlation with attitude and both performance expectancy ($B = 0.125$) and effort expectancy ($B = 0.603$) has a significant positive correlation with attitude. Furthermore, performance expectancy, effort expectancy, facilitating condition, and financial literacy don’t have any significant impact on intention to use. Finally, social influence ($B = 0.129$) and attitude ($B = 0.273$) are positively correlated and significant, whereas perceived threat ($B = -0.552$) has a significant negative correlation with intention to use (endogenous construct).

A look into the R^2 values in Table 4 shows that perceived susceptibility and perceived severity are the important predictor constructs in explaining perceived threat ($R^2 = 0.246$); perceived threat, performance expectancy, and effort expectancy are the important predictor constructs in explaining attitude ($R^2 = 0.501$); and social influence, perceived threat and attitude were the three major predictor constructs in explaining the intention to use (0.616). As the R^2 value of the endogenous construct is more than 0.50, the model has achieved a moderate-to-high level of success (*Hair et al., 2019*) in explaining the intention to utilize cryptocurrency as a currency for digital payments in India. It could be noted that perceived threat ($f^2 = 0.677$) has the largest f^2 effect size among the predictor constructs, followed by attitude ($f^2 = 0.093$) and social influence ($f^2 = 0.029$).



Figure 2: Structural Model Results



Note: Control Variables - gender, age and income.
 *** = $p < 0.01$; ** = $p < 0.05$; ns = Not Significant.



Table 4: Structural Model Results

Outcome	R ²	Predictor	Direct Paths & Hypotheses	B	CI	Significance?	f ²	VIF
Performance Expectancy	0.183	CV	Gender -> Performance Expectancy	-0.143	[-0.276; -0.004]	Yes	0.007	3.625
		CV	Age -> Performance Expectancy	-0.227	[-0.339; -0.112]	Yes	0.024	2.659
		CV	Income -> Performance Expectancy	0.587	[0.493; 0.680]	Yes	0.194	2.171
Effort Expectancy	0.057	CV	Gender -> Effort Expectancy	0.12	[-0.037; 0.277]	No	0.004	3.625
		CV	Age -> Effort Expectancy	-0.188	[-0.309; -0.065]	Yes	0.014	2.659
		CV	Income -> Effort Expectancy	0.234	[0.126; 0.343]	Yes	0.027	2.171
Perceived Susceptibility	0.023	CV	Gender -> Perceived Susceptibility	0.097	[-0.090; 0.284]	No	0.003	3.625
		CV	Age -> Perceived Susceptibility	0.126	[-0.033; 0.281]	No	0.006	2.659
		CV	Income -> Perceived Susceptibility	-0.146	[-0.268; -0.024]	Yes	0.01	2.171



Perceived Severity	0.057	CV	Gender -> Perceived Severity	0.001	[-0.153; 0.159]	No	0	3.625
		CV	Age -> Perceived Severity	0.164	[0.029; 0.298]	Yes	0.011	2.659
		CV	Income -> Perceived Severity	0.099	[-0.020; 0.211]	No	0.005	2.171
Social Influence	0.023	CV	Gender -> Social Influence	-0.181	[-0.317; -0.039]	Yes	0.009	3.625
		CV	Age -> Social Influence	-0.024	[-0.135; 0.088]	No	0	2.659
		CV	Income-> Social Influence	0.215	[0.100; 0.330]	Yes	0.022	2.171
Facilitating Condition	0.061	CV	Gender -> Facilitating Condition	0.026	[-0.103; 0.162]	No	0	3.625
		CV	Age -> Facilitating Condition	-0.127	[-0.222; -0.033]	Yes	0.006	2.659
		CV	Income -> Facilitating Condition	0.288	[0.170; 0.407]	Yes	0.041	2.171
Financial Literacy	0.09	CV	Gender -> Financial Literacy	-0.166	[-0.310; -0.006]	Yes	0.008	3.625



		CV	Age -> Financial Literacy	-0.258	[-0.366; -0.155]	Yes	0.028	2.659
		CV	Income -> Financial Literacy	0.202	[0.090; 0.317]	Yes	0.021	2.171
Perceived Threat	0.246	PS	Perceived Susceptibility -> Perceived Threat	0.254	[0.176; 0.333]	Yes	0.084	1.024
		PSE	Perceived Severity -> Perceived Threat	0.406	[0.325; 0.486]	Yes	0.207	1.06
		CV	Gender -> Perceived Threat	0.192	[0.062; 0.322]	Yes	0.014	3.635
		CV	Age -> Perceived Threat	-0.204	[-0.312; -0.098]	Yes	0.02	2.703
		CV	Income -> Perceived Threat	-0.201	[-0.297; -0.102]	Yes	0.024	2.204
Attitude	0.501	PE	Performance Expectancy -> Attitude	0.125	[0.052; 0.202]	Yes	0.024	1.412
		EE	Effort Expectancy -> Attitude	0.603	[0.529; 0.673]	Yes	0.623	1.936
		PT	Perceived Threat -> Attitude	-0.075	[-0.143; -0.010]	Yes	0.01	1.173
		CV	Gender -> Attitude	0.065	[-0.030; 0.166]	No	0.002	3.732



Intention to Use	0.616	CV	Age -> Attitude	-0.058	[-0.139; 0.022]	No	0.002	2.772
		CV	Income -> Attitude	0.078	[-0.008; 0.161]	No	0.005	2.606
		PE	Performance Expectancy -> Intention to Use	0.023	[-0.037; 0.082]	No	0.001	1.412
		EE	Effort Expectancy -> Intention to Use	0.055	[-0.018; 0.128]	No	0.004	1.936
		SI	Social Influence -> Intention to Use	0.129	[0.064; 0.198]	Yes	0.029	1.495
		FC	Facilitating Condition -> Intention to Use	0.015	[-0.048; 0.079]	No	0	1.423
		FL	Financial Literacy -> Intention to Use	0.01	[-0.053; 0.074]	No	0	1.491
		PT	Perceived Threat -> Intention to Use	-0.552	[-0.608; -0.490]	Yes	0.677	1.173
		AT	Attitude -> Intention to Use	0.273	[0.194; 0.358]	Yes	0.093	2.108
		CV	Gender -> Intention to Use	0.043	[-0.065; 0.151]	No	0.001	3.794
		CV	Age -> Intention to Use	-0.037	[-0.132; 0.061]	No	0.001	2.838
		CV	Income -> Intention to Use	0.015	[-0.059; 0.091]	No	0	2.632

Source: Primary Data

Note: PLS-SEM analysis is done using SMART PLS software.

CI = "95% bootstrap two-tailed confidence interval", CV = "Control Variable", PE = "Performance Expectancy", EE = "Effort Expectancy", FC = "Facilitating Conditions", FL = "Financial Literacy", SI = "Social Influence", PS = "Perceived Susceptibility", PSE = "Perceived Severity", PT = "Perceived Threat", AT = "Attitude".



Importance-Performance Map Analysis (IMPA)

In order to identify the impact and performance of the constructs with respect to the endogenous construct, importance-performance map analysis (IMPA) has been conducted with the intention to use as the target construct, and the results are shown in Table 5 and Figure 3. *Saari et al. (2021)* state that “the results of IMPA demonstrate for which exogenous construct the total effects are important by explaining the variance of the endogenous construct.”

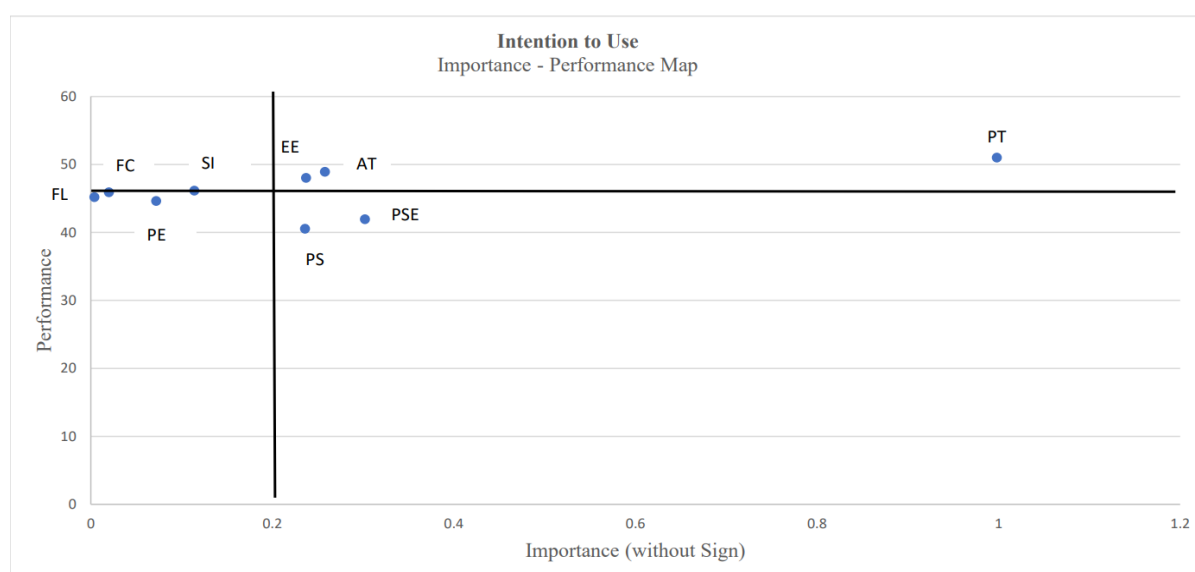
It has been inferred from Table 5, and Figure 3 that perceived threat (-0.998), attitude (0.258), and effort expectancy (0.237) have the largest total effects and are important in explaining the intention to use cryptocurrency as a medium of exchange (performance perceived threat - 51.005; performance attitude - 48.907; and performance effort expectancy - 48.029). Social influence has a smaller total effect (0.114) but realizes above-average performance (46.138). Perceived susceptibility (-0.236) and perceived severity (-0.302) have an above-average total effect, but they score low in performance (performance perceived susceptibility - 40.546 and performance perceived severity - 41.938). Facilitating conditions (0.02), financial literacy (-0.004), and performance expectancy (0.072) have a very small total effect and also score low in performance (performance facilitating condition - 45.908; performance financial literacy - 45.206; and that of performance expectancy is 44.62).

If 1 unit of the performance of perceived threat decreases, say from 51.005 to 50.005, then the intention to use will increase from 49.859 to 50.857. This is the highest increase in the performance of our target construct, that is, the intention to use. Thus it can be said that perceived threat plays a very significant role in the intention to use cryptocurrency as money.

Table 5: Importance-Performance Map Analysis

Particulars	Unstandardized Total Effect (With Sign)	Unstandardized Total Effect (Without Sign)	Performance	LV Performance
Attitude	0.258	0.258	48.907	-
Effort Expectancy	0.237	0.237	48.029	-
Facilitating Condition	0.02	0.02	45.908	-
Financial Literacy	-0.004	0.004	45.206	-
Perceived Severity	-0.302	0.302	41.938	-
Perceived Susceptibility	-0.236	0.236	40.546	-
Perceived Threat	-0.998	0.998	51.005	-
Performance Expectancy	0.072	0.072	44.62	-
Social Influence	0.114	0.114	46.138	-
Intention to Use	-	-	-	49.859
Average	-	0.2	46	

Figure 3: Importance-Performance Map Analysis



Note: PE = Performance Expectancy, EE = Effort Expectancy, FC = Facilitating Conditions, FL = Financial Literacy, SI = Social Influence, PS = Perceived Susceptibility, PSE = Perceived Severity, PT = Perceived Threat, AT = Attitude.

DISCUSSION

The study findings show that the construct “perceived threat” is the most significant factor in the espousal of cryptocurrency as a medium of exchange in India. This result is consistent with the recent study on associated risks and threats in the use of cryptocurrency (*Madey, 2017*). Thus, the removal of major threats to the adoption of cryptocurrency, such as black marketing, collapsing concerns and threats of unknown identity (*Sharma, 2022*) has become necessary to increase the adoption of cryptocurrency for digital payments.

According to our findings, attitude is also important in explaining the intention to use cryptocurrency as money. This result is consistent with the recent study on the influence of the attitude of the users on the intention to use (*Zhu, Lin, & Hsu, 2012*). The study findings show that effort expectancy has a strong positive correlation with attitude.

The third important variable affecting the espousal of cryptocurrency is social influence. It has a significant positive impact on the intention to use. This finding is in line with the results of a recent study on the impact of social influence on the adoption of cryptocurrency (*Thompson, 2020; Almarashdeh et al., 2021; Saiedi, Brostrom & Ruiz, 2021*).

As the R² value of the endogenous construct is more than 0.50, the model has achieved a moderate-to-high level of success (*Hair et al., 2019*) in explaining the motivations and challenges in the adoption of cryptocurrency as a medium of exchange in India. It could be noted that perceived threat has the largest f² effect size among the predictor constructs, followed by attitude and social influence.

CONCLUSION

The deciding factor in the emergence of cryptocurrency as a global currency for digital payments depends on the level of acceptance it gains in society. While cryptocurrency is gaining significant acceptance in developed economies like the US, the rate of adoption in emerging economies like India has not been studied so far. It is essential for cryptocurrency to be adopted in countries like India to become a true global currency. Hence, the study aims to find out the impetuses and contests in the espousal of cryptocurrency in India. Based on the IPMA results, it is recommended that the perceived threat (risks and uncertainties in the use of cryptocurrency for digital payments) must be addressed through policy changes and regulations. A tug of war is currently taking place in India, as it is in many other countries such as Russia, between the central bank, which is advocating for the prohibition of cryptocurrencies, and government ministries such as finance and IT, which want the country to participate in the newly emerging Web 3.0 economy. Given how quickly digital assets have developed in the last year, Alexander Höptner (CEO of Bitmex crypto exchange), believes that “if



Indian policymakers take a positive position on cryptocurrencies, the country might flip the needle for mass market crypto acceptance globally” (Mahanta, 2022).

The study is limited to respondents in the major cities of India, and only people who are cryptocurrency investors were purposively selected for the study. Thus, future studies could examine the perceptions of people who are not cryptocurrency investors. Furthermore, future studies can also examine other factors that affect the intention to use cryptocurrency, such as social media influence.

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