

TITLE PAGE

What are the Enablers of Stakeholder Engagement with Blockchain Technology? : Towards

A Conceptual Framework

Fulya Acikgoz¹, *University of Bristol*, fulya.acikgoz@bristol.ac.uk

Nikolaos Stylos², *University of Bristol*, n.stylos@bristol.ac.uk

Sophie Lythreatis³, *University of Bristol*, sophie.lythreatis@bristol.ac.uk

What are the Enablers of Stakeholder Engagement with Blockchain Technology? : Towards A Conceptual Framework

Abstract

Blockchain technology, called one of the most innovative technologies, helps managers and companies have a better experience. Despite the growing importance of blockchain technology, there is no known about the enablers of technological, organizational, and environmental factors on blockchain technology as associated with stakeholders' engagement behaviours. Drawing on the technology-organization-environment framework and stimulus-organism-response, this study investigates the effects of the technological (compatibility, relative advantage, and technology competence), organizational (technology policy and top management support), and environmental (information intensity and regulatory support) factors on stakeholder experience and blockchain technology trust. Moreover, this study aims to understand the effect of stakeholder experience and blockchain technology trust on stakeholder engagement. Based on our findings, both theoretical and managerial implications will be debated.

Keywords: Blockchain technology, stakeholder engagement, TOE framework, SOR framework, technology trust, stakeholder experience.

Word Count: 5600

1.Introduction

Blockchain Technology (BCT), as understood from the name, is based on a chain of blocks storing the data digitally in a secure way. Since the data is stored across a network of computers, it is nearly impossible to hack or alter the information without being detected. Additionally, blockchain technology operates on a decentralized network, meaning there is no single point of failure or control. That's, BCT is an advanced mechanism that makes information flows safer. Blockchain can be considered a distributed database comprising records detailing transactions or events that have been completed and shared across parties (Farnoush et al., 2022), which can be considered a novel type of storing data. These data stored are kept in either a coded or encrypted format, which makes the system more reliable. In other words, blockchain implies either a distributed data infrastructure or an algorithm for recording data that entails cryptographically determined hashes (Wang et al., 2019). All transactions and data in blockchain technology are recorded through distributed public ledgers and thereby are called “Distributed Ledger Technology” (DLT; Nam et al., 2021). Through this feature, blockchain technology relies on a decentralized system. Namely, rather than having the information in one place on a hard drive on one server (i.e., central data), the user can spread it over a network of computers (i.e., decentralized data). By doing so, the system cannot be manipulated, and trust is created since no single individual can influence the system.

Blockchain technology also offers the advantage of creating a secure, anonymous, traceability, immutability, and data-rich environment without involving third parties in the transaction process (Alkhudary et al., 2020; Hughes et al., 2019; Saheb and Mamaghani, 2021). Consequently, those enable people to keep their data and information securely and transparently through blockchain technology. Hence, BCT has started gaining global attention with cryptocurrencies (e.g., Bitcoin) to revolutionize specific industries. Bitcoin's popularity has not diminished since it was first introduced in 2008. Besides, BCT has been integrated into many new applications beyond traditional financial services (Crosby et al., 2016). Blockchain enables not only cryptocurrencies but also autonomous digital contracts (smart contracts) and intellectual assets to be accessed and controlled remotely (Lindman et al., 2017; Wang et al., 2019).

With its growing attention globally, BCT and BCT-based applications have been implemented in different fields such as the pharmaceutical industry (e.g., Bocek et al., 2017), healthcare industry (e.g., McGhin et al., 2019; Balasubramanian et al., 2021), and supply chain management (e.g., Casey and Wong, 2017; Kshetri, 2018; Queiroz and Wamba, 2019; Wang et al., 2019). Along with those industries, BCT has been implemented in the tourism and hospitality sector, one of the most important industries in terms of digitalization and the newest technology adoption process. Rashideh (2020) pointed out that BCT has recently played the most influential role in changing the tourism industry because of its ability to increase disintermediation. From another perspective, Nam et al. (2021) advocated that developing a blockchain-based business model, including cryptocurrencies, will give suppliers and tourists more advantages. Moreover, Filimonau and Naumova (2020) asserted that the newly emerging concept of BCT could alter tourism and hospitality operations. For instance, Webjet has a system for listing available rooms within hotels where people use Ethereum, one of the most significant cryptocurrencies among blockchain applications (Valeri and Baggio, 2021). Another critical example is online travel agents like Expedia, which directly connect travelers to make considerable cost savings without intermediaries via BCT (Nam et al., 2021).

Despite the importance and relevance of BCT in tourism and hospitality, there is currently no study delving into the factors affecting stakeholders' engagement with BCT. Existing tourism and hospitality studies (e.g., Filimonau and Naumova, 2020; Kizildag et al.,

2019; Önder and Gunter, 2020) are primarily based on descriptive, conceptual, or case studies, which provide the general perspective for the implications of BCT. Along with the lack of empirical studies in that field, tourism and hospitality have fewer studies related to BCT than other areas, such as the financial industry. Based on this, there are many calls for research to emphasize the impact of BCT on tourism and hospitality in the existing literature. Treiblmaier (2021) reported there should be some research on the tourism and hospitality implications of blockchain at the individual, organizational, and economic levels to understand better how BCT is processed. Likewise, Rashideh (2020) noted that some questions need to be answered about why a business should invest in BCT in tourism and hospitality. Moreover, he also suggested that some research should be done based on quantitative methods to understand what factors affect the adoption of BCT in this field. Apparently, blockchain has the potential to transform all traditional tourism and hospitality activities. Hence, understanding BCT's characteristics and interactions is paramount to anticipate better tourism industry changes in the future.

Along with the importance and necessity of the application of BCT in the tourism and hospitality industry, it is also rather vital to understand how stakeholders engage with this technology. The concept of stakeholders is any person or group that can have an impact on or be impacted by an organization's objectives (Freeman, 1984; Luca et al., 2022; Nutt and Backoff, 1992). According to the stakeholder theory (Freeman, 1984), anyone with a legitimate interest in an organization or its activities can be considered a stakeholder. Like many industries, stakeholder theory can allow organizations in tourism and hospitality to take action, impacting the views of others. (McCabe et al., 2012).

On the other side, stakeholder engagement is based on a micro foundation for creative activities such as innovation processes, providing insight into how and why stakeholders offer resources to an inter-organizational service ecosystem (Storbacka et al., 2016). Stakeholder engagement refers to a mental or emotional state that arises from stakeholders' experiences during an interactive process within a particular service ecosystem (Brodie et al.'s, 2011; O'Riordan and Fairbrass, 2014). From a different perspective, Luca et al. (2022) have highlighted that stakeholder engagement involves discussing the firm's concerns with stakeholders and identifying factors that could improve the firm's decision-making process and accountability through economic, social, and environmental factors. Finding the positive antecedents of stakeholder engagement with BCT can boost or enhance the organization's development. Accordingly, in this study, stakeholder engagement with BCT as a new concept, focusing on managers and employees, is undertaken by the companies or organizations to use in their technological, economical, and organizational activities.

While stakeholders' engagement has been studied in a variety of literature streams, for example, corporate social responsibility (e.g., Prado-Lorenzo et al., 2009), open innovation (e.g., Grama-Vigouroux et al., 2020), value co-creation (e.g., Loureiro et al., 2020), and social media (e.g., Luca et al., 2022), there is still a huge gap in understanding BCT's role in enhancing stakeholder engagement. Especially since blockchain has great potential, and its effect much has not been known fully (Gartner, 2019), it is also not clear what factors have motivated stakeholders to engage with blockchain technology in the tourism and hospitality industry. Incorporating digital tools and channels into stakeholder management can enhance the engagement process, making it more efficient and convenient while encouraging the type of engagement necessary to make a project valuable (Sedmak, 2021). For this reason, we draw upon stimulus-organism response and technology-organization-environment frameworks to assess the impact of technological-organizational, environmental, and social factors on stakeholder engagement with BCT through stakeholder experience and BCT trust in the tourism and hospitality industry.

Overall, this study contributes to the existing literature in the following ways. First, since empirical research on BCT is limited to tourism and hospitality, this will be one of the leading empirical studies to respond to the calls showing the need for research. Unlike other empirical studies, this research comprehensively explains why the tourism and hospitality industry must use blockchain technology. Another significant contribution is to measure actual behavior in our conceptual model, unlike the existing studies and their future suggestions. This is highly important to provide a guideline for organizations that want to benefit from BCT. As a third contribution, since our frameworks are flexible based on the context, the constructs we use (e.g., technology policy and information intensity) are quite novel and have not yet been examined in blockchain technology literature or tourism and hospitality literature. The fourth contribution is that this study is the first, to the best of our knowledge, to provide technological-environmental and organizational factors under the stimulus dimension and to analyze the whole process from the stimulus-organism-response framework. As a fifth contribution, other literature- e.g., supply chain, the financial industry- has suggested the examine the impact of relative advantage, compatibility, or regulatory support on blockchain adoption; however, these studies are based on conceptual or theoretical papers that do not provide correlational research. This shows that there is a huge gap in the existing literature and a scarcity in the understanding of what positively drives to engage with BTC. To fill this gap in the literature, our findings will contribute to the BTC literature by revealing the enablers and their effects on BTC stakeholder engagement. Lastly, no other studies have examined BCT's role in the triangle between experience, trust, and employment. In a nutshell, our conceptual model will make theoretical and managerial contributions in different ways to digitalization, the information system (IS), and tourism and hospitality literature.

2. Theoretical Framework

2.1. Stimulus-Organism-Response (SOR)

The Stimulus-Organism-Response (SOR) theory is based on the principle that an external stimulus triggers an internal response in the individual based on its internal evaluation. The S-OR model, introduced by Mehrabian and Russell (1974), aims to clarify an individual's emotions by integrating multiple processes. Having its roots in environmental psychology, the SOR framework provides a sequential mechanism for learning that can account for human behaviour (Jabeen et al., 2022). Initially, the S-O-R framework suggests that external cues, including informational and environmental cues (the stimuli element), can affect an individual's internal state (feeling and thinking). Followingly, an individual's support intentions, which can affect their responses (the response component), are shaped by their thoughts and emotions (Lim et al., 2022; Tan and Chiang, 2022). A stimulus, which can be any factor that impacts and triggers people, influences an individual's emotions and cognitive processes, while organisms are the processes that occur between stimuli and responses. The response arises from how the individual manages external motivation (Loureiro et al., 2020; Uzir et al., 2021; Zhang and Benyoucef, 2016).

S-O-R is helpful in reflecting on individuals' cognitive and affective states before their response behaviors. Chen and Yao (2021) have stated that through S-O-R, how customers react to market conditions and marketing campaigns can be anticipated by solving the complex nature of human processes and their decisions. Hence, S-O-R has thoroughly been examined in the virtual environment, covering different online users' behaviors (Li, 2019). The S-O-R theoretical model has been chiefly discussed in electronic commerce to clarify how consumers view websites and purchases online (Chen, 2021). In a similar vein, Kamboj et al. (2018) stated that some scholars implemented the S-O-R framework in online experiences about brands, websites, shopping, online reviews, virtual products experience,

and retail apps (e.g., Bigne et al., 2020; Chen and Yao, 2018; Iranmanesh et al., 2022). Apart from these fields, the framework has been studied to understand users' technology adoption and usage. For example, Animesh et al. (2011) examined the S-O-R framework to determine how technological aspects of virtual worlds affect the virtual experiences of users and their purchasing actions. Suh and Prophet (2018) also used the S-O-R framework to do a comprehensive literature review for immersive technology covering augmented reality and virtual reality. Similarly, Lee et al. (2021) examined students' adoption of augmented reality based on the S-O-R model. Recently, there has been an increase in studies examining the adoption of new technologies through the S-O-R model, such as smartwatches (e.g., Cho et al., 2018; Uzir et al., 2021), voice assistants (e.g., Hernandez-Ortega and Ferreira, 2021), and cloud storage (e.g., Liu and Prybutok, 2021).

As noted above, using the S-O-R model in understanding consumer behaviors helps distinguish between stimuli that affect consumers internally and externally (Chen and Yao, 2018) and helps evaluate consumer behavior (Talwar et al., 2022). Along with consumer behaviors, SOR has also been adopted by firms and organizations. Chen et al. (2019) stated that since SOR measures the relationship between the company and the environment considering external factors, it likely affects its decision process. In another vein, Yin et al. (2021) have also highlighted that management concepts and strategies for daily activities based on the organizational management process all compose environmental stimulus factors affecting employees. As a result, it is understood that the SOR model has also drawn attention in the corporate management environment, helping the whole understanding process starting from stimulus to response level. Considering this information, this study finds that the SOR framework is suitable for understanding user behavior from the organization's perspective to the process of stakeholder engagement with BCT in the tourism and hospitality industry. As Hsu et al.'s study (2021) specified, SOR provides a substantial frame for understanding tourism activities' antecedents, interventions, and consequences.

2.2. Technology-Organization-Environment (TOE) Model

The primary purpose of the TOE framework (Tornatsky and Fleischer, 1990) is to determine technological, organizational, and environmental views that impact technology adoption in organizations (Clohessy et al., 2019). TOE provides a framework including impediments and opportunities for technological advancements of the firm or any organization (Ganguly, 2022; Upadhyay et al., 2021). This framework can thoroughly elucidate the factors affecting adoption decisions (Chatterjee et al., 2021). Even though TOE has been mostly used for understanding the organizational level of technology adoption, it has also been implemented for understanding the individual level of technology adoption (e.g., Kouhizadeh et al., 2021) while considering internal and external factors (Lu et al., 2021).

TOE framework has been implemented in different fields until now. Awa et al. (2016) have examined the adoption of enterprise resource planning (ERP) software by small and medium-sized enterprises (SMEs) based on the TOE framework. Gangwar et al. (2015) have examined the adoption of cloud computing at the organizational level based on the TOE framework with the technology acceptance model (TAM). Abed (2020) revealed the factors influencing the adoption of social commerce by SMEs based on the TOE perspective. Chatterjee et al. (2021) have also attempted to examine manufacturing and production firms of AI adoption based on the TOE model and TAM theory. Ullah et al. (2021) have revealed the challenges sustainable smart cities encounter based on the TOE framework. Apart from these contexts, the framework has also gained attention from scholars working on BCT. Moreover, there exist studies proposed using TOE framework theoretically to understand blockchain intention to use and the blockchain adoption process. For example, Clohessy and Acton (2019) conducted a qualitative analysis to reveal factors of blockchain adoption by

using the TOE model. Clohessy et al. (2020) employed TOE framework by integrating it with other innovation theories to identify the antecedents of blockchain at the organizational level by using a review of the current blockchain literature and 20 different case studies. Saheb and Mamaghani (2021) have conducted semi-interviews to understand the barriers to blockchain value based on TOE framework. Kouhizadeh et al. (2021) similarly have theoretically examined blockchain adoption obstacles for sustainability in supply chain management from the TOE perspective. Kamble et al. (2021) have examined the factors affecting blockchain adoption from the perspective of TAM and TOE models by using Bayesian network analysis.

Recently, the TOE framework has been applied to understand the BTC adoption process in different contexts, as seen above, such as government systems (e.g., Roth et al., 2022), supply chain management (e.g., Chowdhury et al., 2020), automotive sector (e.g., Xu et al., 2022), industrial organizations (e.g., Liang et al., 2021), care insurance (e.g., Zhang et al., 2021), and shipping industry (Sarket et al., 2021). However, research on BCT drawing on TOE model in the tourism and hospitality context is scant. Valeri and Baggio (2021) suggest that technical, environmental, and organizational factors of BTC should be examined. In a different manner, Treiblmaier (2021) have examined tokens, which is an asset or form of payment, under the BTC umbrella. He emphasized that tokens can be integrated with academic theories (such as TOE framework); thus, their effect on the tourism and hospitality industry should be examined. He noted that TOE might enable the comprehensive perspective to see the disruptive change at various levels. Therefore, this study aims to respond to calls for research on the effect of TOE factors on BTC.

3. Research Propositions

3.1. Technological Factors

3.1.1. *Compatibility*

Compatibility refers to how much an innovation aligns with a potential adopter's values, experiences, habits, preferences, and needs (Dehghani, 2018; Kim and Ammeter, 2014; Rogers, 2003). In a similar vein, compatibility can also describe how the novel technology fits into consumers' existing lifestyles and prior experiences (Labrecque et al., 2017). On another side, Premkumar et al. (1994) viewed compatibility as existing hardware/software which is matched with technical compatibility. Grover (1993) highlighted that a system is considered compatible when it is perceived as compatible with an organization's values, systems, and technical infrastructure. The literature has documented the relationship between compatibility and technology adoption in different contexts (e.g., Adapa et al., 2018; Dehghani, 2018; Kolodinsky et al., 2004; Wang et al., 2010; Wang et al., 2016). Furthermore, Agi and Jha (2022) highlight that compatibility is one of the most important factors shaping the BCT process in supply chain management. In light of these studies, but unlike them, we assume that the compatibility of BTC with the stakeholders' existing works and routines can enhance their experience. Moreover, they are likely to feel trust toward the BTC when they see that it can be integrated into the existing system. To the best of our knowledge, the literature has not investigated the impact of compatibility on either experience or trust. Therefore, we hypothesize that:

Proposition 1a. Compatibility has a positive impact on stakeholder experience.

Proposition 1b. Compatibility has a positive impact on blockchain technology trust.

3.1.2. *Relative Advantage*

Relative advantage is defined as “the degree to which an innovation is perceived as being better than the idea it supersedes” (Rogers, 2003, p. 229). In the blockchain context, Lu et al. (2021) explained relative advantage as the potential benefits of BTC when it is superior to the traditional technology it substitutes in one or more dimensions. BTC can bring many

advantages when internalized, such as traceability, decentralization, and security. As a result of that, it is likely to be adopted by organizations if it has better advantages than existing systems. Therefore, relative advantage is found to be a significant determinant of intention to adopt blockchain technology (Lu et al., 2021; Wong et al., 2020). Additionally, Agi and Jha (2022) and Clohessy and Acto (2019) have made suggestions based on a theoretical level, emphasizing that relative advantage has shaped blockchain adoption in supply chain management. Considering this, the advantages of blockchain technology may likely enhance stakeholders' experience in terms of some features such as speed, quality, reliable system, and low cost. At the same time, this may likely build robust trust toward blockchain technology. Hence, we hypothesize:

Proposition 2a. Relative advantage has a positive impact on stakeholder experience.

Proposition 2b. Relative advantage has a positive impact on blockchain technology trust.

3.1.3. Technology Competence

Technology competence is determined by the information technology infrastructure and workforce of an organization, such as the skills of personnel in implementing and using the technology; it is based on the technological characteristics available in the organization (Martins et al., 2016). More clearly, Acur et al. (2010) refer to technology competence as a company's capability to effectively utilize technological knowledge and education to enhance its products and procedures. Additionally, Ritter and Gemünden (2004) refer to technology competence as an organization's aptitude in comprehending, utilizing, and taking advantage of cutting-edge technology within its operations. The studies show that technology competence has a positive intention to adopt different technologies, such as Software-as-a-service (SaaS) (Martins et al., 2016) and blockchain technology (Hashimy et al., 2022). On another notable point, Basselier et al. (2001) have highlighted that the manager's technical knowledge is reflected in the experience. Since technology competence may be associated with the technological knowledge above, we can assume that the more technological competence stakeholders have about blockchain technology, the more high-quality experience they can have. Moreover, Bauer et al. (2002) highlighted that customers' trust is positively impacted by such IT-driven information availability and interactivity. Considering this, we assume that technology competence including knowledge and the company's capability can increase stakeholders' trust in blockchain technology.

Proposition 3a. Technology competence has a positive impact on stakeholder experience.

Proposition 3b. Technology competence has a positive impact on blockchain technology trust.

3.2. Organizational Factors

3.2.1. Technology Policy

Technology policy is "the long-range strategy of the organization concerning the adoption of new process and material innovations and the orientation of new product or service innovations" (Ettlie and Bridges 1987, p.118). Zahra and Covin (1993) stated that it is difficult to evaluate the contribution of technological policies to competitive advantage because there is no agreement about their content. Hence, having a technology policy related to the support technologies and products process (Adler, 1989) provides an opportunity to improve the company's performance. The implementation of technology policies can be seen in concrete actions such as investing in research and development, using computer-based applications for administration or production, and monitoring technological advancements (Lefebvre et al., 1997). These actions are designed to enhance the quality of the company's products or processes, and in doing so, they contribute to the organization's overall success (Lefebvre et al., 1997). Despite its relevance and importance, there is little attention on technology policy in the information system, tourism, and hospitality literature. In light of

this information, we assume that technology policy as one of the organization factors might be a good determinant for enhancing the experience for stakeholders while using blockchain technology and trust toward blockchain technology. Hence:

Proposition 4a. Technology policy has a positive impact on stakeholder experience.

Proposition 4b. Technology policy has a positive impact on blockchain technology trust.

3.2.2. Top Management Support

Top management support is one of the most well-known and used organizational factors, which refers to “managerial beliefs about technological initiatives, participation in those initiatives, and the extent to which top management advocates technological advancement” (Kulkarni et al., 2017, p.7). It has been identified that top management support is one of the most critical factors in adopting information technology innovations (Clohessy et al., 2019; 2020). In the context of blockchain technology, having the support of top-level management is crucial for adopting this technology; this is because adopting blockchain may entail complying with new regulations, dealing with high levels of complexity, acquiring and integrating new resources, restructuring how businesses interact with customers and other companies, exchanging information, and developing new skills and capabilities (Clohessy and Acton, 2019). At this point, the support of top management is essential in convincing a company of the importance of using a particular technology and motivating managers to make appropriate decisions (Deng et al., 2020). As is supported in the literature (Cosby et al., 2016; Fernando et al., 2021; Hashimy et al., 2023; Nayal et al., 2021), there is a strong and positive relationship between top management support and adoption of blockchain technology. From this stance, we assume that top management support can create a positive experience among the stakeholders and increase trust toward blockchain technology. That's if a stakeholder is hesitant about using blockchain technology, receiving support from top management can assist them in building confidence and trust in the technology. Hence, we hypothesize that:

Proposition 5a. Top management support has a positive impact on stakeholder experience.

Proposition 5b. Top management support has a positive impact on blockchain technology trust.

3.3. Environmental Factors

3.3.1. Information Intensity

Information intensity is a significant environmental aspect that affects the selection of competitive strategies and promotes the development of information technology within organizations (Mao et al., 2021). Environmental psychology research has defined information intensity as the quantity of information presented (Menon and Kahn, 2022). Looking at it from a different angle, Denize and Young (2007) have stated that information intensity refers to the various categories of information involved in a transaction. As the number of information categories included in the transaction increases, the level of information intensity also increases. Information intensity is substantial in the information age because it can help organizations identify information technology investment priorities, thereby leading to competitive advantage (Ravichandran and Liu, 2011). Andal-Ancion et al. (2003) also stated that services and products with higher levels of information intensity have immense potential for benefits. When faced with high information intensity, companies may feel compelled to adopt new information technology and may use their skills to generate more value for the business. This may affect stakeholders' experience in a positive way. For example, Schuler and Cording (2006) proposed that there is an effect of information intensity on an individual's brand attitude. Moreover, Saridakis et al. (2018) emphasized that information technology investments positively impact a company's performance when the industry's value chain information or product information intensity is considered high. In accordance with this, we

assume that information intensity might strongly predict stakeholder experience and increase trust toward blockchain technology. Hence,

H6a. Information intensity has a positive impact on stakeholder experience.

H6b. Information intensity has a positive impact on blockchain technology trust.

3.3.2. Regulatory Support

Regulatory support pertains to the set of regulations and policies established by the government to oversee and control the use of new technologies in industries (Chittipaka et al., 2022; Shi and Yan, 2016). In earlier research on the adoption of technology, regulatory support has frequently been noted as a significant factor (Ifinedo, 2011; Oliveira et al., 2014; Wong et al., 2020). Regulatory support offers users of blockchain technology a sense of legal assurance by enforcing regulations that address data protection and promote transparent supply chain processes (Nayal et al., 2021). Regulatory support is considered a critical factor in determining a firm's adoption (or not) of blockchain technology applications (Sharma et al., 2020). Moreover, Wong et al. (2020) have noted that regulatory support plays a crucial role in establishing trust and influencing the implementation of infrastructure necessary to adopt blockchain technology. Albayati et al. (2020) have also documented that the level of government regulation has a notable impact on customers' trust in new technologies, resulting in a decrease in perceived risk. Considering the discussion above, we believe that regulatory support is likely to have a positive impact on stakeholder experience since legal assurance gives the stakeholders more freedom, which can affect their experience. In a similar vein, regulatory support provided is likely to create stakeholders' trust in blockchain technology. Hence, we hypothesize:

Proposition 7a. Regulatory support has a positive impact on stakeholder experience.

Proposition 7b. Regulatory support has a positive impact on blockchain technology trust.

3.4. Stakeholder Experience

Stakeholder experience corresponds to the extent of familiarity and expertise they possess in utilizing new technologies (Hackbarth, 2003). When it comes to adopting blockchain technology, having experience can serve as a driving force for adoption and enhance trust (Albayati et al., 2020). Greater familiarity with the new information technology system results in heightened trust in customer usage (Hsu and Lu, 2004), which is achieved through a particular experience. For example, Kumar et al. (2018) highlighted that a consumer's trust in a company's website is affected by their previous experience with the company. Khan et al. (2020) additionally found the experience to positively affect trust in the brand context. In a similar vein, Bawack et al. (2021) found there is an effect of prior experience on trust toward smart speakers. Along the same line, we suppose that when the stakeholder has experience with blockchain technology affects the way blockchain technology is trusted. If the experiences stakeholders have in their work environment are good and positive, then it is possible to say that stakeholders would trust blockchain technology.

The relationship between the stakeholder experience and stakeholder engagement with blockchain technology plays a vital role in understanding the post-adoption process of blockchain technology. The literature already shows that there is a positive relationship between experience and engagement in different contexts (e.g., Rohd-Ramly, S., and Omar, 2017; Tuguinay et al., 2022;). Roy et al. (2022) also found that customer experience has a positive impact on customer engagement through customer commitment in service marketing. Considering this, we believe that the experience stakeholders have with blockchain technology can lead to high-level engagement with such technology. Hence, we hypothesize:

Proposition 8a. Stakeholder experience has a positive impact on blockchain technology trust.
Proposition 8b. Stakeholder experience has a positive impact on blockchain stakeholder engagement.

3.5. Blockchain Technology Trust

Unlike the existing studies in the literature on trust (e.g., trust in the community, trust in the website, trust in the product, trust in the vendor), we approach trust in a different way. Consistent with the approach of Hassan et al.'s study (2020), technology trust refers to the confidence that customers have in the consistent and effective performance of technology, which impacts their attitudes, intentions, and perceptions. Blockchain technology trust in this study covers digital assets between exchange actors through digital methods such as providing proof of existence, issuing proof of ownership, and escrowing (Tan and Saraniemi, 2022). Hence, when using blockchain technology, employees and managers may know they are in a reliable, practical, and competent process through these digital assets. Trust itself is one of the strong drivers to create customer engagement, which has been tested in many research studies (e.g., Guo et al., 2021; Huang and Chang, 2019; Liu et al., 2018; Wongkitrungrueng and Assarut, 2018, 2020). Considering those studies, we assume that blockchain technology trust may also increase the stakeholder engagement level with blockchain technology. Tan and Saraniemi (2022) have highlighted that providing trust helps marketers and organizations in the blockchain industry improve customer engagement and provides a unique customer experience by using the application of non-fungible tokens (e.g., Decentraland). Moreover, there are few studies that highly emphasize the importance of trust in blockchain technology and highlight the need for it to be researched (e.g., Hawlitschek et al., 2018; ur Rehman et al., 2019; Tan and Saraniemi, 2022). To respond to their calls and understand the role of blockchain technology trust on stakeholder engagement, the following hypothesis is proposed:

Proposition 9. Blockchain technology trust has a positive impact on blockchain stakeholder engagement.

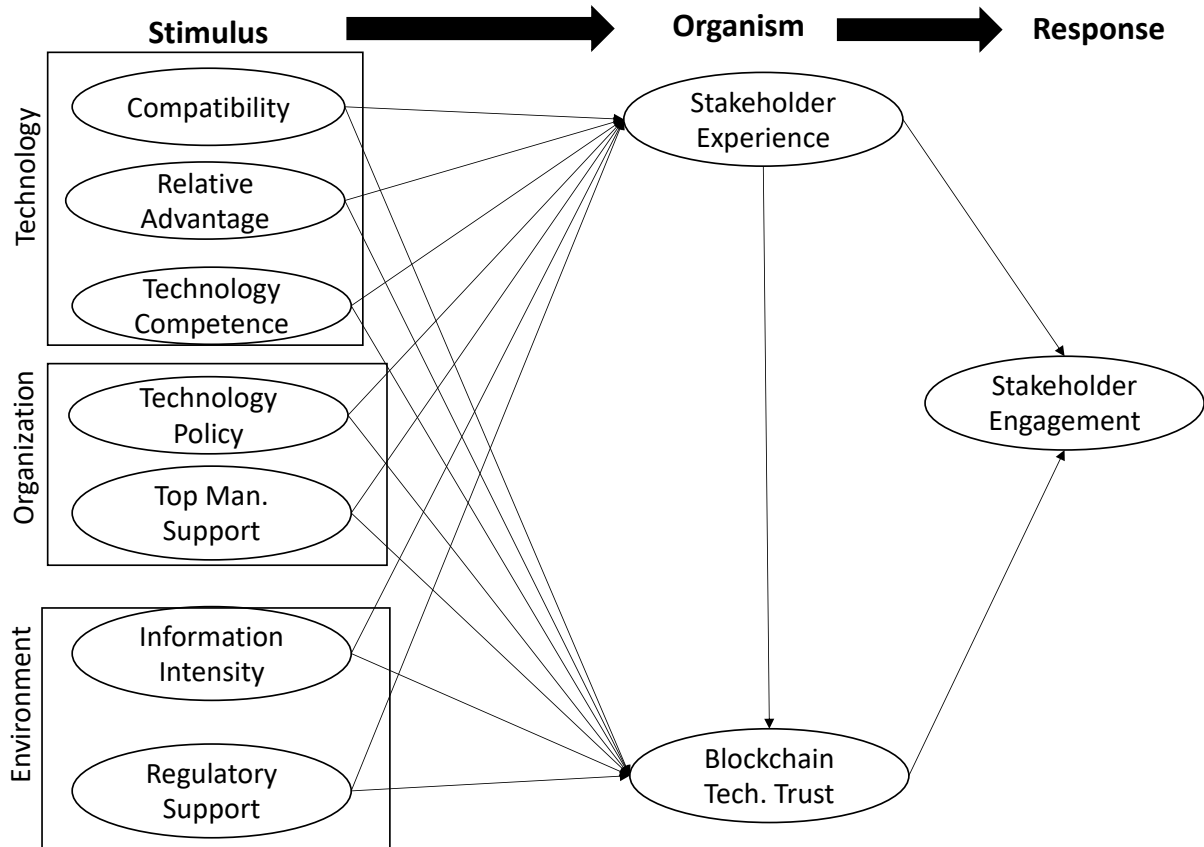


Fig. Conceptual Model

4. Conclusion and Discussion

Blockchain technology in the tourism and hospitality industry has the potential to revolutionize various activities by reducing the need for intermediaries and offering cost savings. It has found applications in pharmaceuticals, healthcare, and supply chain management sectors. However, despite its importance, there is a lack of empirical studies investigating how stakeholders engage with BCT in tourism and hospitality. Understanding stakeholder engagement is crucial to fully harnessing the potential of BCT in the industry. Hence, in this paper, technological, organizational, and social factors that impact stakeholder engagement and blockchain technology trust, which turns into stakeholder engagement, have been summarized.

While stakeholder engagement has been explored in various domains such as management and organization literature, there is still a significant knowledge gap regarding the role of BCT in enhancing stakeholder engagement, incorporating digital tools and channels into stakeholder management can improve efficiency and convenience while promoting valuable engagement, this study hence aims to fill this gap by examining the impact of technological-organizational, and environmental factors on stakeholder engagement with BCT in tourism and hospitality.

This study doubtless has theoretical and managerial implications. Based on the theoretical implications, this study is the first study in the literature examining the actual behavior of blockchain technology. More specifically, this study's contributions lie in its empirical investigation of BCT in the tourism and hospitality industry, providing insights into the reasons behind its adoption. Unlike previous studies, this research measures actual behavior and offers practical guidance to organizations leveraging BCT. The study introduces novel constructs and frameworks specific to BCT and demonstrates the stimulus-organism-response process. That's why this study greatly contributes to the blockchain technology literature. Another important contribution is that established theoretical models in management literature are newly applied to tourism and hospitality literature. From the managerial implications, this study is a useful guideline for managers and destination marketing organizations. Our findings help managers who do not yet achieve blockchain engagement. Through our holistic framework, this study can show which factors are needed to take into consideration or not during the blockchain engagement process. Lastly, the study examines the relationship between experience, trust, and employment, which previous research has not explored. Organizations can effectively leverage this technology to capitalize on its transformative potential in the industry by understanding the factors that drive stakeholder engagement with BCT.

In this research, we only aimed to examine the effect of technological, organizational, and environmental factors on stakeholder engagement through stakeholder experience and blockchain technology trust in tourism and hospitality. Future research, however, may delve into additional perspectives, such as the social perspective (e.g., coordination) or psychological perspective (e.g., fear of missing out). We only focus on the role of trust toward blockchain; however, another kind of trust, such as institutional or knowledge-based trust, might be another important determinant affecting stakeholder engagement with blockchain technology. Another notable point is that this is study based on the survey instrument used to collect the data from the employees and managers already engaging with blockchain technology in tourism and hospitality industry. Thus, it would be useful if future research could conduct other methodologies to investigate the other factors. For example, semi-structured interviews can be performed to reveal novel factors affecting stakeholder engagement with blockchain technology. As an alternative, the data might be gathered from different countries (East vs. West) to see the differences in whether they have different stakeholder engagement level with blockchain technology.

References

- Acur, N., Kandemir, D., De Weerd-Nederhof, P. C., & Song, M. (2010). Exploring the impact of technological competence development on speed and NPD program performance. *Journal of Product Innovation Management*, 27(6), 915-929.
- Adapa, A., Nah, F. F. H., Hall, R. H., Siau, K., & Smith, S. N. (2018). Factors influencing the adoption of smart wearable devices. *International Journal of Human-Computer Interaction*, 34(5), 399-409.
- Adler, P. S. (1989). Technology strategy. *Research in Technological Innovation, Management and Policy*, 4, 25-251.
- Agi, M. A., & Jha, A. K. (2022). Blockchain technology in the supply chain: An integrated theoretical perspective of organizational adoption. *International Journal of Production Economics*, 247, 108458.
- Albayati, H., Kim, S. K., & Rho, J. J. (2020). Accepting financial transactions using blockchain technology and cryptocurrency: A customer perspective approach. *Technology in Society*, 62, 101320.
- Alkhudary, R., Brusset, X., & Fenies, P. (2020). Blockchain in general management and economics: A systematic literature review. *European Business Review*, 32(4), 765-783.
- Ahn, J., & Back, K. J. (2018). Antecedents and consequences of customer brand engagement in integrated resorts. *International Journal of Hospitality Management*, 75, 144-152.
- Andal-Ancion, A., Cartwright, P. & Yip, G. (2003). The digital transformation of traditional business. *MIT Sloan Management Review*, 34-41.
- Animesh, A., Pinsonneault, A., Yang, S. B., & Oh, W. (2011). An odyssey into virtual worlds: exploring the impacts of technological and spatial environments on intention to purchase virtual products. *MIS Quarterly*, 789-810.
- Awa, H. O., Ukoha, O., & Emecheta, B. C. (2016). Using TOE theoretical framework to study the adoption of ERP solution. *Cogent Business & Management*, 3(1), 1196571.
- Balasubramanian, S., Shukla, V., Sethi, J. S., Islam, N., & Saloum, R. (2021). A readiness assessment framework for Blockchain adoption: A healthcare case study. *Technological Forecasting and Social Change*, 165, 120536.
- Bassellier, G., Reich, B. H., & Benbasat, I. (2001). Information technology competence of business managers: A definition and research model. *Journal of Management Information Systems*, 17(4), 159-182.
- Bauer, H. H., Grether, M., & Leach, M. (2002). Building customer relations over the Internet. *Industrial Marketing Management*, 31(2), 155-163.
- Bawack, R. E., Wamba, S. F., & Carillo, K. D. A. (2021). Exploring the role of personality, trust, and privacy in customer experience performance during voice shopping: Evidence from

SEM and fuzzy set qualitative comparative analysis. *International Journal of Information Management*, 58, 102309.

Bigne, E., Chatzipanagiotou, K., & Ruiz, C. (2020). Pictorial content, sequence of conflicting online reviews and consumer decision-making: The stimulus-organism-response model revisited. *Journal of Business Research*, 115, 403-416.

Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of Service Research*, 14(3), 252-271

Bocek, T., Rodrigues, B. B., Strasser, T., & Stiller, B. (2017, May). Blockchains everywhere-a use-case of blockchains in the pharma supply-chain. In *2017 IFIP/IEEE symposium on integrated network and service management (IM)* (pp. 772-777). IEEE.

Chatterjee, S., Rana, N. P., Dwivedi, Y. K., & Baabdullah, A. M. (2021). Understanding AI adoption in manufacturing and production firms using an integrated TAM-TOE model. *Technological Forecasting and Social Change*,

Chittipaka, V., Kumar, S., Sivarajah, U., Bowden, J. L. H., & Baral, M. M. (2022). Blockchain Technology for Supply Chains operating in emerging markets: an empirical examination of technology-organization-environment (TOE) framework. *Annals of Operations Research*, 1-28.

Casey, M. J., & Wong, P. (2017). Global supply chains are about to get better, thanks to blockchain. *Harvard Business Review*, 13, 1-6.

Chen, C. H. (2021). Leveraging the power of online referral for E-business: The moderated mediation model. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(7), 2594-2607.

Chen, C. C., & Yao, J. Y. (2018). What drives impulse buying behaviors in a mobile auction? The perspective of the Stimulus-Organism-Response model. *Telematics and Informatics*, 35(5), 1249-1262.

Cho, W.-C., Lee, K.Y., & Yang, S.-B. (2019). What makes you feel attached to smartwatches? The stimulus–organism–response (S–O–R) perspectives. *Information Technology & People*, 32(2), 319-343.

Chowdhury, S., Rodriguez-Espindola, O., Dey, P., & Budhwar, P. (2022). Blockchain technology adoption for managing risks in operations and supply chain management: evidence from the UK. *Annals of Operations Research*, 1-36.

Clohessy, T., & Acton, T. (2019). Investigating the influence of organizational factors on blockchain adoption: An innovation theory perspective. *Industrial Management & Data Systems*, 119(7), 1457-1491.

Clohessy, T., Acton, T., & Rogers, N. (2019). Blockchain adoption: Technological, organisational and environmental considerations. In *Business transformation through blockchain* (pp. 47-76). Palgrave Macmillan, Cham.

Clohessy, T., Treiblmaier, H., Acton, T., & Rogers, N. (2020). Antecedents of blockchain adoption: An integrative framework. *Strategic Change*, 29(5), 501-515.

Crosby, M., Pattanayak, P., Verma, S., & Kalyanaraman, V. (2016). Blockchain technology: Beyond bitcoin. *Applied Innovation*, 2(6-10), 71.

Dehghani, M. (2018). Exploring the motivational factors on continuous usage intention of smartwatches among actual users. *Behaviour & Information Technology*, 37(2), 145-158.

Deng, H., Duan, S. X., & Luo, F. (2020). Critical determinants for electronic market adoption: Evidence from Australian small-and medium-sized enterprises. *Journal of Enterprise Information Management*, 33(2), 335-352.

Denize, S., & Young, L. (2007). Concerning trust and information. *Industrial Marketing Management*, 36(7), 968-982.

De Luca, F., Iaia, L., Mehmood, A., & Vrontis, D. (2022). Can social media improve stakeholder engagement and communication of Sustainable Development Goals? A cross-country analysis. *Technological Forecasting and Social Change*, 177, 121525.

Ettlie, J. E., & Bridges, W. P. (1987). Technology policy and innovation in organizations. In J. M. Pennings, & A. Buitendam (Eds.), *New technology as innovation* (p. 1987). MA: Ballinger Publishing Company.

Farnoush, A., Gupta, A., Dolarsara, H. A., Paradice, D., & Rao, S. (2022). Going beyond intent to adopt Blockchain: an analytics approach to understand board member and financial health characteristics. *Annals of Operations Research*, 308(1-2), 93-123.

Fernando, Y., Darun, M. R., Abideen, A. Z., Ibrahim, D. N., Tieman, M., & Mohamad, F. (2021). Adoption of blockchain technology to improve integrity of halal supply chain management. In *Encyclopedia of Organizational Knowledge, Administration, and Technology* (pp. 2488-2496). IGI Global.

Filimonau, V., & Naumova, E. (2020). The blockchain technology and the scope of its application in hospitality operations. *International Journal of Hospitality Management*, 87, 102383.

Freeman R. E. (1984). *Strategic Management: A Stakeholder Approach* (Boston: Pitman Publishing Inc.

Gartner (2019). *Hype cycle shows most blockchain technologies are still five to 10 years away from transformational impact*. Press release, Stamford, CT. Available at: <https://gtmr.it/2MNSN5m>

Ganguly, K. K. (2022). Understanding the challenges of the adoption of blockchain technology in the logistics sector: the TOE framework. *Technology Analysis & Strategic Management*, 1-15.

Grama-Vigouroux, S., Saidi, S., Berthinier-Poncet, A., Vanhaverbeke, W., & Madanamoothoo, A. (2020). From closed to open: A comparative stakeholder approach for developing open innovation activities in SMEs. *Journal of Business Research*, 119, 230-244.

Grover, V. (1993). An empirically derived model for the adoption of customer-based interorganizational systems. *Decision Sciences*, 24(3), 603-640.

Guo, L., Hu, X., Lu, J., & Ma, L. (2021). Effects of customer trust on engagement in live streaming commerce: mediating role of swift guanxi. *Internet Research*, 31(5), 1718-1744.

Hackbarth, G., Grover, V., & Mun, Y. Y. (2003). Computer playfulness and anxiety: positive and negative mediators of the system experience effect on perceived ease of use. *Information & Management*, 40(3), 221-232.

Hashimy, L., Jain, G., & Grifell-Tatjé, E. (2023). Determinants of blockchain adoption as decentralized business model by Spanish firms—an innovation theory perspective. *Industrial Management & Data Systems*, 123(1), 204-228.

Hawlitshchek, F., Notheisen, B., & Teubner, T. (2020). A 2020 perspective on “The limits of trust-free systems: A literature review on blockchain technology and trust in the sharing economy”. *Electronic Commerce Research and Applications*, 40, 100935.

Hernandez-Ortega, B., & Ferreira, I. (2021). How smart experiences build service loyalty: The importance of consumer love for smart voice assistants. *Psychology & Marketing*, 38(7), 1122-1139.

Huang, J., & Zhou, L. (2019). The dual roles of web personalization on consumer decision quality in online shopping: The perspective of information load. *Internet Research*, 29(6), 1280-1300.

Hughes, A., Park, A., Kietzmann, J., & Archer-Brown, C. (2019). Beyond Bitcoin: What blockchain and distributed ledger technologies mean for firms. *Business Horizons*, 62(3), 273-281.

Hsu, M. H., & Chiu, C. M. (2004). Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour & Information Technology*, 23(5), 359-373.

Hsu, F. C., Agyeiwaah, E., Lynn, I., & Chen, L. (2021). Examining food festival attendees' existential authenticity and experiential value on affective factors and loyalty: An application of stimulus organism response paradigm. *Journal of Hospitality and Tourism Management*, 48, 264-274.

Ifinedo, P. (2011). An empirical analysis of factors influencing Internet/e-business technologies adoption by SMEs in Canada. *International Journal of Information Technology & Decision Making*, 10(04), 731-766.

Iranmanesh, M., Min, C. L., Senali, M. G., Nikbin, D., & Foroughi, B. (2022). Determinants of switching intention from web-based stores to retail apps: Habit as a moderator. *Journal of Retailing and Consumer Services*, 66, 102957.

Jabeen, F., Kaur, P., Talwar, S., Malodia, S., & Dhir, A. (2022). I love you, but you let me down! How hate and retaliation damage customer-brand relationship. *Technological Forecasting and Social Change*, 174, 121183.

Kamble, S. S., Gunasekaran, A., Subramanian, N., Ghadge, A., Belhadi, A., & Venkatesh, M. (2021). Blockchain technology's impact on supply chain integration and sustainable supply chain performance: Evidence from the automotive industry. *Annals of Operations Research*, 1-26.

Kamboj, S., Sarmah, B., Gupta, S., & Dwivedi, Y. (2018). Examining branding co-creation in brand communities on social media: Applying the paradigm of Stimulus-Organism-Response. *International Journal of Information Management*, 39, 169-185.

Khan, I., Hollebeek, L. D., Fatma, M., Islam, J. U., & Rahman, Z. (2020). Brand engagement and experience in online services. *Journal of Services Marketing*, 34(2), 163-175

Kim, D., & Ammeter, T. (2014). Predicting personal information system adoption using an integrated diffusion model. *Information & Management*, 51(4), 451-464.

Kizildag, M., Dogru, T., Zhang, T.(C)., Mody, M.A., Altin, M., Ozturk, A.B., & Ozdemir, O. (2020).cBlockchain: a paradigm shift in business practices. *International Journal of Contemporary Hospitality Management*, 32(3), 953-975.

Kolodinsky, J. M., Hogarth, J. M., & Hilgert, M. A. (2004). The adoption of electronic banking technologies by US consumers. *International Journal of Bank Marketing*, 22(4), 238-259.

Kouhizadeh, M., Saberi, S., & Sarkis, J. (2021). Blockchain technology and the sustainable supply chain: Theoretically exploring adoption barriers. *International Journal of Production Economics*, 231, 107831.

Kshetri, N. (2018). 1 Blockchain's roles in meeting key supply chain management objectives. *International Journal of Information Management*, 39, 80-89.

Kulkarni, U., Robles-Flores, J. A., & Popovič, A. (2017). Business intelligence capability: The effect of top management and the mediating roles of user participation and analytical decision-making orientation. *Journal of the Association for Information Systems*, 18(7), 516-541.

Labrecque, J. S., Wood, W., Neal, D. T., & Harrington, N. (2017). Habit slips: When consumers unintentionally resist new products. *Journal of the Academy of Marketing Science*, 45, 119-133.

Lee, H., Xu, Y., & Porterfield, A. (2022). Antecedents and moderators of consumer adoption toward AR-enhanced virtual try-on technology: A stimulus-organism-response approach. *International Journal of Consumer Studies*, 46(4), 1319-1338.

Lefebvre, L. A., Mason, R., & Lefebvre, E. (1997). The influence prism in SMEs: The power of CEOs' perceptions on technology policy and its organizational impacts. *Management Science*, 43(6), 856-878.

Li, C. Y. (2019). How social commerce constructs influence customers' social shopping intention? An empirical study of a social commerce website. *Technological Forecasting and Social Change*, 144, 282- 294.

Liang, T. P., Kohli, R., Huang, H. C., & Li, Z. L. (2021). What drives the adoption of the blockchain technology? A fit-viability perspective. *Journal of Management Information Systems*, 38(2), 314-337

Lim, X. J., Cheah, J. H., Dwivedi, Y. K., & Richard, J. E. (2022). Does retail type matter? Consumer responses to channel integration in omni-channel retailing. *Journal of Retailing and Consumer Services*, 67, 102992.

Lindman, J., Tuunainen V. K., & Rossi, M (2017). Opportunities and risks of blockchain technologies—a research agenda. In: *Proceedings of the 50th Hawaii international conference on system sciences*, Big Island.

Liu, L., Lee, M. K., Liu, R., & Chen, J. (2018). Trust transfer in social media brand communities: The role of consumer engagement. *International Journal of Information Management*, 41, 1-13.

Liu, X., & Prybutok, V. R. (2021). An empirical investigation of factors that drive a user decision to continue using cloud storage services. *Journal of Decision Systems*, 30(1), 4-26.

Loureiro, S. M. C., Stylos, N., & Bellou, V. (2021). Destination atmospheric cues as key influencers of tourists' word-of-mouth communication: Tourist visitation at two Mediterranean capital cities. *Tourism Recreation Research*, 46(1), 85-108.

Loureiro, S. M. C., Romero, J., & Bilro, R. G. (2020). Stakeholder engagement in co-creation processes for innovation: A systematic literature review and case study. *Journal of Business Research*, 119, 388-409.

Lu, L., Liang, C., Gu, D., Ma, Y., Xie, Y., & Zhao, S. (2021). What advantages of blockchain affect its adoption in the elderly care industry? A study based on the technology–organization–environment framework. *Technology in Society*, 67, 101786.

Mao, H., Liu, S., Zhang, J., Zhang, Y., & Gong, Y. (2021). Information technology competency and organizational agility: roles of absorptive capacity and information intensity. *Information Technology & People*, 34(1), 421-451.

Matos, C. A. D., & Krielow, A. (2019). The effects of environmental factors on B2B e-services purchase: perceived risk and convenience as mediators. *Journal of Business & Industrial Marketing*, 34(4), 767-778.

Martins, R., Oliveira, T., & Thomas, M. A. (2016). An empirical analysis to assess the determinants of SaaS diffusion in firms. *Computers in Human Behavior*, 62, 19-33.

- McCabe, S., Sharples, M., & Foster, C. (2012). Stakeholder engagement in the design of scenarios of technology-enhanced tourism services. *Tourism Management Perspectives*, 4, 36-44.
- McGhin, T., Choo, K. K. R., Liu, C. Z., & He, D. (2019). Blockchain in healthcare applications: Research challenges and opportunities. *Journal of Network and Computer Applications*, 135, 62-75.
- Mehrabian, A., & Russell, J. A. (1974). An Approach to Environmental Psychology. *The MIT Press*.
- Menon, S., & Kahn, B. (2002). Cross-category effects of induced arousal and pleasure on the internet shopping experience. *Journal of Retailing*, 78(1), 31-40.
- Nam, K., Dutt, C. S., Chathoth, P., & Khan, M. S. (2021). Blockchain technology for smart city and smart tourism: latest trends and challenges. *Asia Pacific Journal of Tourism Research*, 26(4), 454-468.
- Nayal, K., Raut, R. D., Narkhede, B. E., Priyadarshinee, P., Panchal, G. B., & Gedam, V. V. (2021). Antecedents for blockchain technology-enabled sustainable agriculture supply chain. *Annals of Operations Research*, 1-45.
- Nutt, P. C., & Backoff, R. W. (1992). *Strategic management of public and third sector organizations: A handbook for leaders*. Jossey-Bass.
- Oliveira, T., Thomas, M., & Espadanal, M. (2014). Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors. *Information & Management*, 51(5), 497-51
- Onder, I., & Gunter, U. (2020). Blockchain: Is it the future for the tourism and hospitality industry?. *Tourism Economics*, 28(2), 291-299.
- O'Riordan, L., & Fairbrass, J. (2014). Managing CSR stakeholder engagement: A new conceptual framework. *Journal of Business Ethics*, 125, 121-145.
- Prado-Lorenzo, J. M., Gallego-Alvarez, I., & Garcia-Sanchez, I. M. (2009). Stakeholder engagement and corporate social responsibility reporting: the ownership structure effect. *Corporate Social Responsibility and Environmental Management*, 16(2), 94-107.
- Premkumar, G., Ramamurthy, K., & Nilakanta, S. (1994). Implementation of electronic data interchange: an innovation diffusion perspective. *Journal of Management Information Systems*, 11(2), 157-186.
- Queiroz, M. M., & Wamba, S. F. (2019). Blockchain adoption challenges in supply chain: An empirical investigation of the main drivers in India and the USA. *International Journal of Information Management*, 46, 70-82.
- Rashideh, W. (2020). Blockchain technology framework: Current and future perspectives for the tourism industry. *Tourism Management*, 80, 104125.

- Ravichandran, T., & Liu, Y. (2011). Environmental factors, managerial processes, and information technology investment strategies. *Decision Sciences*, 42(3), 537-574.
- Ritter, T., & Gemünden, H. G. (2004). The impact of a company's business strategy on its technological competence, network competence and innovation success. *Journal of Business Research*, 57(5), 548-556.
- Rogers, E. M. (2003). *Diffusion of innovations*. (5th ed.), Free Press, New York, NY.
- Roth, T., Stohr, A., Amend, J., Fridgen, G., & Rieger, A. (2022). Blockchain as a driving force for federalism: A theory of cross-organizational task-technology fit. *International Journal of Information Management*, 102476.
- Roy, S. K., Gruner, R. L., & Guo, J. (2022). Exploring customer experience, commitment, and engagement behaviours. *Journal of Strategic Marketing*, 30(1), 45-68.
- Saheb, T., & Mamaghani, F. H. (2021). Exploring the barriers and organizational values of blockchain adoption in the banking industry. *The Journal of High Technology Management Research*, 32(2), 100417.
- Saridakis, G., Lai, Y., Mohammed, A. M., & Hansen, J. M. (2018). Industry characteristics, stages of E-commerce communications, and entrepreneurs and SMEs revenue growth. *Technological Forecasting and Social Change*, 128, 56-66.
- Schuler, D. A., & Cording, M. (2006). A corporate social performance–corporate financial performance behavioral model for consumers. *Academy of Management Review*, 31(3), 540-55.
- Sedmak, J. (2021). What is Stakeholder Engagement, and Why is it Important for Strategic Planning? Accessed at: <https://www.smestrategy.net/blog/stakeholder-engagement-management-for-strategic-planning>
- Sharma, M., Gupta, R., & Acharya, P. (2020). Prioritizing the critical factors of cloud computing adoption using multi-criteria decision-making techniques. *Global Business Review*, 21(1), 142-161
- Shi, P., & Yan, B. (2016). Factors affecting RFID adoption in the agricultural product distribution industry: empirical evidence from China. *SpringerPlus*, 5(1), 1-11.
- Suh, A., & Prophet, J. (2018). The state of immersive technology research: A literature analysis. *Computers in Human Behavior*, 86, 77-90.
- Storbacka, K., Brodie, R. J., Böhmman, T., Maglio, P. P., & Nenonen, S. (2016). Actor engagement as a microfoundation for value co-creation. *Journal of Business Research*, 69(8), 3008-3017.
- Talwar, S., Kaur, P., Kumar, S., Salo, J., & Dhir, A. (2022). The balancing act: How do moral norms and anticipated pride drive food waste/reduction behaviour?. *Journal of Retailing and Consumer Services*, 66, 102901.

- Tan, W. K., & Chiang, M. H. (2022). Readers' perceptions of self-harm messages on social media. *Computers in Human Behavior*, 107209.
- Tan, T. M., & Saraniemi, S. (2022). Trust in blockchain-enabled exchanges: Future directions in blockchain marketing. *Journal of the Academy of Marketing Science*, 1-26.
- Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). Processes of technological innovation. Lexington books.
- Treiblmaier, H. (2021). The token economy as a key driver for tourism: Entering the next phase of blockchain research. *Annals of Tourism Research*, 91, 103177.
- Tuguinay, J. A., Prentice, C., & Moyle, B. (2022). The influence of customer experience with automated games and social interaction on customer engagement and loyalty in casinos. *Journal of Retailing and Consumer Services*, 64, 102830.
- Ul Hassan, M., Iqbal, M. S., & Habibah, U. (2020). Self-service technology service quality: Building loyalty and intention through technology trust in Pakistani service sector. *Sage Open*, 10(2), 2158244020924412.
- Ullah, F., Qayyum, S., Thaheem, M. J., Al-Turjman, F., & Sepasgozar, S. M. (2021). Risk management in sustainable smart cities governance: A TOE framework. *Technological Forecasting and Social Change*, 167, 120743.
- ur Rehman, M. H., Salah, K., Damiani, E., & Svetinovic, D. (2019). Trust in blockchain cryptocurrency ecosystem. *IEEE Transactions on Engineering Management*, 67(4), 1196-1212.
- Upadhyay, A., Ayodele, J. O., Kumar, A., & Garza-Reyes, J. A. (2020). A review of challenges and opportunities of blockchain adoption for operational excellence in the UK automotive industry. *Journal of Global Operations and Strategic Sourcing*, 14(1), 7-60.
- Uzir, M. U. H., Al Halbusi, H., Lim, R., Jerin, I., Hamid, A. B. A., Ramayah, T., & Haque, A. (2021). Applied Artificial Intelligence and user satisfaction: Smartwatch usage for healthcare in Bangladesh during COVID-19. *Technology in Society*, 67, 101780.
- Valeri, M., & Baggio, R. (2021). A critical reflection on the adoption of blockchain in tourism. *Information Technology & Tourism*, 23(2), 121-132.
- Wang, S., Ouyang, L., Yuan, Y., Ni, X., Han, X., & Wang, F. Y. (2019). Blockchain-enabled smart contracts: architecture, applications, and future trends. *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 49(11), 2266-2277.
- Wang, Y., Singgih, M., Wang, J., & Rit, M. (2019). Making sense of blockchain technology: How will it transform supply chains?. *International Journal of Production Economics*, 211, 221-236.

Wang, Y. M., Wang, Y. S., & Yang, Y. F. (2010). Understanding the determinants of RFID adoption in the manufacturing industry. *Technological Forecasting and Social Change*, 77(5), 803-815.

Wongkitrungrueng, A., & Assarut, N. (2020). The role of live streaming in building consumer trust and engagement with social commerce sellers. *Journal of Business Research*, 117, 543-556.

Wong, L. W., Leong, L. Y., Hew, J. J., Tan, G. W. H., & Ooi, K. B. (2020). Time to seize the digital evolution: Adoption of blockchain in operations and supply chain management among Malaysian SMEs. *International Journal of Information Management*, 52, 101997.

Wong, L. W., Tan, G. W. H., Lee, V. H., Ooi, K. B., & Sohal, A. (2020). Unearthing the determinants of Blockchain adoption in supply chain management. *International Journal of Production Research*, 58(7), 2100-2123.

Xu, X., Tatge, L., Xu, X., & Liu, Y. (2022). Blockchain applications in the supply chain management in German automotive industry. *Production Planning & Control*, 1-15.

Yin, C., Ma, H., Gong, Y., Chen, Q., & Zhang, Y. (2021). Environmental CSR and environmental citizenship behavior: The role of employees' environmental passion and empathy. *Journal of Cleaner Production*, 320, 128751.

Zahra, S. A., & Covin, J. G. (1993). Business strategy, technology policy and firm performance. *Strategic Management Journal*, 14(6), 451-478.

Zhang, K. Z., & Benyoucef, M. (2016). Consumer behavior in social commerce: A literature review. *Decision Support Systems*, 86, 95-108.

Zhang, W., Wei, C. P., Jiang, Q., Peng, C. H., & Zhao, J. L. (2021). Beyond the block: A novel blockchain-based technical model for long-term care insurance. *Journal of Management Information Systems*, 38(2), 374-400.