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# Behavioural Intention Towards Cryptocurrency Adoption Among Students: A Fintech Innovation

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## Abstract

Despite being one of the most rapidly developing digital assets in the current day, cryptocurrency investments are still of dubious appeal. Therefore, the present study aims to study the behavioural intention of Generation Z Indians of university post-graduate students towards investment in cryptocurrencies. The theory of planned behaviour has been applied to analyse behavioural intention to adopt cryptocurrency. Attitude toward behavioural intention relates to the extent to which an individual recognizes the benefits or drawbacks of performing the behaviour. The data was collected from 480 respondents using a structured questionnaire and utilized a five-point Likert scale. The data has been analysed using Smart PLS 3 and performed the structural equation model. The study reveals that attitude, awareness, and perceived behavioural control were significantly influencing the behavioural intention to adopt cryptocurrency and subjective norms were negatively insignificant towards behavioural intention.

**Keywords**: Awareness, Theory of Planned Behaviour, Cryptocurrency, Intention to Use, Financial Technology Innovation and Generation Z.

## Introduction

The rise of cryptocurrencies such as Bitcoin has received a lot of media and consumer attention in recent years. Cryptocurrency is a form of digital currency that employs encryption and blockchain technology to protect financial transactions (Sudzina et al., 2019). Innovations in financial technology utilizing blockchain technology and cryptocurrencies have swept the global financial markets by enabling a borderless financial system (Sonderegger, 2015). Cryptocurrency is one of the most well-known marvels of current technology. Bitcoin was the first cryptocurrency ever proposed and utilized in 2009 by Satoshi Nakamoto (Smutny, Z., et al., 2021). There are quite a lot of types of cryptocurrencies around the globe having their specific features (Narayanan, A., et al., 2017) It operates like a computer connected to a network of users and retains a record of all transactions generated by the trader (Hasan, S. Z., et al., 2022). According to World Economic Forum research, blockchain technology will be used to keep ten percent of global gross domestic product (GDP) by 2025 (White, G. R. 2017). Both beneficial and volatile aspects of cryptocurrencies might cause a variety of problems for individuals (Sarwar, M. I., et al., 2019).

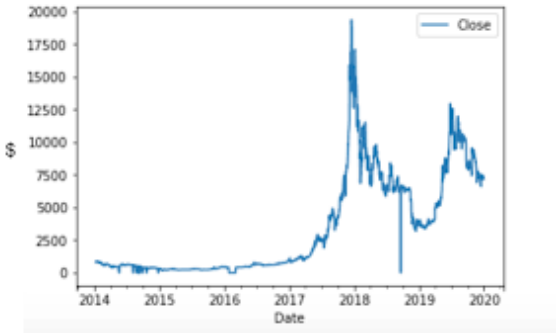
Financial Technology

Financial technology combines finance and technology to create and deliver financial services (Kaur and Dogra, 2019). Financial innovation, such as cryptocurrencies, is not yet generally embraced, but once broadly adopted, it has the potential to reshape the future of the financial industry (Chuen and Teo, 2015). Financial innovation adoption refers to

consumers' intentions to utilize cryptocurrency as trade and measure of wealth (Arias-Oliva et al., 2019). Cryptocurrency can reach its full potential when it is broadly adopted by end-users, without whom its impact will be modest (De Filippi, 2014). Awareness and trade volume show cryptocurrencies' prevalence in a country (Luno, 2018).

Despite ambiguity regarding the future of cryptocurrencies in India, investments in unregulated digital assets, particularly Bitcoin, have seen a meteoric increase since 2020. According to data from several domestic cryptocurrency exchanges, more than 1.5-2 crore Indians have invested in the asset class, surpassing $10 billion (Singh, S. K. 2021). The increasing number of cryptocurrency adopters shows a shift in the financial paradigm in a nation that is traditionally known for investing mostly in gold and other safe assets.

Journey of Cryptocurrency in India

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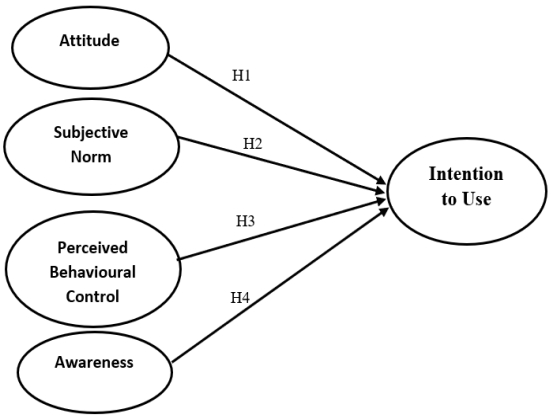
The RBI governor Shaktikanta Das said India's perspective on cryptocurrencies is indeed not notably favorable. The central bank had consistently issued warnings regarding cryptocurrency transactions, it has now subsequently tumbled (RBI report, 2022). The worldwide cryptocurrency market has recently experienced a significant decline, with Bitcoin's value falling to $27,000 at the beginning of 2022. This represented a reduction of over fifty percent from its all-time high of $69,000. Since then, Bitcoin has remained stable and has not traded above $30,000 in days. The adoption of cryptocurrencies is still in its infancy, with price volatility being a key obstacle to date, with prices fluctuating erratically at the moment. Investor confidence in transactions is affected by the fact that the value of cryptocurrencies can change quickly. Despite these barriers to adoption, the benefits of blockchain technology are readily apparent due to the near-certainty that the data being communicated and received cannot be modified, hence enhancing the data's security and transparency for all parties. As the world moves toward the Internet of Things, the cryptocurrency appears to have a bright future (Miraz and Ali, 2018). Institutions are ramping up their efforts to innovate and adopt cryptocurrencies, anticipating a growth in the use of digital currencies (Mizrahi, 2016). There are encouraging reports that the widespread usage of digital currencies can revolutionize and integrate economies, especially those in underdeveloped countries and regions (Kshetri, 2017; Coeckelbergh and Reijer,2015). Cryptocurrency's growth is expanding public choice while also creating new economic systems (Davidson et al., 2016). It has been noticed that using cryptocurrencies for transactions results in lower transaction costs and a large reduction in the amount of time required for transactions as a result of disintermediation (Dwyer, 2015). The factors that are driving more people to use cryptocurrencies are extremely important, given that the continued existence of cryptocurrency technology is strongly dependent on the use of cryptocurrencies by an overall market (Thomas, 2019). Understanding student behaviour and being able to foresee what motivates them to adopt the innovation will likely be crucial to the growth of cryptocurrencies (Wu, R., et al. 2022; Mazambani, L., et al. 2019). This study investigates students' intentions to embrace cryptocurrencies, as well as the factors that influence their adoption intentions.

Theory of planned behaviour

The theory of planned behaviour and theory of reason action are the two main theories that explain why awareness and attitude are essential measures before actual adoption. The TPB is the popular model used frequently used in the adoption of technologies to predict human behaviour (Qi and Ploeger, 2019; Cheon et al., 2012). According to Ajzen (2012), the theory of planned behaviour assumes that the intention to

adopt the technology is an immediate antecedent of behaviour. The intention to adopt the technology-based innovation is a major function of attitude towards the behaviour, the subjective norm of an individual, perceived behavioural control, and level of awareness (Weigel et al., 2014).




Source: Ajzen (1991), Theory of planned behaviour.

## Hypotheses for the study

H1. Attitude has a relationship with the intention to adopt cryptocurrency.

H2. Subjective behavioural control has a relationship with the intention to adopt cryptocurrency.

H3. Perceived behavioural control has a relationship with the intention to adopt cryptocurrency.

H4. Awareness has a relationship with the intention to adopt cryptocurrency.

## Research framework

Sample, Measurement scales and Data collection

The study utilized a structured questionnaire-based research method to accomplish the objectives of the research. The population of the study was university post-graduate students in India. Generation Z university students were focused because they have high internet usage (Khan et al., 2016) and their propensity to adopt innovation (Trucker, 2011). The primary data for the study was collected through a structured questionnaire with a five-point Likert scale of "1= strongly disagree" and "5= strongly agree" using an online platform like Google forms, Linked In, WhatsApp, etc. The items of each construct were adapted from Lee (2009), Gu et al., (2009) Venkatesh (2000), Cheon et al., (2012), and Mark P. Doblas, (2019) and modified to align them to cryptocurrency. For this particular study, a descriptive research design was chosen as the appropriate method of investigation. The sample selected for the study is the management students enrolled in post-graduate programmes at universities in the city of Chennai, Tamil Nadu, India. The method used to collect data is judgemental sampling. The structured questionnaire was distributed to 500 students out of which 480 were usable and it is adequate for data analysis.

## Results and Discussions

The measurement and structural model have been analysed with the help of Smart PLS 3 (Ringle, et al., 2015). To assess the measurement model the internal consistency, convergent validity, Cronbach's alpha, AVE, and discriminant validity have been examined.

Measurement Model

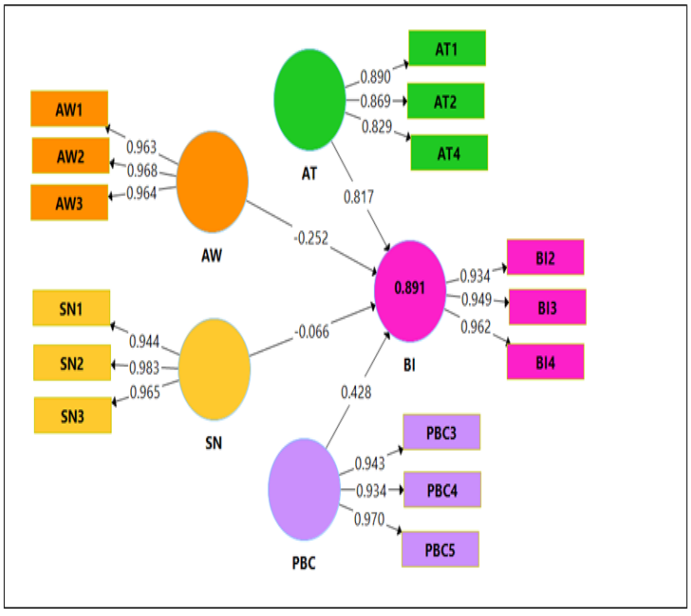



Fig.1 Factors loadings, and R2 value.

Table 1: Convergent Validity, Internal Consistency, AVE and Composite reliability

| Construct | Indicators | Loadings | Cronbach's alpha | Composite Reliability | AVE |
|---|---|---|---|---|---|
| Attitude | AT1 | 0.890 | 0.828 | 0.897 | 0.745 |
| | AT2 | 0.869 | | | |
| | AT4 | 0.829 | | | |
| Awareness | AW1 | 0.963 | 0.963 | 0.976 | 0.931 |
| | AW2 | 0.968 | | | |
| | AW3 | 0.964 | | | |
| Perceived Behavioural Control | PBC3 | 0.934 | 0.946 | 0.965 | 0.901 |
| | PBC4 | 0.949 | | | |
| | PBC4 | 0.962 | | | |
| Subjective Norms | SN1 | 0.944 | 0.962 | 0.975 | 0.930 |
| | SN2 | 0.983 | | | |
| | SN3 | 0.965 | | | |
| Behavioural Intention | BI2 | 0.943 | 0.944 | 0.964 | 0.899 |
| | BI3 | 0.934 | | | |
| | BI4 | 0.970 | | | |

From table 1, it is revealed that the factor loading of the construct has more than 0.8 and convergent validity should be at least more than 0.5 to attain the satisfactory level (Hair et al., 2010; Rahman et al., 2015). George and Mallery (2003) have indicated in their study that Cronbach's alpha of more than 0.7 is excellent. The analysis of the current study inferred that the value of Cronbach's alpha is more than 0.9 which is excellent. AVE should be equal to or more than 0.5 and composite reliability should be 0.7 or above (Fornell & Larcker, 1981; Hair & Lukas, 2014). In the current study, it is revealed from the analysis, that both AVE was more than 0.8 and composite reliability was 0.8 at are satisfactory level.

Structural Model

The structural model aids to observe the direct effect between exogenous and endogenous variables using Smart PLS 3.

Table 2 Discriminant Validity

| | AT | AW | BI | PBC |
|---|---|---|---|---|
| AW | 0.736 | | | |
| BI | 0.836 | 0.599 | | |
| PBC | 0.773 | 0.840 | 0.770 | |
| SN | 0.559 | 0.831 | 0.528 | 0.800 |

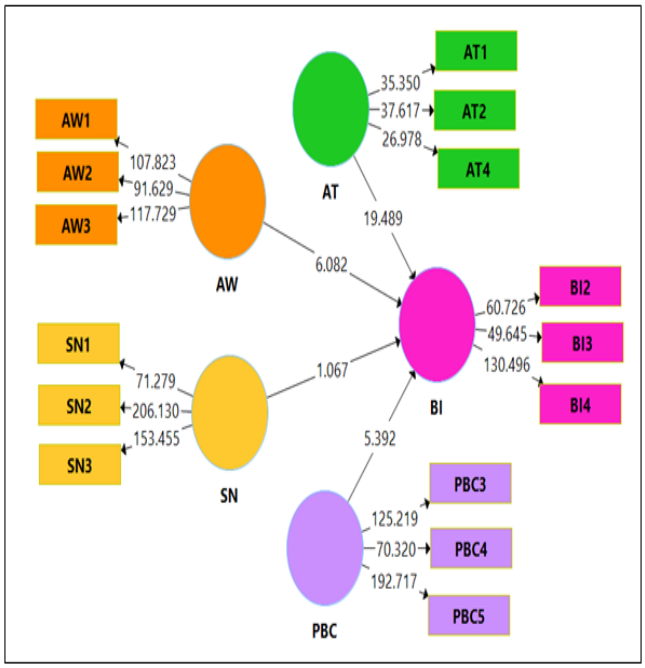



Fig.2 Direct effect, t value and path coefficient

The study has four hypotheses H1, H2, H3, and H4. The hypothesis was validated by examining the t value and path coefficient. Moreover, R-Squared 89.1% (R2= 0.891) was examined. According to Hu & Bentler (1998) the SRMR values, less than 0.08 are considered a model fit, and NFI values above 0.9 represent adequate model fit (Bentler & Bonett, 1980). SRMR and NFI values are 0.065 and 0.903, therefore the model is f

Table 3 Structural Model Assessment: Direct effect and Decision

| Hypothesis | Relationship | Original Sample | Sample Mean | Standard Deviation | T Statistics | p values | Decision |
|---|---|---|---|---|---|---|---|
| $H_1$ | AT-- > BI | 0.817 | 0.817 | 0.042 | 19.489 | 0.000 | Accepted |
| $H_2$ | AW-- > BI | -0.252 | 0.252 | 0.043 | 6.082 | 0.047 | Accepted |
| $H_3$ | PBC-- > BI | 0.428 | 0.430 | 0.083 | 5.392 | 0.000 | Accepted |
| $H_4$ | SN-- > BI | -0.066 | -0.067 | 0.064 | 1.067 | 0.301 | Rejected |

The current study has four direct hypotheses as shown in Table 3. The direct hypotheses (H1, H2, H3) were accepted as the t-value was greater than 1.96 and the hypotheses (H4) were rejected as the t-value was less than 1.96. Therefore, it is revealed that attitude (p-value is 0.000), awareness (p-value is 0.047), and perceived behavioural control (p-value is 0.000) was significantly influencing the behavioural intention to adopt the cryptocurrency and subjective norms (p-value is 0.301) was negatively insignificant towards behavioural intention to adopt the cryptocurrency.

Table 4 f -squared value (f 2) Effect size

| Construct | f -squared | Effect size ($f^2$) |
|---|---|---|
| Attitude | 2.588 | Strong |
| Awareness | 0.157 | Moderate |
| Perceived Behavioural Control | 0.279 | Moderate |
| Subjective Norms | 0.008 | Small |

Cohen (1988) pointed out that effect size (f2) values of 0.02 are small, 0.15 is moderate and 0.35 is strong. From Table 4, it is inferred that the attitude (2.588) was a strong effect size, awareness (0.157) and perceived behavioural control (0.279) was a moderate effect size and subjective norms (0.008) were a small effect size.

## Conclusion

The prominence of cryptocurrencies necessitates greater knowledge of the elements that influence individual adoption. The purpose of the present research is to investigate the adoption of cryptocurrencies among university students to offer a full knowledge of the adoption determinants of cryptocurrency. The development of innovative financial technologies is very necessary for the growth of existing financial markets. Students' attitudes and awareness is a key aspect of BI for cryptocurrency. Mazambani et al., (2019) recognized factors that should be painstaking for BI in terms of growth in financial technology. Generation Z has a stronger clench and mindfulness of technology and has greater knowledge and cognizance of bitcoin (Ayedh et al., 2020). This study widely contributed to the government, regulatory authorities, and policymakers to consider legalizing the cryptocurrency investment and lifting the ban on cryptocurrencies by regulating it legitimately in India and dispersal awareness to the people to avoid any financial fatalities.

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