*Article*

# Review of Adoption Theories in the Context of Blockchain

IMIB Journal of Innovation and Management
1(1) 46–57, 2023

DOI: 10.1177/ijim.221085415
jim.imibh.edu.in

**Aman Dua**[1]

## Abstract

Blockchain is an emerging technology, showing possibilities in many fields. It has provided its mark in finance with cryptocurrency. Its security, robustness, interoperability and reliability have promised application in various areas, but the demonstrated use of blockchain technology is rare. The stakeholders are in the process of decision-making about the adoption of blockchain and assimilating with this new technology. This article discusses blockchain technology adoption with theories that were formed on adoption, infusions and assimilation of technologies by firms and individuals.

Blockchain technology will be adopted by firms, but most of the theories of adoption have been developed around individuals. Therefore, an assumption has been made that the premise for the firm will be the same as the premise for individuals, in the context of blockchain. Various firms, and the Indian government, are in the process of decision-making regarding blockchain. This article delivers explanations of constructs of different theories in the context of blockchain technology. This explanation will help practitioners to understand and analyse the adoption of blockchain technology in the context of their industry practice, and for academicians, it will act as the base to develop measurement tools for different assessments in the blockchain.

## Keywords

Blockchain management, blockchain adoption, technology adoption, technology assimilation, adoption theories

[1] Department of Food Business Management and Entrepreneurship Development, National Institute of Food Technology Entrepreneurship and Management, Sonepat, Haryana, India

**Corresponding author:**
Aman Dua, Department of Food Business Management and Entrepreneurship Development, National Institute of Food Technology Entrepreneurship and Management, Plot No. 97, Sector 56, HSIIDC Industrial Estate, Kundli, Sonepat, Haryana 131028, India.
E-mail: om.amandua@gmail.com

## Introduction

The initial 40 years of the Internet provided us with email, the world wide web, social media and mobile Internet, big data and cloud computing. These provided great support in the reduction of cost, collaboration and parallel thinking across industry and governance. The upcoming transition of the Internet in the form of blockchain, which is essentially a database, can be replicated in the words of Tapscott and Tapscott (2018, p. 6):

> Rather than internet of information, it is the internet of value. It's also a platform for everyone to know what is true—at least with regard to a structured recorded information. At its most basic, it's an open source code: anyone can download for free, run it and use it to develop new tools for managing transactions online. As such it holds the potential for unleashing countless new applications and as yet unrealized capabilities that have the potential to transform many things.

Blockchain has the potential to enhance value industries such as finance and supply chain much larger than conventional software, but not limited only to these. The decision-makers, from different industries, are getting aware of blockchain technology and in the background making decisions regarding blockchain adoption. The use of any technology is controlled by behaviour and attitude towards that. Different theories are given by various researchers in this context: for example, Theory of Reasoned Action by Fishbein and Ajzen (1977), Technology Adoption Model by Davis (1989), Technology Adoption Model II by Venkatesh and Davis (2000) and Motivation Model by Davis et al. (1992). These theories were formulated and established in regard to the psychological behaviour of individuals or in the context of the use of information technology (IT)-related issues by firms or individuals. Zhu and Kraemer (2005) mentioned that the theories need to be re-examined with the maturity of different markets, level of industrialisation and extent of industry barriers. Blockchain is currently in the nascent stage, but it promises to affect different facets of business at the firm level as well as at the industry level. Therefore, to provide a theoretical understanding and a base to develop the roadmap for an industry, this article explains the different constructs used in different theories in the context of blockchain and provides a taxonomy of theories on the basis of exogenous constructs that are used. The next section provides the introduction to blockchain, and the third section explains the theories and constructs in the context of blockchain. The fourth and fifth sections provide discussion and conclusion, respectively.

## Blockchain

Databases are used every day, and blockchain is essentially a database. Blockchain is an open distributed ledger that is able to efficiently record transactions between two parties in a verifiable and permanent way (Iansiti & Lakhani, 2017). The parties here refer to organisations or systems that participate in the network for

reading or updating the data. The elaborated databases may include a list of students, patients and citizens. Databases had played and still continue to play an important role in the implementation of computers. In a globalised world, databases are shared because different people need to access the same data. In shared databases, issues arise on trust, identity, permission, duplicity and dispute settlement mechanism. Blockchain platforms are used for generalised and distributed value exchange. It is a decentralised state transition machine that manages the life cycle of digitalised assets and immutably records operations in a distributed ledger (Gartner, 2021). The Blockchain platform is a greenhouse structure that can produce new ideas, mutually support with essential resources and distribute the output on a larger scale. A blockchain platform may be described as a piece of land with different ownership.

## Review of Blockchain Adoption with Theories

Blockchain has been identified as an important research area by the Ministry of Electronics and Information Technology (MeitY), and it finds its potential in several domains such as governance, network security and finance. As a pilot project, blockchain had been used for property registration in Shamshabad district in Telangana. Around 45 potential areas had been identified by MeitY (Government of India, 2021). The report by the Government of India (2021) suggested that a national blockchain infrastructure should be developed. There is the requirement for interoperability across different blockchain platforms and blockchain would support the creation of intellectual property on these. Blockchain technology has the potential towards development of unified standards across the globe.

The possible factors and issues which may affect blockchain decision-making in the Indian setting are analysed in the context of 10 theories: (a) Diffusion of Innovation Theory; (b) Theory of Reasoned Action; (c) Theory of Planned Behaviour; (d) Social Cognitive Theory; (e) Technical Adoption Model; (f) Extended Technology Adoption Model; (g) Motivation Model; (h) The Model of PC (personal computer) Utilisation; (i) Unified Theory of Acceptance and Use of Technology; (j) Model of Acceptance with Peer Support.

### *Diffusion of Innovation Theory (Rogers & Cartano, 1962)*

According to this theory, the start or spread of a novel idea in any society depends upon four factors, namely innovation, communication channel, time and social system. The stages of diffusion are knowledge, persuasion, decision, implementation and confirmation (Rogers, 2004). The diffusion of innovation starts from the initial awareness and knowledge. The awareness about innovation at the starting point is related to the identification and prioritisation of needs and problems and locating the points where this innovation can provide potential solutions to these needs and problems. To an extent, this innovation can provide the solution to a problem,

which will affect the decision to adopt the innovation. This theory categorises a potential user into five categories, namely innovators, early adopters, early majority, late majority and laggards (Meyer & Goes, 1988). A novel idea may get into the arena with zeal and may enjoy fast reorganisation, but it still may find a delay in adoptions. In the context of diffusion of innovation, the author emphasises that the adoption does not always result in widespread of technology by the firm. The same is possible with blockchain technology also. Assimilation gap is lag between widespread usage and adoption (Fichman & Kemerer, 1997). The innovators are the first ones to try the innovation, and these are the leaders who adopt a proven innovation, and their adoption affects the social behaviour of others. The early majority category follows the early adopters, and they are the ones who need to confirm the demonstration of effectiveness. The late majority category is usually sceptical of change, and they tend to adopt the innovation by compulsion forced by the environment. Laggards are the hardest to convince, and they adopt the innovation when intense pressure from circumstances appears. If the analogy with the diffusion of innovation is followed, the percolation of blockchain by firms is supported by innovation, productivity and competitive edge possibility. Communication in the context of blockchain will be the awareness of its benefits and potential. The structure of the social system is the nature of the firms involved in it. The financial technology industries will be fast to adopt it. The innovator category decision-makers may be from the banking industry. The early adopter may be from the supply chain industry, and the early majority may be from the governance and EdTech companies, and late majority and laggards may include members from the manufacturing and commodity sector.

## *Theory of Reasoned Action (By Fishbein & Ajzen, 1977)*

It is one of the basic theories with roots in societal behaviour. As per the Theory of Reasoned Action, an individual's attitude towards behaviour is driven by behavioural intention, and behavioural intention is jointly controlled by attitude towards behaviour and subjective norms (Fishbein, 1979). The theory used various situations in literature to predict behaviour and defined attitude is the amount of belief that adoption and application of new technology or action gained by evaluation Fishbein and Ajzen (1977). Subjective norms include the influence of people in the social environment of an individual on behavioural intention. Behavioural intention precedes the actual behaviour and is used in many theories. In the context of the Theory of Reasoned Action, it is the function of attitude and subjective norms.

For Blockchain, the attitude of a firm will be driven by its evaluation of the belief that blockchain can provide solutions, and subjective norms will include the influence of productivity that is achieved by other industries and competitors, although weighted by the evaluation of decision-makers of the firm. Behavioural intention will be an action of top management to discuss blockchain in the strategic meetings and making team for research and development. This theory provides the basis for different theories that are mentioned ahead.

### *Theory of Planned Behaviour (By Ajzen, 1991)*

This theory is an extension of the Theory of Reasoned Action. In the Theory of Planned Behaviour (Ajzen, 1991), an additional construct 'perceived behaviour control' is added to the theory of rational behaviour by Fishbein and Ajzen (1977). This construct refers to perceived ease or difficulty in executing the behaviour of interest and is affected by self-efficacy. The perceived behaviour control is taken from the self-efficacy theory given by Bandura (1986) and is defined as 'the judgment of how well one can execute the courses of action required to deal with prospective situations'.

The perceived behaviour control in the context of blockchain will be the firm's capability to achieve the desired objective by action or decision made for blockchain. It will be affected by the firm's harmony with technology.

### *Social Cognitive Theory (By Bandura, 1986)*

It states that there is a triad of social factors, cognitive or personal factors and behaviour or personality. It states that with these factors, people observe the sequence, and depending upon the outcome, punishment or reward, the choice to replicate the behaviour is made (Bandura, 1986). This theory was established in the context of human agency and human capability, which states that humans are self-developing and that they acquire knowledge by symbolic and direct factors. The personal factors include goals of self-evaluation self-efficacy, social comparison and values; the environmental factors include social model, feedback, standards and rewards; and the behavioural factors include the choice of action, effort to learn, continuity of use and achievement by using.

For blockchain technology, personal factors will include the technical evaluation of the firm in terms of efficiency and comparison to industry standards, environmental factors will include feedback from value chain partners or customers to adopt it and behavioural factors, as a result, will include the decision about adoption, the consistency of effort and achievement of the desired objective by using blockchain technology.

### *Technical Adoption Model (By F. A. Davis, 1989)*

It is a relatively simple model in terms of the number of constructs that are used. It suggests that the behavioural intention to use a technology that affects the actual use is affected by two constructs, namely perceived behaviour and perceived ease of use (Davis, 1989). The original setting of this theory was a test for the adoption of email services.

Perceived usefulness for blockchain will be interoperability, potential to provide a strategic advantage to the firm. Blockchain had proved its utility in financial transactions, but around operation issues, it has yet to prove itself. The perceived ease of use will include the comfort of a firm with technology and the capability to sustain the change or adoption of blockchain technology.

### *Extended TAM2 Model (Venkatesh & Davis, 2000)*

This theory was given by Venkatesh and Davis (2000) and extends the earlier mentioned technology adoption model. It adds some more constructs to the usage behaviour prediction of technology. This model was established and tested in a three-stage testing—before implementation, post one month of implementation and three months post-implementation. The constructs added in the previous model were voluntariness, experience, subjective norms, image, job relevance, output quality and result demonstrability. These affect, either or both, perceived usefulness and intention to use.

For blockchain, voluntariness will be the strategic willpower to adopt its feature. It may be the affinity of the firm towards trust, transparency, robustness of the system and interoperability. Experience will imply prior feel in the context of the adoption of earlier information technologies. Subjective norms will be the same as explained earlier, and the image will be the perception among clients and customers for the remaining updates on technology. Job relevance will be harmony with the industry. Output quality and result demonstrability will mean the trust that blockchain can provide the envisaged output on the operational and financial front for the firm. The additional constructs indicate the social influence process and cognitive instrumental processes. Social influence processes will include subjective norms, voluntariness and image, and cognitive instrumental processes will include job relevance, output quality and result demonstrability. The construct may be reflective or formative depending upon the situation.

### *Motivation Model (By Davis et al., 1992)*

The motivation model rests on intrinsic and extrinsic motivations. It states that the behaviour of the user is determined by extrinsic and intrinsic motivation. The extrinsic motivation is different from the activity itself and maybe from perceived usefulness and/or perceived ease of use for technology (Davis et al., 1992). The intrinsic motivation stems from internal satisfaction and pleasure, and for computers, Davis et al. (1992) defined it as happiness an individual gets by using a computer.

For blockchain, the external motivation for blockchain technology will be peer pressure, regulations, need of the industry and requirements from customers. The intrinsic motivation for any firm would be innovation, competitive edge and value creation.

### *The Model of PC Utilisation (By Thompson et al., 1991)*

This model has the 'Theory of Human Behaviour' as its foundation, given by Triandis (1977). It states that moral belief influences behaviour, but this impact is moderated by emotional drivers and cognitive limitations. The Model of PC Utilisation by Thompson et al. (1991) stated that six determinants affect the usage

of personal computers. These are job-fit, complexity, long-term consequences, effect towards use, social factor and facilitating conditions.

The job-fit implies the belief that the adoption of computers will enhance the performance of the job, and complexity refers to the difficulty level associated with regular use. Long-term consequences refer to the outcomes that computers will provide in the future, and the effect towards use is the feeling of pleasure or hate associated with the adoption of a particular action. Social factor implies the internalisation of an individual's s reference group for the associated action; here computer usage. In the context of computers, it refers to the workplace only. Facilitating conditions refer to the supportive environment in an organisation for any change in behaviour that is required.

Blockchain technology is not mandatory to use; therefore, the theory of the Model of PC Utilisation is more appropriate because this theory was also created in a setting where the use of PC was not mandatory in the organisation. The job-fit factor for blockchain implies productivity or any desired objective, and complexity implies possible challenges that will emerge during or after the adoption of blockchain. The long-term consequences imply the gain which the blockchain may provide in near future, and the effect towards use implies an improvement in brand image. The social factors include the adoption of blockchain by peers, and the need and urgency to adoption, and facilitating conditions include support by regulating authorities and associations in the adoption of blockchain.

### *Unified Theory of Acceptance and Use of Technology (By Venkatesh et al., 2003)*

This theory is very comprehensive and is mentioned in Venkatesh et al. (2003). It rests on the base of eight earlier established theories. It was intended to act as a comprehensive model. Venkatesh et al. (2003) explained 70% of variance in the behaviour of adoption, while others explained 30%–40% of the variance for the same. It describes four constructs on the use of technology, namely performance expectancy, effort expectancy, social influence and facilitating conditions. Performance expectancy describes the degree of belief of an individual which considers that technology will be able to provide him with gain, and effort expectancy describes the ease of use in using the technology. Social influence describes the degree to which an individual believes that society and his/her peers believe that he/she should use the system. Facilitating conditions represent the degree to which an individual believes that sufficient infrastructure exists, and support is available to use this innovation.

In the context of blockchain, performance expectancy will be the confidence that blockchain adoption will gain the objective for which the stakeholders have adopted it. The effort expectancy will imply confidence that the firm will be able to manage and utilise blockchain effectively. Social influence, in the context of blockchain, is peer pressure which a firm experiences and confirms is necessary. The facilitating conditions for blockchain will imply the availability of service providers who assist and/or guide towards blockchain transformation.

### *Model of Acceptance with Peer Support (MAPS) (By Sykes et al., 2009)*

The model is one of the comprehensive models, and it used seven constructs, namely behavioural intention, system use, facilitating conditions, network density, network centrality, value network centrality and valued network density. This theory states that an individual's social network with the employees of an organisation impacts the acceptance of the technology. For this theory, Sykes et al. (2009) mentioned two types of social connections between employees and others in the context of behaviour for use of technology. One is to get help from other employees, and another is to provide help to other employees. This first type is called 'get help' and the second is called 'give help'. These are extended as value network centrality and valued network density. The value network centrality implies the perception of control by a focal employee on system-related resources, and value network density refers to the connectivity of focal employees with others. The value network density has been affected by the extent of control, information spread, knowledge and other facilitating tangible resources. Behavioural intention is the probability of anyone performing the behaviour in context. The construct 'system use' implicates the extent of use of a particular technology or product. It depicts the time and frequency which the technology will be used for. Facilitating conditions were defined as beliefs about supporting infrastructure regarding the use of the technology. Network density was described as the connectedness of the network and is defined as the number of interconnections in the network as a proportion of maximum possible interconnections.

In the context of blockchain as per this theory, the behavioural intention will be the probability of adoption of blockchain applications by a firm, and system use will mean utilisation and requirement by clients and customers. The facilitating conditions will be the availability of technology at affordable prices and the skill of the vendor providing the blockchain transformation. Network density will be the percentage of peers using blockchain. Valued network centrality for blockchain will refer to the perception of clients and peers that blockchain is essential to stay in business. Valued network density for blockchain will imply its adoption by other value creators such as suppliers, distributors and other value creators.

## Discussion and Limitations

All the theories that are mentioned in the aforementioned section are adoption theories, and blockchain is a nascent technology which recently got its recognition by the exchequer as the gains from cryptocurrency will be taxed and the governing bank of India will launch its digital currency (*The Times of India* [TOI], 2022). At prima facie, it appears to be a back-end technology, but the categorisation as back-end or front-end depends upon the position of the firm in the value chain. To adopt blockchain in the process management for an industry or firm will require an analysis that needs to be rooted into the adoption of technologies previously done

by firms or individuals, and this premise has been adopted by different works (see; Fichman, 1995; Fichman & Kemerer, 1997; Zhu et al., 2006). The theories mentioned in the third section sufficiently cover the theoretical premise which was previously used by different researchers in the adoption behaviour shown by individuals and firms. To provide a quick view to the decision-maker in his/her context, the list of theories against the constructs used in these theories has been provided in Table 1. The theories discuss to provide the literature scenario ab initio. This is required because the maturity level of IT for different firms may be different, and this will provide a comprehensive mind map to analyse the situation for the adoption of blockchain. The serial number used against these theories have been used to denote them in Table 2 while doing their taxonomic representation with the constructs that were used. If the constructs are not overlapping among theories, then they are grouped in the cluster, and the construct 'behavioural intention' is representing the intention to use a new product or technology that is, hence, common in all theories. Although a researcher or decision-maker will use up to three to four theories in research or decision-making, the familiarisation with different theories will provide more confidence in the selection. This review can be extended to study the adoption and usage-level preparation in different business function such as supply chain, tracing, warehousing and many more. In digital currency, the Indian government is ready to adopt it (TOI, 2022).

## Conclusion

This article discusses adoption by one firm only; however, the gains can be achieved by this kind of technology when an industry adopts it. In industry, the percolation of blockchain will depend upon the number of firms adopting it (Uzzi, 1996). It is called the externality of the network, and blockchain is essentially a type of database only and it needs to be accessed by a network for utilisation. The taxonomy of theories with constructs is provided for prevalent theories of adoption. This article provides a starting point to be familiar with blockchain, as it is in the nascent stage, and the explanation of constructs are generic in nature with no specific industry in consideration. This article finds usefulness to decision-makers by providing understanding about blockchain technology and its adoption. Academia will find utility in the development of assessment and measurement tools regarding blockchain technology.

**Table 1.** Different Theories of Adoption and Constructs Used.

| Sl. No. | Name of Theory | Exogenous Constructs |
|---|---|---|
| 1 | Diffusion of Innovation Theory | Innovation, communication channel, time and social system |
| 2 | Theory of Reasoned Action | Behavioural intention, attitude and subjective behaviour |
| 3 | Theory of Planned Behaviour | Above (#2) + perceived behaviour control |

*(Table 1 continued)*

*(Table 1 continued)*

| Sl. No. | Name of Theory | Exogenous Constructs |
|---|---|---|
| 4 | Social Cognitive Theory | Triad of factors (social, personal and behaviour) and outcome |
| 5 | Technical Adoption Model | Perceived behaviour and ease of use |
| 6 | Extended Technology Adoption Model | Above (#5) + voluntariness |
| 7 | Motivation Model | Intrinsic and extrinsic motivation |
| 8 | The Model of PC (personal computer) Utilisation | Emotional drivers and cognitive limitations |
| 9 | Unified Theory of Acceptance and Use of Technology | Performance expectancy, social influence and infrastructure availability |
| 10 | Model of Acceptance with Peer Support | Behavioural intention, system use, facilitating conditions, network density, network centrality, value network centrality, valued network density and social connections |

**Table 2.** Taxonomic Representation of Theories with Constructs in a Tabular Format.

| | Name of the Factor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| a | Innovation | • | | | | | | | | | |
| b | Communication channel | • | | | | | | | | | |
| c | Time | • | | | | | | | | | |
| d | Social system | • | | | | | | | | | |
| e | Behavioural intention | • | • | • | • | • | • | • | • | • | • |
| f | Attitude | | • | • | | | | | | | |
| g | Subjective behaviour | | • | • | | | • | | | | |
| h | Perceived behaviour control | | | • | | • | • | | | | |
| i | Self-efficacy | | | • | | | | | | | |
| j | Triad of factors (social, personal and behaviour) and outcome | | | | • | | | | | | |
| k | Ease of use | | | | | • | • | | | | |
| l | Voluntariness, experience, image, job relevance, output quality, result demonstrability | | | | | | • | | | | |
| m | Intrinsic and extrinsic motivation | | | | | | | • | | | |
| n | Emotional drivers and cognitive limitations | | | | | | | | • | | |

*(Table 2 continued)*

*(Table 2 continued)*

| | Name of the Factor | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| o | Performance and effort expectancy, social influence and infrastructure availability | | | | | | | | | • | |
| p | System use, facilitating conditions, network density, network centrality, value network centrality, valued network density and social connections | | | | | | | | | | • |

**Note:** 1–10 = theories; a–p = different constructs used in theories.

## Declaration of Conflicting Interests

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

## Funding

The author disclosed receipt of the following financial support for the research, authorship and/or publication of this article: In reference to file number 'NIFTEM/Dean Research/2020/20', the author here recognises and thanks the National Institute of Food Technology Entrepreneurship and Management, Sonepat, Haryana, India, for seed-fund.

## References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211.

Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, *4*(3), 359–373.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319–340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, *22*(14), 1111–1132.

Fichman, R. G. (1995). *The Assimilation and Diffusion of Software Process Innovations*. PhD Thesis. Massachusetts Institute of Technology.

Fichman, R. G., & Kemerer, C. F. (1997). The assimilation of software process innovations: An organizational learning perspective. *Management Science, 43*(10), 1345–1363.

Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric, 10*(2).

Fishbein, M. (1979). A Theory of Reasoned Action: Some applications and implications. *Nebraska Symposium on Motivation*, *27*, 65–116.

Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention, and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, *10*(2), 130–132.

Gartner. (2021). *Blockchain Platforms reviews 2021*. Gartner Peer Insights. https://www.gartner.com/reviews/market/blockchain-platforms

Government of India. (2021). *National strategy on Blockchain*. https://negd.gov.in/sites/default/files/NationalStrategyBCT_%20Jan2021_final_0.pdf

Iansiti, M., & Lakhani, K. R. (2017 January–February). The truth about Blockchain. *Harvard Business Review*. https://hbr.org/2017/01/the-truth-about-blockchain

Meyer, A. D., & Goes, J. B. (1988). Organizational assimilation of innovations: A multilevel contextual analysis. *Academy of Management Journal*, *31*(4), 897–923.

Rogers, E. M., & Cartano, D. G. (1962). Methods of measuring opinion leadership. *The Public Opinion Quarterly, 26*(3), 435–441.

Rogers, E. M. (2004). A prospective and retrospective look at the diffusion model. *Journal of Health Communication*, *9*(S1), 13–19.

Sykes, T., Venkatesh, V., & Gosain, S. (2009). Model of acceptance with peer support: A social network perspective to understand employees' system use. *Management Information Systems Quarterly*, *33*(2), 371–393.

Tapscott, D., & Tapscott, A. (2018). *Blockchain revolution*. Penguin Random House.

*The Times of India* (TOI). (2022, February 2). Cryptic on crypto? FM proposes 30% tax on gains, say call on legal status pending, 1.

Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, *15*(1), 125–143.

Triandis, H. C. (1977). *Interpersonal behavior*. Brooks/Cole Publishing Company.

Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American Sociological Review*, *61*(4), 674–698.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *46*(2), 186–204.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425–478.

Zhu, K., & Kraemer, K. L. (2005). Post-adoption variations in usage and value of e-business by organizations: Cross-country evidence from the retail industry. *Information Systems Research*, *16*(1), 61–84.

Zhu, K., Kraemer, K. L., & Xu, S. (2006). The process of innovation assimilation by firms in different countries: A technology diffusion perspective on e-business. *Management Science, 52*(10), 1557–1576.