Indian Millennials Attitude towards Cryptocurrencies

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Abstract

Cryptocurrency has emerged as a major turning point for the financial industry and seen as a significant fintech revolution. The cryptocurrency market is extremely volatile and the regulation of cryptocurrency differs from region to region, which makes it a challenging area not just for practitioners but also for academicians. The present study makes an attempt to understand the attitude of Indian millennials towards cryptocurrency. the study is based on the theoretical framework of Technology Acceptance Model (TAM) and uses a sample of 120 respondents to examine the impact of factors, namely, perceived ease of use, perceived risk, personal innovativeness, and social influence. This study indicates that personal innovativeness, the perceived ease of using the technology, and social influence has a significant positive influence on the attitude towards cryptocurrency. Perceived risk was found to have a negative but significant impact on attitude towards cryptocurrency. Personal innovativeness emerged as the most important factor having a positive influence on attitude which was followed by social influence and perceived ease of use. The results of the study has important theoretical as well practical implications which are discussed at the end of the paper.

Keywords: *cryptocurrency, millennials, TAM, India*

Introduction

Digital payment methods based on peer-to-peer networks and end-to-end encryption known as cryptocurrencies encrypt data using a public-private key mechanism. Historically, money has been backed by regulatory or governmental entities and utilized as a store of value, a means of trade, and a unit of measurement. Cryptocurrencies are created through a computer-generated process called mining and then exchanged to create market forces and increase in value. They are not issued by governments or other regulatory bodies (Nakamoto, 2008). These currencies are traded (bought and sold) in an ungoverned, decentralized digital environment without the involvement of a central bank. Cryptocurrency trades do not take place on structured exchanges like stock and commodity markets. (ElBahrawy et al., 2017; Nakamoto, 2008; Pagliery, 2014).

Initially launched in January 2009, Bitcoin was the first cryptocurrency. Cryptocurrencies have seen a significant increase in both number and market capitalization over the past ten years. However, total market capitalization of cryptocurrencies went down recently between May 2021 to June 2021(Best, 2023). Weber (2016) found that the loss of public confidence in the central banking system during the Great Recession of 2008 is one of the causes of the rise in cryptocurrencies. People were looking for an alternative to the conventional banking system that would eliminate a middleman in two-party transactions and increase transparency (Vigna & Casey, 2016). Despite the fact that not everyone suffered the effects of the recession in the same way, the public lost faith in the central banking system. The advent of digital currencies was a result of this search for alternatives. The development of technology was another factor that contributed to the rapid rise of cryptocurrencies (Barone and Masciandaro, 2019).

As a result, cryptocurrencies have become a brand-new asset class for investors on the international financial markets (Ankenbrand and Bieri, 2018; Kallinterakis and Wang, 2019; Zhao, 2015). The trading market for this category is made up of anonymous transactions between individuals or entities, which attracts investors to this market segment. Compared to transactions using conventional currencies, there are fewer middlemen and institutions paying a commission.

A July 2019 survey across the US on millennials' attitudes toward cryptocurrencies was conducted in July 2019 by Bankrate LLC, a consumer financial services company with headquarters in New York City (Royal, 2019). According to the results, cryptocurrencies are the seventh most popular investment option among American millennials, behind real estate, stocks, savings accounts or cash deposits, gold, and other metals. Additionally, it showed that in

comparison to the older generation, millennials are three times more likely to invest in cryptocurrencies over the long term. Those born between 1980 and the early 2000s are considered millennials. They are so-called "digital natives," whose formative years occurred at the same time as the fast development of computer technologies (Pew Research Centre, 2019). The June 2018 report by Ipsos on behalf of ING International (ING, 2018), entitled "Cracking the code on cryptocurrency", which included the USA, Australia and Europe, found similar results, showing that the ownership and use of cryptocurrencies, especially Bitcoin, is a "demographic mega-trend" led by the younger generation in the 18-34 age range. Around 30 percent of millennials would prefer to invest $1,000 in Bitcoin, and not in government stocks and bonds. The percentage was much lower in the previous generation. The report speculated on potential explanations for millennials' preference for Bitcoin investments. High profits, the ease of using technology, lower transaction costs, less regulation in comparison to traditional banking, and transparency, as all information pertaining to transactions is available to peers in a blockchain network, could be the explanations (ING, 2018; Slepokurova, 2018).

However, the crypto market is also highly volatile as it is highly speculative and there is no established regulatory framework for the same. As a result, trading rate of cryptocurrencies are more unpredictable as compared to stocks. Cryptocurrencies till date remain unregulated in India and, in a bid, to regulate the crypto market and bring in under government control, Government of India tabled the Cryptocurrency and Regulation of Official Digital Currency Bill, 2021 in the Lok Sabha. The bill attempts to create a framework for regulation of digital currency which will be issued by the RBI (Reserve Bank of India). However, no progress has been made so far in this regard as cryptocurrencies are borderless and regulation will need international collaboration as well.

Within this context of the emerging popularity of cryptocurrencies, its regulation, and its volatility, the present paper attempts to understand the attitude of millennials towards cryptocurrencies. The rationale for selecting millennials for the study is the generations defining characteristic of being 'digital natives' as they have grown up immersed in technology (Connaway, 2008). As such it is important to examine their disposition towards the crypto technology. The study specifically attempts to determine the factors influencing attitude of millennials towards cryptocurrency.

Theoretical framework and review of literature

Since cryptocurrencies are a digital or virtual form of currency based on blockchain technology, therefore, the researchers have used the Technology Acceptance Model (TAM) as the theoretical framework to understand the attitude and intention to use cryptocurrency by millennials. Several theories can be identified for the human behaviour and behaviour intention in the current literature which analyses people's behaviour such as Theory of Reasoned Action, Theory of Planned Behaviour. TRA became a base for Technology acceptance model (TAM) which aims to explain information technology and information systems adoption behaviour (Davis, 1989). TAM states that adoption behaviour is determined by the intention to utilize a particular system determined by the perceived usefulness and ease of use. TAM states that information technology users act rationally during their decision whether to use technology or not. User's intention to use new technology depends on their beliefs of perceived usefulness (PU) and perceived ease of use (PEOU) of the technology (Nuryyev, et al., 2018). According to Shahzad, et al., (2008) TAM is a comprehensive model which can be used to predict the intention of individuals to use innovative technologies. TAM became the base for several models of innovation technology acceptance (Nuryyev, et al., 2018) such as TAM2 which includes social and organizational variables, the "Unified Theory of Acceptance" and the "Use of Technology".

Davis (1989) defines PEOU as the degree of a person belief in the ease of use of a system or technology. Shahzad, GuoYi, Jian & Sha (2008) stated that acceptability of Cryptocurrency as a source of money depended on how the currency measured in terms of user-friendliness and the ability of individuals to have a timely access to it. According to Albayati, et al. (2020) the perceived ease of use in construct refers to the level of user expectation and belief that using this service or technical system can be free of effort (Albayati, et al., 2020).

Trust is a critical component in developing any technology or system and its subsequent acceptance. The reason for this as stated by Pavlou & Fygenson, (2006) is because Trust creates a positive attitude among citizens. Additionally, in time perceived trust (PT) seems to enhance the end user interactions with technology. According to Shahzad, GuoYi, Jian & Sha (2008), "Trust" is a key factor required in the development and adoption of various information systems by creating a positive attitude in society. Moreover, Perceived trustworthiness has a significant contextual influence to enhance the adaptability of a system. In the adoption of technology, consumers need to overcome risk perceptions and insecurities. They also need to feel safe in

interacting with a service provider over a new medium where the service provider is often unknown and socially distant. Under such scenarios building a strong trust bridge helps as stated by Albayati, et al. (2020).

An individual's own willingness to try new technology is termed as personal innovativeness (Lu *et. al.*, 2005; Mun *et. al.*, 2006). The construct of personal innovativeness plays a determining role in the acceptance of any new technology. Personal innovativeness has been shown to positively influences acceptance and adoption of new technology is shown to have positive influences on perceived usefulness and perceived ease of use (Agarwal and Prasad, 1999).

Social influence is another construct which has been shown to be important in technology adoption (Venkatesh and Davis, 2000). Venkatesh and Davis (2000) theorize specific behavioural intention of an individual is a function of how significant others expect them to perform. Thus, social influence has the potential to impact attitudes of individuals towards cryptocurrency. Attitude refers to a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavor (Eagly and Chaiken, 1993). Attitude has been shown to be a precursor to intention to adopt new technology (Ajzen and Fishbein, 1975).

Several studies have been conducted in order to determine the attitude of people towards cryptocurrencies. Albayati, Kim and Rho (2020) studied the adoption of cryptocurrency and they found trust to be the most important factor influencing cryptocurrency adoption. Ku-Mahamud et. al. (2019) found the majority of the respondents believe cryptocurrency and blockchain systems to be stable and secure. Wood et. al. investigated the attitude towards bitcoin by using the TAM model and it was found that easy use and compatibility were important factors pushing towards the adoption of bitcoins. Ayedh et. al. (2020), through a study on 200 respondents, found that awareness and compatibility are important factors in promoting adoption of cryptocurrencies. The study also found that subjective norms, ease of use, trust, and profitability did not have any significant impact on adoption of cryptocurrencies.

It is also important to note that cryptocurrency adoption across nations too vary widely. While in the European Union cryptocurrency is legal, the same is not true for North Africa where cryptocurrencies are illegal. Cryptocurrencies are legal in the US also and are regulated both as currency as well as security. While India is planning a bill to regulate cryptocurrency and has warned public trading in cryptocurrencies, cryptocurrency has not been banned totally. On the other hand, Saudi Arabia, Pakistan, Bangladesh, Nepal, and Taiwan have banned trading in

cryptocurrencies. In this context, it becomes important to understand the attitude and intention to adopt cryptocurrencies by millennials of India.

Hypothesis

Based on the literature review and theoretical framework of the study, the authors hypothesize:

H_1: *personal innovativeness has a significant positive impact on attitude towards cryptocurrency;*
H_2: *perceived risk has a significant negative impact on attitude towards cryptocurrency;*
H_3: *perceived ease of use has a significant positive impact on attitude towards cryptocurrency;*
H_4: *social influence has a significant positive impact on attitude towards cryptocurrency.*

Methodology

Participants

The population for the study consisted of all Indian citizens who are millennials. In the absence of a sampling frame, the researchers used a combination of convenience and snowball sampling technique to connect with the respondents. The following conditions were to be fulfilled by the respondents to be considered for the study:

    (i)   They must be citizens of India;

    (ii)   They must fall within the age group of 25-45 years; and

    (iii)   They must be aware of cryptocurrencies.

The questionnaire was circulated to 200 respondents out of which 120 questionnaires were found to be complete in all respects indicating a response rate of 60 per cent.

Measures

A structured questionnaire was used to collect data for the study. The questionnaire was created using items intended to measure attitude, perceived risk, personal innovativeness, social influence, perceived ease of use, and intention to use cryptocurrencies. All items were measure on a 5-point Likert scale.

Procedure

Respondents fulfilling the criteria to be included in the sample were presented with the questionnaire. They were briefed about the research objectives and purpose and consent was obtained from them. They were also assured about the confidentiality of the data. The final sample

consisted of 55 per cent male and 45 per cent female respondents. Data was analyzed using SPSS.

Results

Scale reliability

Reliability is the degree to which an assessment tool produces stable and consistent results. In order to establish the reliability of the scale Cronbach's alpha score was calculated which is the most frequently used measure of reliability. Cronbach's alpha score was found to be 0.745 which indicates high internal consistency.

Personal innovativeness, social influence, perceived ease of use, risk: impact on attitude towards cryptocurrency

In order to determine the impact of the personal innovativeness, social influence, perceived ease of use and risk on attitude towards cryptocurrency a multiple regression analysis was performed. The independent or predictor variables are personal innovativeness, social influence, perceived ease of use and risk and the dependent or criterion variables is attitude towards cryptocurrency. From the results of the multiple regression analysis, it can be observed that the value of R as 0.980. The value of R is measured of the quality of the prediction. The R square column represents the value which refers to the amount of variance in the dependent variable that is accounted for by the independent variables. The R square value in this case is 0.960 which means that the independent variables account approximately 96% of the variability in the dependent variable. The adjusted R square is an adjustment of the R square that penalizes the addition of extraneous predictors of the model. It can be observed that there is a difference between R square and the adjusted R square.

The adjusted R square value is 0.958 indicating that 95.8% of the variability of the dependent variable is explained by the independent variables.

The F-ratio in the ANOVA table tests whether the overall models fit the data. The table shows that the independent variables statistically significantly predict the dependent variables, F = 550.375, P = 0.000 and therefore, the regression model fits the data well.

The variations in the dependent/predicted variables with respect to a single predictor/independent variable with all the other predictor/independent variables remaining constant is indicated by the unstandardized coefficients. This checks if the unstandardized coefficient is equal to zero in the

population. From the table it can be observed that the significance values against the t-tests are less than 0.05 for personal innovativeness, social influence, perceived risk and perceived ease of use.

Table 1: Results of the Multiple regression

R	.980				
R square	.960				
Adjusted R square	.958				
F value	550.375	Sig. .000			
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	**Std. Error**	**Beta**		
1	Perceived risk	-.024	.026	-.020	-.917	.361
	Personal innovativeness	.363	.082	. 379	4.445	.000
	Social influence	.198	.064	.199	3.076	.003
	Perceived ease of use	.145	.076	.151	1.915	.048

The unstandardized coefficients in the table represents the amount of change in the dependent variable, in this case attitude, due to a change of one unit in the independent variables. An examination of the unstandardized coefficients reveals that personal innovativeness explain a greater amount of change in attitude towards cryptocurrency (B=0.363). An examination of the other unstandardized coefficient reveals social influence is the second important variable explaining changes in the dependent variable (B=0.198) followed by perceived ease of use (B=0.145). Lastly, though perceived risk emerged as a significant predictor of intension to use, it emerged as the factor explaining the least amount or negative impact of change in the dependent variable, that is, perceived risk (B= -0.024).

Discussion

The present study attempted to understand the attitude of millennials towards cryptocurrency. The study is based on the theoretical framework of Technology Acceptance Model (TAM). Personal innovativeness emerged as an important predictor of attitude and was found to have a

significant positive impact on attitude. Social influence was also found to have a significant positive influence on attitude towards cryptocurrency which was followed by perceived ease of use. As hypothesized perceived risk emerged as a significant but negative predictor of attitude towards cryptocurrency. Thus, the findings of the study extend support to the hypothesized relationships between the study constructs. The present research adds to the existing body of knowledge on attitude towards cryptocurrencies. The results of the study has important implications for practice as well as it sheds light on the behavioural dimensions of technology acceptance.

Cryptocurrency and the cryptocurrency market is still evolving. Technological breakthroughs are leading to creation of digital currencies and assets and is fundamentally changing the way people invest and trade. Therefore, more research needs to be undertaken to understand the behaviour of people towards emerging digital currencies. Future research may test the differences in attitude towards cryptocurrency and its acceptance across various generational cohorts and gender groups. Studies may also focus on risk perceptions of individuals with respect to cryptocurrencies. Lastly, future studies can also focus on the regulatory framework for controlling cryptocurrencies and comparing them across nations.

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