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Beyond the Hype: Why Blockchain Adoption Remains Limited in India

Dr. Aanchal Aggarwal[1], Dr. Ramanpreet Singh[2], Dr. Jyoti Gupta[3], Dr. Nupur Arora[4*], Dr. Ruchi Shukla[5], Dr. Renu Vashisht[6]

[1]Assistant Professor, Vivekananda Institute of Professional Studies-TC, Email: aanchalaggarwal10@gmail.com
[2]Professor, Vivekananda Institute of Professional Studies-TC, Email: ramanpreet.singh@vips.edu
[3]Assistant Professor, Vivekananda Institute of Professional Studies-TC, Email: jyoti.gupta@vips.edu
[*4]Associate Professor, Vivekananda Institute of Professional Studies-TC, Email: nupur.arora1510@gmail.com
[5]Professor, Vivekananda Institute of Professional Studies-TC, Email: ruchi.shukla@vips.edu
[6]Professor, Vivekananda Institute of Professional Studies-TC, Email: renu.vashisht@vips.edu

Abstract
The paper analyses the determinants of blockchain adoption intentions among Indian individual investors, significantly considering the influence of perceived risk and perceived value. The study defines perceived adoption risk as a multidimensional concept which consists of financial, privacy, regulatory and psychological risk. A structured questionnaire was used to collect primary data on 282 individual investors in the Delhi NCR region. Two-step analysis was used, which involved exploratory factor analysis and structural equation modelling. The results indicate that perceived risk is multidimensional, and financial performance risk is turning out to be the most influential factor. The findings also suggest that perceived adoption risk positively and significantly affects the adoption intentions, implying that investors are speculative. In addition, perceived value is found to partially mediate the relationship between perceived adoption risk and adoption intention, highlighting the importance of benefit–cost evaluation in decision-making. The research adds to the literature by offering a behavioural approach to blockchain adoption in the context of an emerging economy. The results provide valuable information that can be applied by policymakers and practitioners to drive the adoption of blockchain by overcoming regulatory ambiguity, enhancing awareness among investors, and solidifying the perceived benefits of blockchain applications.

Keywords: Blockchain Adoption, Perceived Risk, Perceived Value, Adoption Intention, Emerging Economies

1. Introduction

The blockchain technology has enabled the rise of a new type of digital currency and a disruptive method in capturing and authenticating economic transactions. It is more like a digital ledger that cannot be corrupted and can be programmed to facilitate financial transactions safely and in a transparent manner. Blockchain does not require centralized intermediaries since it allows parties to engage in transactions without pre-existing trust due to a fixed transaction record and authentication schemes. Its decentralized design facilitates the simplification of complex mediation processes and automatization of the transactional processes making it more efficient and quicker. The system behind it, commonly known as Distributed Ledger Technology (DLT), decentralizes storage and computing tasks on a peer-to-peer network, which guarantees the resilience of the data, its visibility, and the minimization of operating expenses. Nevertheless, blockchain has important security, trust, scalability, and regulatory compliance problems that need to be overcome before it can be used in the mass market and business world (Casino et al., 2019; Treiblmaier, 2018; Kshetri, 2021).

One of the initial applications of blockchain is Bitcoin, which is a peer-to-peer system of electronic cash that allows making direct online payments without the involvement of financial intermediaries. Although originally thought of as an alternative currency, Bitcoin is currently viewed as more of a speculative investment tool as opposed to a medium of exchange. The fact that it has not been correlated with traditional financial instruments like stocks, bonds, and commodities has helped to strengthen its position as an independent financial instrument. Global institutions have taken an interest in the fast development of cryptocurrencies, such as Ethereum, which expands the blockchain features to programmable applications. Although this has happened, governments all over the world are still wary because the cryptocurrencies are not regulated and thus there is a shifting of regulation. To date, studies have shown that blockchain provides better transparency, efficiency, and security, but its use is limited due to such challenges as scalability, regulatory risk, and lack of trust (Treiblmaier, 2018; Casino et al., 2019; Kshetri, 2021).

Regulatively, blockchain threatens to uproot the current financial systems through less dependence on centralized authorities. It empowers users to make transactions, clearing, and settlement without middlemen, contributing to the efficiency and

inclusiveness (Morgan, 2016). Nonetheless, uncertainty in the regulations plays a crucial role in decision-making within companies as well as consumer adoption behaviour. Research has highlighted the importance of having balanced regulatory frameworks to promote innovation and reduce systemic risks (Yeoh, 2017). The absence of these structures still brings about difficulties in terms of governance, legal risks, and compliance.

Although the blockchain technology technology has been extensively explored in the literature, the literature has remained silent in the behavioural and psychological barriers especially among individual investors in the emerging markets. Perceived risk theory offers a theoretical basis to explain such behaviour with uncertainty and potential negative outcomes being a factor when consumer decides (Bauer, 1960; Cox and Rich, 1964; Mitchell, 1999). Empirical studies also point to the fact that the perceived risk has a considerable influence on the adoption decisions in the digital setting (Featherman and Pavlou, 2003).

Expanding on this, the perceived financial performance risk is the fear of possible financial losses by investors due to the introduction of the blockchain, such as malfunctioning of the system and fluctuations in price. Although blockchain has the potential to increase the financial performance and lower the costs of transactions, the perceived risks are a major obstacle. On the same note, perceived privacy risk is a form of concern over misuse of information or unauthorized access of personal information, which is quite valuable considering the sensitive data that blockchain transactions entail (Featherman and Pavlou, 2003).

Another influential factor is perceived regulatory risk, especially in the emerging economies, where the legal systems are still developing. Decentralization of blockchain disrupts the normal rules and regulations, and thus, there is the uncertainty concerning its validity and applicability in future. Research indicates that uncertainty in regulations can have a significant impact on managers and consumers (Yeoh, 2017). Also, perceived psychological risk internalizes the anxiety, stress and uncertainty levels of going through new and complicated technologies.

Besides the risk perceptions, the perceived value is also important in affecting the adoption intentions. Perceived value is the summation of value of a product in terms of trade-off between benefits and costs. According to the prior studies, the decision of adoption is influenced by the perceptions of usefulness and value (Kim et al., 2007). Prospect theory also substantiates this interrelation by the fact that the subjective perception of gains and losses are the basis on which people assess decisions (Kahneman and Tversky, 1979).

Within the context of blockchain technology, the perceived value is the evaluation of investors on possible advantages in terms of transparency, efficiency, and financial gains compared to the risks involved. Consequently, the perceived value is likely to have a considerable effect on the adoption intention, as well as mediate the correlation between perceived risk and adoption behaviour. This combined view offers a holistic view of blockchain adoption in the emerging markets, especially, in so far as it covers behavioural and psychological aspects viewed as a blind spot-on previous study.

2. Theoretical Background and Research Hypotheses

This paper is based on three thoroughly developed theoretical approaches, i.e. Perceived Risk Theory (Bauer, 1960), Prospect Theory (Kahneman and Tversky, 1979) and Perceived Value Theory. All these theoretical bases create a wholesome perspective in understanding how individuals assess uncertainty, perceived risks, and resources anticipated to be gained by using new technologies like blockchain. Perceived Risk Theory is an idea that describes the tendency of individuals to evade making decisions that involve uncertainty and the possibility of loss, which is especially applicable to the adoption of blockchains when issues of privacy, regulation and financial risk are salient (Cox and Rich, 1964; Mitchell, 1999). Prospect Theory also reinforces this view by indicating that people consider the outcomes in terms of perceived gains and losses as opposed to absolute outcomes and hence affect the decision-making behaviour of people in the conditions of uncertainty (Kahneman and Tversky, 1979; Wood, 1996). Moreover, perceived value emphasizes that the adoption decisions are determined by the overall assessment of the benefits that the individual receives in comparison to the sacrifices they make, which means that users can adopt the blockchain technology in case the perceived benefits are higher than the risks (Kim et al., 2007; Chiu et al., 2014).

Based on these theoretical views, the study conceptualises the perceived adoption risk as a multidimensional construct attached to financial, privacy, regulatory and psychological risks. The dimensions are also important in emerging economies like India, where adoption behaviour of technology is affected by institutional uncertainty, lack of awareness, and lack of trust (Kshetri, 2021). According to the previous research, perceived risk is important in influencing the adoption of technology on digital platform (Featherman and Pavlou, 2003; Lim, 2003). The correlation between the perceived risk and user adoption behaviour is also supported by empirical research on mobile banking and e-commerce situations (Li and Bai, 2010; Malaquias

and Hwang, 2016; Mann and Sahni, 2013). The research thus hypothesizes that the perceived adoption risk is a strong determinant of the adoption intention of investors.

In addition, it is claimed that the perceived value mediates this association since people might be ready to implement blockchain technology when they see enough value in terms of efficiency, transparency, and possible financial gains (Kim et al., 2007; Chiu et al., 2014). In a wider context, such relationships also apply to the concept of how digital innovations that can facilitate the adoption of inclusive financial systems, entrepreneurial practices, and sustainable economic growth in emerging markets are adopted (Treiblmaier, 2018; Casino et al., 2019; Kshetri, 2021).

In this study, the conceptual model formulated incorporates these constructs and establishes the interaction between perceived adoption risk, perceived value and adoption intention. The model offers a systematic display of the impact of various dimensions of risk on adoption behaviour both directly and indirectly via perceived value. The proposed research model is presented in Figure 1.

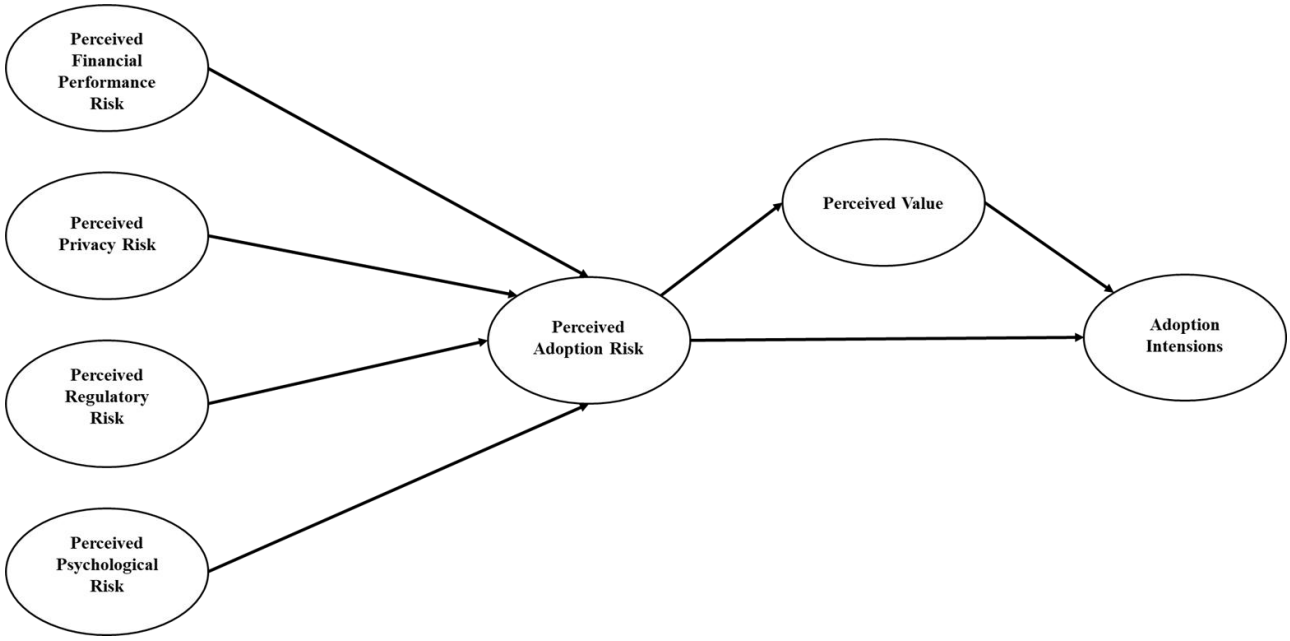

Figure 1. Proposed Study Model

3. Research Methodology

3.1 Research Objectives

In the context of a wide literature review of the previous literature on blockchain adoption and the emerging financial technology in the developing economies, this study will determine the critical factors affecting the intention to adopt blockchain among Indian investors. It also aims to investigate how the perceived adoption risk affects adoption intentions in the framework of the new digital financial ecosystems. Also, the research examines the mediating effect of perceived value in influencing the adoption decisions. The research, in accordance with the wider aims of sustainable and inclusive financial innovation, also adds to the knowledge of how perceptions of risk can be relevant in adopting potentially beneficial technologies in the support of inclusive entrepreneurship and digital economic growth in emerging markets.

3.2 Hypotheses Development

Based on the perceived risk theory, prospect theory and perceived value theory, the study conceptualises perceived adoption risk as a second-order multidimensional variable that includes perceived financial risk, perceived privacy risk, perceived regulatory risk, and perceived psychological risk. It is hypothesized that the perceived risk of adoption is a positive factor of adoption intention towards blockchain technology. In addition, the research assumes that there is a mediating relationship between the perceived adoption risk and the adoption intention through perceived value. These assumptions offer a systematic framework to evaluate the influence of risk perceptions and value appraisals on the uptake of blockchain technologies in dynamic entrepreneurial and financial systems.

3.3 Data Collection and Sample

The structured questionnaire was used to collect primary data that consisted of individual investors in the Delhi NCR region, India. 300 questionnaires were sent, and 282 valid questionnaires were received, which were analysed. The study was qualitative in nature, and a non-probability convenience sampling method was utilized because of the accessibility issues, and the study was

exploratory. Despite the sample size mostly comprising individual investors, the results can be useful in understanding digital finance adoption trends and apply to new entrepreneurial ecosystems in developing economies like India.

3.4 Measurement Instrument

The questionnaire had 31 items on a nine-point Likert scale with 1 (strongly disagree) as the lowest and 9 (strongly agree) as the highest. Measurement items were modified based on the existing research to make sure that they have reliability and validity. Measures of perceived risk were modified based on Featherman and Pavlou (2003); perceived value and adoption intention measures were based on Kim et al. (2007). Everything was adapted to the Indian context of the adoption of blockchain technology. The instrument measures various facets of perceived risk, such as financial, privacy, regulatory, psychological and informational, thus offering a holistic assessment of factors affecting the intention to adopt. The constructs employed in this research were operationalised with the help of several measurement items based on the previous literature and adjusted to the context of blockchain adoption. Table 1 provides the detailed list of constructs and the measurement items that should be used to measure them.

Table 1. Measurement Items and Construct Description

PGR	**Perceived Government Risk**
PGR1	People lack interest as it is unregulated
PGR2	Recent ban on bitcoin and crypto currency by government has put a question mark on its existence
PGR3	No regulatory body backing has made it insecure and unstable
PGR4	It might be legally banned soon in most of the countries
PTR	**Perceived Trust Risk**
PTR1	Whole concept of crypto currency is untrustworthy
PTR2	No regulatory authority for verification the transaction with third party
PTR3	Crypto and bitcoin are prone to scams
PTR4	People view bitcoin as a mean to trade illicit and illegal activities like usage in deep and dark web
PTR5	The only medium for block chain is sites which are not registered sites.
PPsR	**Perceived Psychological Risk**
PPsR1	People perceive its risky they prefer safer and less risky option
PPsR2	Indians do not see investment in bitcoin / crypto as a full time vocation
PPsR3	Indians view it risky as it is banned in many countries
PPsR4	Many Indian believe it is a bubble which is about to burst
PPsR5	Speculation in trading cause unnecessary tensions.
PPrR	**Perceived Privacy Risk**
PPrR1	Payment information could be accumulate, tracked and analyzed.
PPrR2	Tax authorities have started sending notices to crypto/ bitcoin investors.
PPrR3	Privacy can be misused, shared or sold without permission.
PPrR4	Uploading photo, adhaar card , pan number can be misused
PFR	**Perceived Financial Risk**
PFR1	The use of crypto currency/Bitcoin leads to speculation which can cause financial Risk
PFR2	A careless operation could lead to unexpected loss
PFR3	Financial Risk due to price disparity in India and abroad due to forces of demand and supply and exchange rate
PFR4	Financial risk due to unforeseen unstable volatility
PPfR	**Perceived Performance Risk**
PPfR1	There is no actual usage of crypto currency and bitcoin in India for sale and purchase of goods and services.
PPfR2	People use it now as an investment for appreciation only not for exchange thus driving its value enormously.
PPfR3	Frequent changes in value can affect payment
PIiR	**Perceived Information Inefficiency Risk**
PIiR1	Lack of information about block chain technology has discourage investors in India
PIiR2	Lack of knowledge about online payment procedure has discourage

	Indian investor
PIiR3	Lack of knowledge about online trading and procedure has discourage investment in India
AI	**Adoption Intention**
AI1	I intend to use block chain technology for investment in bit coin / crypto currency
AI2	I intent to adopt block chain technology soon
AI3	I intent to use block chain technology in the future

3.5 Data Analysis Techniques

The research adopted the two-stage analysis method to test the relationships between variables. The exploratory factor analysis was performed in the first stage by using SPSS to confirm the measurement model and to determine the underlying factor structures. The Kaiser-Meyer-Olkin measure and Bartlett Test of Sphericity were used to determine the adequacy of the data in terms of factor analysis. The second stage involved the use of principal component analysis to reduce dimensionality and then multiple regression analysis was used to analyse the relationship between constructs. These methods allowed identifying the main obstacles affecting the use of blockchain and the impact of these obstacles on investor behaviour.

3.6 Construct Operationalisation

The research operationalises the major constructs on various dimensions that are perceived government and regulatory risk, perceived trust and privacy risk, perceived psychological risk, perceived financial and performance risk, perceived information inefficiency risk and adoption intention. The constructs represent an institutional and behavioural aspect of technology adoption. These dimensions are especially important in the emerging economies where regulatory uncertainty, lack of awareness and absence of trust are important determinants of the adoption behaviour.

3.7 Research Context and Relevance

The research falls in the background of the changing digital financial system in India, where the blockchain technology can contribute to the better financial inclusion rates, transparency of the transaction, and sustainable digital entrepreneurship. Although these benefits are possible, it is still not widely adopted, as it is perceived as risky and institutionally challenging. Knowledge of these obstacles is critical to policymakers, businesspeople, and technology facilitators interested in fostering sustainable and inclusive innovation in Asia.

4. Results

4.1 Descriptive Statistics and Reliability Analysis

The table 2 shows the descriptive statistics of the mean values, standard deviation of all constructs and the alpha coefficients of Cronbach. The average of all the constructs is over 6, meaning that the respondents have a rather positive tendency towards the factors related to blockchain adoption. The values of standard deviation indicate that there is moderate variability in responses. All constructs Cronbach alpha values are above the recommended value of 0.70 (Nunnally, 1987) and therefore, a good internal consistency and reliability of the measurement scales. The perceived financial performance risk (α = 0.88), perceived privacy risk (α = 0.883), perceived regulatory risk (α = 0.91), perceived psychological risk (α = 0.895), perceived value (α = 0.895) and adoption intentions (α = 0.89) exhibit good reliability. Table 2 shows the descriptive statistics and reliability estimate of all constructs.

Table 2. Descriptive Statistics and Reliability of Constructs

Construct	Mean	SD	Cronbach's α
Perceived Financial Performance Risk	7.1721	0.96643	0.880
Perceived Privacy Risk	7.4958	1.08729	0.883
Perceived Regulatory Risk	6.0469	1.14182	0.910
Perceived Psychological Risk	7.2507	1.12419	0.895
Perceived Value	7.1525	0.86668	0.895

Adoption Intentions	6.5530	0.74705	0.890

Moreover, the total scale reliability was measured based on the Cronbach alpha and the coefficient returned a value of 0.953 when using 31 scale items, which is an excellent level of internal consistency among all measurement items. The overall reliability and sampling adequacy of the data are summarized in Table 3.

Table 3. Reliability and Data Adequacy

Measure	Value
Cronbach's Alpha (Overall Scale)	0.953
Number of Items	31
KMO Measure of Sampling Adequacy	0.887
Bartlett's Test Chi-Square	4388.246
Degrees of Freedom	378

4.2 Sample Profile and Data Adequacy

The sample comprises of individual investors who are involved in financial investments. The statistical data on reliability also supports the strength of the data. The Kaiser- Meyer-Olkin (KMO) test and Bartlett Test of Sphericity were used to test the suitability of the data to be used in factor analysis. The KMO value of 0.887 indicates a high level of sampling adequacy, while Bartlett's Test is statistically significant (χ^2 = 4388.246, p < 0.001), confirming that the variables are sufficiently correlated to proceed with factor analysis. These results validate the appropriateness of applying Exploratory Factor Analysis (EFA).

4.3 Exploratory Factor Analysis (EFA)

The Exploratory Factor Analysis was performed to determine the factor structure that underlies blockchain adoption intentions. According to the eigenvalue criterion (above 1), four factors were obtained, which jointly accounted 66.596 % of the total variance. Table 4 shows the results of the factor analysis of exploration and the variance that each factor explains.

Table 4. Exploratory Factor Analysis and Variance Explained

Factor	Key Variables (Examples)	Factor Loadings Range	Variance Explained (%)
Perceived Financial Performance Risk	PPfR3, PIiR1, PPfR2	0.582 – 0.826	23.303
Perceived Privacy Risk	PPrR1, PPrR4, PPrR3	0.722 – 0.757	17.288
Perceived Trust Deficit	PTR2, PTR5, PTR1, PTR4	0.632 – 0.739	15.504
Perceived Government Risk	PGR2, PGR4, PGR1	0.513 – 0.668	10.761

Factor 1, which is perceived financial performance risk, has a percentage of variance of 23.303 and the items loading on factor 1 indicate concerns to do with price fluctuations, speculative investing behaviour and the impractical usability of cryptocurrencies. Factor 2, perceived privacy risk explains 17.288% of the variance, and it encompasses the issues of abuse, surveillance, and unauthorized access to personal data. Factor 3, perceived trust deficit, accounts 15.504% of the variation and is characterised by investor distrust of the legitimacy and safety of blockchain platforms, including unregulated platform and illegal activities. Factor 4, which is seen as government risk, adds 10.761% of the variance and emphasizes regulatory uncertainty and the possibility of legal constraints to blockchain adoption. In general, the findings suggest that risk perception is a multidimensional construct and it is critical in affecting investor behaviour.

4.4 Confirmatory Factor Analysis (CFA) and Measurement Model

AMOS 18 was used to define confirmatory Factor Analysis (CFA) with maximum likelihood estimation to estimate the measurement model. Factor loadings of all items were established to be significant and above acceptable levels, which shows high convergent validity. All the constructs have the composite reliability (CR) above 0.80 and the Average Variance Extracted (AVE) above 0.50, which proves the reliability and the validity of the

constructs, as shown in Table 3. The model fit indices demonstrate a good fit of the measurement model to the data, with values reported as χ^2 = 623.612, CMIN/DF = 1.248, GFI = 0.875, CFI = 0.977, RMR = 0.057, and RMSEA = 0.022. These values fall within acceptable thresholds, indicating that the measurement model adequately represents the observed data.

4.5 Second-Order Factor Analysis

Perceived Adoption Risk was a second-order model with four first-order dimensions. The output of the second-order factor analysis (Table 4) reveals that the perceived financial performance risk (β = 0.807) contributes most to the higher-order construct. Perceived psychological risk (β = 0.686) and perceived regulatory risk (β = 0.607) also have significant contribution, but the contribution of perceived privacy risk (β = 0.201) is relatively less. These results indicate that financial and psychological factors are the most influential factors that drive perceived adoption risk whereas privacy factors, though important, have a comparatively minor influence on the overall risk perception. Figure 2 shows the second-order measurement model of the relationships between the dimensions of perceived adoption risk and adoption intentions.

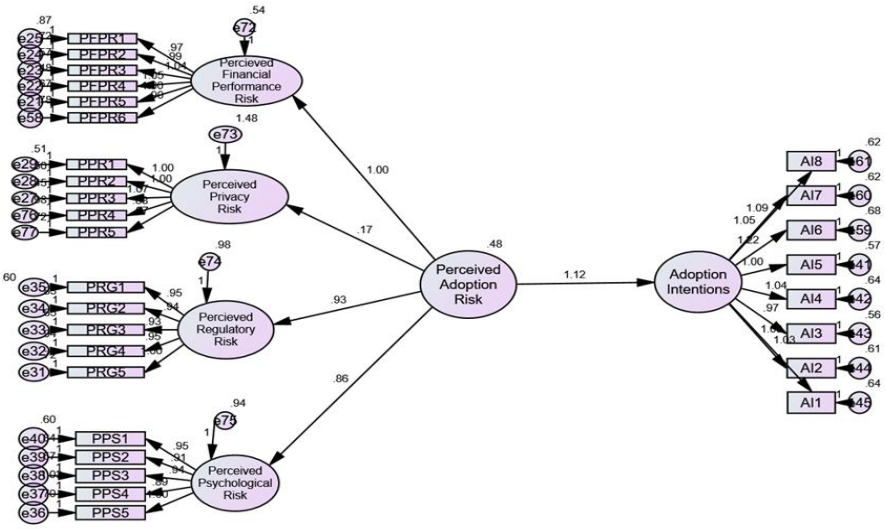

Figure 2. Second-Order Measurement Model of Perceived Adoption Risk and Its Relationship with Adoption Intentions

4.6 Structural Model and Hypothesis Testing

To test the proposed hypothesis, the AMOS was estimated to examine the structural equation model. The model fit indices show that the model has an acceptable fit with values given as CMIN/DF = 1.610, GFI = 0.892, CFI = 0.960, and RMSEA = 0.035 (Table 5), which confirm that the structural model is adequate. The structural relationships among perceived adoption risk, perceived value, and adoption intentions are illustrated in Figure 3.

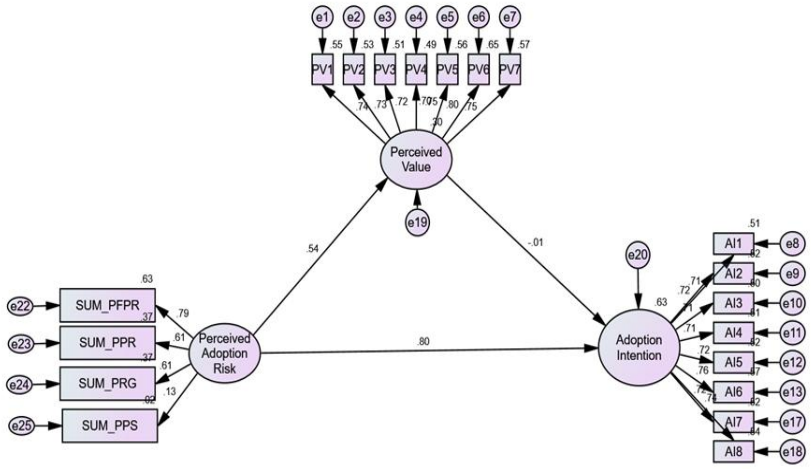

Figure 3. Structural Equation Model Showing Relationships among Perceived Adoption Risk, Perceived Value, and Adoption Intentions

The structural model results, hypothesis testing, and mediation effects are presented in Table 5.

Table 5. Structural Model, Hypothesis Testing, and Mediation Results

Relationship	Standardized Estimate	t-value	Result
Perceived Adoption Risk → Adoption Intentions	0.206	8.370	Supported

Mediation Analysis

Effect	Standardized Beta	p-value	Interpretation
Total Effect	0.603	0.023	Significant
Direct Effect	0.516	0.018	Significant
Indirect Effect	0.087	0.018	Partial Mediation Exists

Model Fit Indices

CMIN/DF	GFI	CFI	RMR	RMSEA
1.610	0.892	0.960	0.122	0.035

The results of hypothesis testing, presented in Table 5, show that perceived adoption risk has a positive and significant impact on adoption intentions ($\beta = 0.206$, $t = 8.370$, $p < 0.001$). Therefore, the proposed hypothesis is supported.

4.7 Mediation Analysis

Mediation analysis was done to test the mediating effect of the perceived value based on the structural model results. The results show that the overall impact of perceived adoption risk on adoption intention is 0.603 ($p < 0.05$) and the indirect impact through perceived value is 0.087 ($p < 0.05$). The direct impact is still high at 0.516 ($p < 0.05$). These

findings support the existence of partial mediation meaning that perceived value is a partial predictor of the relationship between perceived adoption risk and adoption intentions.

5. Discussion

The current research offers valuable information on the determinants of blockchain adoption intentions among individual investors in an emerging economy setting, especially India. Based on the Perceived Risk Theory (Bauer, 1960) and Prospect Theory (Kahneman and Tversky, 1979), the findings help in understanding how perceptions of risk and value can be used in assessing technology adoption behaviour in an uncertain financial situation more deeply.

The descriptive statistics show that the respondents tend to lean towards blockchain-related constructs generally with mean values exceeding six in all variables. Simultaneously, the high reliability coefficients attest to the fact that the measurement scales employed in this research are sound and internally consistent, which justifies the validity of further analyses. These results corroborate the suitability of the constructs established by previous researchers like Featherman and Pavlou (2003) and Kim et al. (2007), implying that perceived risk and perceived value are still valid constructs used to study the emerging financial technologies (Featherman and Pavlou, 2003; Kim et al., 2007).

The findings of the exploratory factor analysis indicate that perceived risk is a multidimensional construct, with its risk aspects being financial performance risk, privacy risk, trust deficit, and government risk. This is in line with previous studies that noted the intricate perceived risk in the digital setting (Mitchell, 1999; Lim, 2003). Risk of financial performance becomes the most prevailing with the evidence that the issue of volatility, speculative investment behaviour and inapplicability are very important to the perception of the investors. The risk of privacy and lack of trust also underline the issues of data security, personal information misuse, and the absence of regulation which were already popularized in the literature (Featherman and Pavlou, 2003).

The findings of the confirmatory factor analysis and measurement model determine that there is high convergent validity and general model fit meaning that the proposed constructs can well represent the underlying dimensions of blockchain adoption behaviour. The conceptualisation of perceived adoption risk is further enhanced by the second-order factor analysis as a higher-order construct. The financial performance risk has the highest contribution with psychological and regulatory risk coming next. The comparatively lesser contribution of privacy risk is an indication that data security is an issue but investors in this situation might be more affected by financial and regulatory uncertainties. The discovery is especially applicable to the emerging markets, where the institutional frameworks and financial stability are the significant determinants of technology adoption (Kshetri, 2021).

The results of the structural model support the hypothesised relationship between perceived adoption risk and adoption intentions, empirically. Surprisingly, the correlation is observed to be positive and significant. This implies that despite conventional expectations of risk acting as a deterrent, increased perceived risk may not always act as a deterrent to adoption in the blockchain context. Rather, it can indicate a speculative or opportunity-oriented thinking of the investors, which is in line with Prospect Theory (Kahneman and Tversky, 1979), where people are ready to make high risk decisions when they see the potential returns to be high.

The mediation analysis also shows that the perceived value is a significant and partial mediating factor between the perceived adoption risk and adoption intentions. This is in line with previous studies that indicate that people analyse technologies in terms of a trade-off between perceived benefits and the costs involved (Kim et al., 2007; Chiu et al., 2014). Although the risks are high, there is a possibility that investors will be ready to embrace blockchain technology when they feel that they are getting enough value in terms of transparency, efficiency, and potential financial gains.

Overall, the results indicate that the risk perceptions are not the only obstacle to blockchain use in emerging economies but the intricate interplay between risk and value assessments. Though financial and regulatory risks are important issues, perceived value can counterbalance these risks and spur adoption intentions. On a bigger scale, these findings have significant implications to the creation of inclusive digital financial ecosystems and sustainable entrepreneurship in the emerging markets (Treiblmaier, 2018; Casino et al., 2019; Kshetri, 2021). Policymakers and practitioners can do so by mitigating regulatory uncertainty, increasing investor awareness, and adding to the perceived worth of blockchain applications, which in turn will result in more people adopting blockchain technologies and spur innovation-led economic growth.

6. Conclusion

This paper is an in-depth examination of the factors affecting blockchain adoption intentions among individual investors in India through incorporating both views of perceived risk and perceived value. The results affirm that perceived adoption risk is a multidimensional variable, and the financial,

psychological, and regulatory risks are important in influencing investor behaviour. Among them, the risk of financial performance stands out as the most prominent one because of the issues of market volatility, speculative trading, and the uncertainty surrounding cryptocurrency investments. As opposed to the conventional beliefs according to which risk is only a deterrent, the findings indicate that there is a positive and significant correlation between the perceived adoption risk and the adoption intentions. This implies that blockchain can be viewed as a high-risk, high-reward investment by investors, in which the perceived rewards are greater than the perceived risks. In addition, the research also emphasizes that the perceived value is a critical factor as a partial mediator, which means that investors are ready to work with blockchain technology when perceived benefits surpass the cost of the latter. The research has significant policy implications to the policymakers, financial institutions and technology providers. Perceived risks can be addressed by reducing regulatory uncertainty, increasing transparency and educating investors. Also, it is possible to focus on the functional and economical usefulness of blockchain applications to promote them in the new markets. Comprehensively, the work adds to the existing literature on digital financial innovation by offering empirical insights on the behavioural determinants of blockchain adoption, especially in the context of developing economies and the maturing entrepreneurial ecosystems.

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