

# Investigation of the Effect of Blockchain-based Cryptocurrencies on Tourism Industry

Waleed Rashideh<sup>1,\*</sup>, Mohammed Alkathami<sup>1</sup>, Waeal J.Obidallah<sup>1</sup>, Yousef Alduraywish<sup>1</sup>, Abdulaziz Alshammari<sup>1</sup>, and Abdulaziz Alsahli<sup>1</sup>

<sup>1</sup>College of Computer and Information Sciences, Imam Muhammad Ibn Saud Islamic University, Riyadh, 11673, Saudi Arabia  
E-mail: [wmrashideh@imamu.edu.sa](mailto:wmrashideh@imamu.edu.sa)\*, [maalkhathami@imamu.edu.sa](mailto:maalkhathami@imamu.edu.sa), [wobaidallah@imamu.edu.sa](mailto:wobaidallah@imamu.edu.sa), [yalduraywish@imamu.edu.sa](mailto:yalduraywish@imamu.edu.sa), [aashammari@imamu.edu.sa](mailto:aashammari@imamu.edu.sa), [aaalsahli@imamu.edu.sa](mailto:aaalsahli@imamu.edu.sa)

\*Corresponding Author

## Summary

Tourism products involve the transfer of money that is flowing to countries with partners or borders, which do not possess any relations surrounding their business environment. Suitable platforms must be generated by the tourism industry, which are beneficial to users when their demands are satisfied based on financial, technology, knowledge, and industry matters. Intermediaries are applied to alleviate different problems that are related to the non-fulfilment of contracts of existing users and service providers who are offering their services and represent a reliable third party. However, it is significant that intermediaries must be reliable when charges are incurred for any possible commission. Cryptocurrencies rely on blockchain technology to provide smoothness in money interchange without the need for reliable third parties. This interchange allows an increasing number of different new forms, which are related to different customer-to-customer transactions. The study attempts to provide an appropriate answer to the main research question, which is: 'Will the widespread adoption of cryptocurrencies bring new types of customer-to-customer markets from a technological, organizational, and environmental perspective?'

### Keywords:

*Blockchain technology, business model, cryptocurrency, customer-to-customer, third party, monetary transaction.*

## 1. Introduction

Although its direction is currently unknown, Blockchain might make some amendments to the structures of various existing markets. Further, it represents a tool that provides an immediate connection with both final customers. However, it can generate various centralised information systems, which can benefit different industries and provide efficient market control [1]. As one of the fourth industrial revolution pillars, Blockchain transforms the way organisations perform their own business processes. Blockchain Technology (BT) is an efficient approach for transforming different business processes [2]. It has the potential to pave the way for new social and economic approaches [3]. The decentralisation feature of Blockchain [4] acts as a disseminator ledger, which secures and records different data transactions, including various types of goods. On the other hand, financial services allow accessibility to

the whole database itself, including its history [5]. The first successful application of the BT represents the cryptocurrency industry since it provides a secure system and anonymity for transferring money between two individuals and (or) institutions through many different boundaries [6, 7]. Adopting BT resolves existing issues and allows for further automated resource allocation across the globe [8]. Cryptocurrencies are considered one of the first applications of the BT, which has received widespread attention among several researchers and practitioners.

Cryptocurrencies allow for the decentralisation of e-payment approaches through different entities without interfering with third-party services [8–10]. Organisations, algorithms, individuals, and machines can efficiently interact and transact with each other based on a small amount of friction [3]. More than 5840 cryptocurrencies are available in the current market [11]. The widespread acceptance of cryptocurrencies attracts more people to use them [12]. On top of these market share cryptocurrencies is Bitcoin, which is represented by 41.6% on September 15th, 2021, based on Coinmarketcap.com. Improving the integrity, security, and authenticity of Blockchain-based solutions are the reasons behind the importance of Bitcoin. This is widely used in practice (e.g., taxi services, insurance, fundraising, etc.) [13, 14]. Other common coins (e.g., BitcoinCash, LightCoin, Tether, Monero, Dash, etc.) are also made available where they entirely attempt to simplify monetary exchange while alleviating the drawbacks of Bitcoin (e.g., privacy and scalability) [12]. When this process is combined with an increased number of travel companies that operate by using Blockchain, it can be possible for a traveler to make reservations and pay for their travels via cryptocurrencies and Blockchain, excluding the involvement of currency conversion [12]. According to Coinmarketcap.com, the global digital cryptocurrency market is worth more than \$200 billions. The growth market for cryptocurrencies causes an increased adoption. Even though, the use of cryptocurrency in shopping is still at its fancy stage [15]. Nonetheless, the market will force businesses to use the most appropriate and well-known Blockchain solutions [12]. The value of cryptocurrency is

based on the market that excludes being controlled by monetary authorities [3, 16].

A Blockchain application can be trusted when it is regulated by the government [17]. Blockchain adoption assesses a number of different companies to cut costs and increase customer satisfaction. This leads to developing trusted and acceptable financial Blockchain applications [18]. To accomplish this, the involvement of a wide variety of stakeholders is required (e.g., venture capitalists, developers, startups, etc.) to handle scalability and interoperability issues [16]. Utilising the characteristics of the BT enterprises such as Apple is developed by their own application of financial services to satisfy customers' demands and trust [19]. Moreover, it transforms the way people deal with particular businesses [20]. A significant enhancement to Blockchain-based platforms is required to reduce the challenges that affect many businesses [21]. In the tourism industry, travelers can take advantage of using cryptocurrencies to be rewarded for their online review comments and loyalty programs [19]. This can enhance their experience effectively by collaborating among several destination marketing engagements related to operators, businesses, and travelers [22]. These advantages will benefit travelers, vendors (e.g., hotels), and end-users with many different tourism products or services, as there will be no intermediaries [12].

The core characteristics of integrity, flexibility, and transparency in Blockchain make it an attractive choice for organisations to revolutionise their business operations [2]. Currently, every agreement, process, task, and payment will have an identifiable digital record, signature, validation, storage, and sharing [3]. The C2C model has received little attention in the Blockchain literature. Furthermore, the tourism industry has a difficulty forecasting in which Blockchain-based cryptocurrencies can manage the market. With the use of devoted cryptocurrencies only for the tourism industry, there is a possibility that a few types of cryptocurrencies might be popular among tourists in the future [12]. The BT enables a customer-to-customer type of business model in the tourism industry [23].

A cryptocurrency payment method could disrupt the legacy payment systems [24]. For example, during the COVID-19 pandemic, there was an increased level of cryptocurrency payments [25]. The issue that is accompanied with approving credit cards refers to the extra commission fee, which should be paid through to the credit supplier. MasterCard and Visa have lower credit card processing fees, while American Express has higher fees. Tourism products comprise the process of transferring money that is passing through a country's borders or partners without acquiring any business relations. The tourism industry should create appropriate platforms that

are helpful to users for satisfying the demands related to knowledge, technology, industry and financial matters. Intermediaries are exploited to reduce issues related to the non-fulfilment of contracts between users and those providing the service providers as a reliable third party. Nonetheless, it is required that intermediaries can be reliably trusted when incurring charges for any potential commission.

Cryptocurrencies are based on the Blockchain technology that provides simplicity in money interchange without requiring reliable third parties. This is why cryptocurrencies are considered disruptive innovations due to the decentralisation of trust in a secure transaction process [26]. In fact, this interchange allows the rise of new forms of customer-to-customer transactions. Accordingly, the study provides answers to the research question, which is: Will the widespread adoption of cryptocurrencies lead to new types of customer-to-customer markets from a technological, organizational, and environmental perspective? However, a lack of studies investigating this area. Therefore, the study's contribution is to provide a comprehensive view of C2C markets based on cryptocurrency. The contribution of this study is intended to help industry practitioners understand the impact of cryptocurrencies on customer-to-customer transactions in the tourism industry market. The research benefits the tourism industry's literature by investigating the usefulness of cryptocurrencies as a financial application of the Blockchain technology that will revolutionise the tourism industry, particularly the customer-to-customer market. Further, the findings assist businesses to develop their own strategies for handling the impact of cryptocurrency adoption. Finally, the contribution to the tourism industry is made by discussing the reasons for having cryptocurrencies revolutionising the tourism industry's products and services. The study serves as an efficient reference for raising the awareness of cryptocurrencies' researchers and practitioners to understand the relationship of accepting cryptocurrencies in the tourism industry for adding value to the business process. To achieve this, the study focuses on both addressing and understanding cryptocurrency adoption and the expected new market of C2C based on crypto adoption. The study briefly discusses the current situation of the Blockchain technology in tourism. This sheds the light on the customer-to-customer market, particularly in the tourism sector. Additionally, the paper discusses the tourism readiness for the crypto method and attempts to discuss and answer the research questions, introduce the widespread adoption of cryptocurrencies that brings new types of customer-to-customer markets from a technological, organisational, and environmental perspective. The results and discussions of the findings and the summary pertaining to the conclusion are provided.

## 2. Literature Review

### 2.1 The Application of the Blockchain Technology in the Tourism Industry

The paper employed a narrative literature review. The reason behind that is to define and assess the published work whilst avoiding to concentrate on methodological particulars, but to focus on enhancing the exploratory study by assisting the formulation of a concrete basis for future directions. This method has been preferred over other methods related to different systematic literature reviews that depend on defining certain standards and a data extraction approach [27]. Tourism companies are facing severe competition in the era of digitalisation that could affect their operations. Therefore, companies are motivated to adopt technological innovations such as financial transactions [28]. This generates further requirements for virtual payments [29]. The impact of interest rates, irregular net profit, and fluctuations in cash flow and profit affect customers' travel activities adversely [30]. Tourism attempts to adopt the BT into its payment process and booking systems [31]. Further examples within the tourism industry that permit using Bitcoins as a payment can be found at Webjet, Expedia, CheapAir, and One Shot Hotels [32]. Blockchain distributed ledger technology's capabilities encompass the reliability of the technology's worldwide accessibility in real-time [12]. The world should consider the decentralisation feature of the Blockchain technology, which has a considerable impact on the spread of this technology for both individuals and organisations. This is similar to what happened when the internet was earlier invented, where one of the main features that assisted in its spread was the lack of control over it from any party. This occurred by using the TCP/IP over a public network without any central authority for improvement and maintenance [3]. The key to BT is to create the trust factor in different financial transactions. The transactions are taking place without the interference of a third-party [19].

An Internet-driven and platform-based business model has been adopted by most companies across the globe [3]. The growth rate of Blockchains has increased recently [33]. The applications of Blockchain cover a variety of sectors such as service, transportation, financial, tourism, and many more [34]. People expect to pay for and trust the security of their data when they use Blockchain [35]. Furthermore, it integrates all related devices and technologies to deliver high-value products and services [36]. Cryptography enhances the capabilities to handle business process transactions faster, more securely, and in a transparent setting by leveraging the power of the Blockchain's security feature [37]. Values are stored in a distributed ledger-based on intermediaries' involvement [3]. Improving the cost is the key benefit of the Blockchain technology [12] as it

reduces the transactions' costs [3]. This is based on creating efficient coordination of economic tasks [38], which is the reason that made Blockchain act as a system for all transactions [3]. This creation is in comparison to the high cost of purchasing airline tickets via the Global Distribution System (GDS), which charges a \$12 commission and a commission of 20% on booking hotels [12]. Cases all over the world make use of the cryptocurrency payment method such as paying salaries in New Zealand [39].

Prosperous customer-to-customer markets will drive more investment and generate new business models and improve customers' involvement and motivate competition among different market participants [40]. Customer-to-customer online commerce is fundamentally a form of commerce that permits customers to be involved in e-commerce, that has commonly started with categorised advertisements [41]. Customer-to-customer online commerce is a profit-making business model that allows participants to sell or buy among themselves [42]. Such a type of e-commerce keeps data that is significant for users. Third-party commercial sites hosted by companies like eBay enable users to sell products to other buyers regardless of their locations by integrating the entire logistical process from shipping, payments, and post-sale services and returns [43]. Customer-to-customer is recognised as a distinctive space of research, which lacks novel models of operation [44]. Therefore, Blockchain technology offers a cheap business process, an increased level of security, and an enhanced customer experience within the e-commerce market [45].

### 2.2 Tourism Cryptocurrency Readiness

The cryptocurrency model has begun to modify the way the travel industry has been used. For example, the current decentralised home-sharing network is generated through the Blockchain-based model [46]. Travelers are not in favour of using Bitcoin for online shopping in tourism. On the other hand, travelers in the restaurant industry are more willing to accept Bitcoin as a payment method than those in other industries [47]. Customers have an impact on selecting and using their coins to satisfy their needs [12]. Travel suppliers (e.g., Travala.com) are also beginning to accept the use of cryptocurrencies such as Dogecoin and Bitcoin [46]. Furthermore, Blockchain has a greater potential for transferring related assets more effectively than other legacy financial systems [48]. When compared to conventional financial institutions, Blockchain reduces value and cost transfers [49].

Blockchain as a disruptive technology with a high emphasis on cryptocurrencies will alter the market by creating a new market for new products. This disruption varies from cryptocurrency establishing trust among

participants in the C2C electronic market [26]. Cryptocurrencies represent one Blockchain-based technology, which is considered to be the most understandable and widely used technology for end-users [50]. There are several use cases that are implemented across the globe that cover a variety of Blockchain applications. For instance, PayPal, Mastercard, and Visa have financial digital wallet services for assessing their e-commerce consumers [51]. Additionally, Cad-coin is an example of a digital currency that is used to transfer money [3]. South Africa uses it for modern monetary mechanisms in order to enhance different types of businesses [52]. Nasdaq cooperates with Chain.com to validate different financial transactions [3]. Centbee is another common example of developing a commercial payment system that allows retailers to accept Bitcoin at the point of sale [53]. Furthermore, PwC accepts Bitcoin payments [54]. The tourism sector has experience in using cryptocurrencies as a payment method [55]. Further, Pally is a travel booking service that is designed to be used for peer-to-peer payments [56]. The smart contract is a technology technique that is used with decentralised systems. A smart contract is used as a legal settlement that is determined by different parties (e.g., OTAs' and hotels' agreements) [57]. A smart contract method is used for transactions via peer-to-peer networks [55]. A code is used to develop smart contracts in shared ledgers without the ability to delete and tamper in a transparent way [3]. The purpose of smart contracts is to create mutual trust among different parties [58]. Smart contracts can automate all payments, including currency transfers, when certain conditions are satisfied [3]. Ethereum is the technology behind smart contracts that offers a public computing platform [51]. The core of businesses is built on contracts [3]. Therefore, the use of smart contracts is a method that is used for reducing costs, increasing security and accuracy [51].

There is clear usefulness offered by cryptocurrencies due to their ability to cross borders without the interference of third-parties, leading to a reduction in the cost and time of transactions [26]. The potential of Blockchain transforms e-commerce by utilizing the trustless technology's exchange property and running without a third-party involvement or central authority such as the public Blockchain [45]. Companies such as Uber and Airbnb attempt to approach different related consumer-to-consumer approaches. Accordingly, the tourism sector is attempting to combine knowledge, technology, and money for building several related innovative platforms [59]. Consumer-to-Consumer attempts to trade between two private consumers within an online context. Moreover, several industries attempt to emerge under this category (e.g., Airbnb, Uber, and eBay). In other words, the majority of the sharing economy is indicated in C2C e-commerce [60]. In the tourism industry, Consumer-to-Consumer (C2C) business trading models are

simplified [23]. One benefit of C2C e-commerce is that it uses a number of resources efficiently, along with easier trade opportunities that are related to second-hand goods [60]. In the C2C approach, three reliable parties are included (the buyer, seller, and intermediary) [61]. Thus, the C2C trust transaction faces several issues, including: 1) buyers and sellers tend to build trust between each other; 2) expertise and knowledge; 3) risk propensity; 4) personal acquaintances and relationships; and 5) prior transaction experience [62]. On the other hand, the C2C e-commerce trust faces issues such as; 1) quality of websites; 2) others' trust of buyers and sellers; and 3) intermediary recognition [44, 63].

### 3. Research Framework of C2C Markets

The adoption of cryptocurrency touches several dimensions, representing the main aspects of the research framework. This leads to achieve the main research objective, which is "Will the widespread adoption of cryptocurrencies lead to a new customer-to-customer market?". To achieve that, technological, organizational, and environmental factors should discuss their potential to create a new customer-to-customer market from technological, organisational, and environmental perspectives.

#### 3.1 Technological Perspective

*From a technological perspective, how does the widespread adoption of cryptocurrencies bring new types of customer-to-customer markets?*

One of the major issues with the BT is to understand the way of creating business values in an uncertain situation [45]. The usage of Blockchain technology through firms can be influential in generating governance methods that permit traceability and explanation, increase new value, and include threats [64]. Numerous benefits of the BT lead to a synchronised traceability [65]. Benefits include reduced costs and improved traceability and transparency [33]. The BT tamperproof element with the capability to generate accountability where decentralisation attracts C2C markets to use the power of this innovative technology [66]. Hughes et al., (2019) discuss several issues related to managerial implications so that managers can use Blockchain solutions, such as trust, immutability, high uptime requirements, and transaction speed variability [6]. The Blockchain transactions are immutable. Immutability means that data is not able to be changed [67, 68]. Therefore, the data transparency and immutability features motivated stakeholders who are looking for a Blockchain-based application [69]. The motivation for the BT adoption is required based on the need for privacy, reliability of data, as well as immutability, and transparency [69]. Based on

these considerations, financial institutions eliminate third-party involvement from their processes by leveraging the power of Blockchain security [70]. Blockchain technology is used to provide a chain of immutable transactions [65]. As a distributed ledger technology (DLT) with the capability of keeping an immutable log of transactions, it has an advantage in the C2C market that depends on transactions extensively worldwide [71]. The distributed ledger functions as an immutable tracking system by utilising smart contract capabilities to perform auto processes without the intervention of third parties. The DLT can provide immutability and transparency for transactions [72]. The sharing access feature in real-time that is facilitated by DLT can motivate the development of innovative applications, which have immutability for the data structure [73]. The immutability of transactions on the network shares the same data without reconciliation, but by producing a faster process and alleviating a reduced cost of transactions [74]. Therefore, parties involved in the C2C markets are motivated to join the business. Additionally, the auditability of data transactions is available at every point in the process by providing verifiable, immutable, and transparent digital certificates for the products that protect customers from any fraud actions [75]. The success of e-commerce systems depends on several privacy and security elements [45]. Therefore, security risks are reduced by using the tracking process offered by Blockchain [76]. In general, the BT offers security assurances for solving different legacy systems barriers with the ability to provide a consensus approach. From a user's perspective, it allows to control the data and share it with specific users on the network [77]. Consequently, this leads to prevent fraudulent activities that lower the trust of C2C legacy systems [78]. Reducing the dependency on intermediaries reduces unauthorized data access [79]. This can, in fact, reduce the uncertainty and provide a single truth for users [80]. Blockchain's security capabilities can foster trust in technology applications, particularly, when governments regulate them [17, 81, 82].

The services that are associated with the BT could be linked to various payment methods. This allows shoppers to have a more trusted online shopping experience [47, 50]. Digital currencies aim to enhance e-commerce's efficiency by including fund transfer efficacy, increasing the speed, and minimising the cost of transactions [51]. DLTs have a positive impact on controlling and reducing fraud [83]. Cryptocurrency is defined as a digital payment structure that achieves its real-time and online goals [51]. The power of cryptocurrency payment systems does not rely on conventional third parties [45]. Blockchain is based on changing the manner in which different transactions are handled to affect the market structure [84]. The world has witnessed the emergence of stablecoins for handling different financial transactions [85]. Using the traditional

system of transferring money, such as (the SWIFT method), leads to a delay in transferring the involved process in comparison with the cryptocurrency approach, which is also employed for different business transactions [51]. To eliminate the third party in a financial transaction, a ledger that owns the coins to be distributed is required [14]. The use of a Blockchain payment system by a client implies that there is no need to support the financial service provider. This implies providing low-cost processing fees with no time lag for financial transactions between customers and service providers (including tourism services and products) [37]. Blockchain transforms the financial business approach for all parties involved in the transaction, including increased business efficiency [86]. While the acceptance of current levels of the cryptocurrency-based payment approaches, remain in their infancy stage. In particular, the literature shows some indicators in which the retailer sector is willing to adopt for such a payment method [87]. Cryptocurrencies are classified based on the application and type of user (e.g., customers or businesses) [26]. Therefore, some cryptos, in general, might be convenient for C2C markets as a payment method.

Currently, the majority of cryptocurrency users are using the cryptocurrency for investment purposes rather than as a payment method. Therefore, the crypto payment methods are still under investigation due to the fluctuation on their prices. The question is based on whether cryptocurrencies will be able to provide advantages to online customers, and thus, be more widely adopted or not [45]. However, regulating cryptocurrencies can help reduce market volatility and make tokens and coins more affordable [88]. The use of a peer-to-peer network creates a secure digital currency transfer [9]. The instability of the cryptocurrency's rate may pose a threat to the stability cost for possible tourists [89]. Regulations include a substantial influence on the client's value pertaining to the Blockchain-based payment systems [88]. As a result, the lack of a legal regulation on cryptocurrency slows the full implementation of the Blockchain [86].

The features of cryptocurrencies are categorised into four categories. The first category refers to money transfers, which are not required to go through different financial institutions. The second category refers to payments that are processed and settled faster than conventional digital payments. The third category refers to digital money transfers where lower transaction fees are incurred. The fourth category refers to cryptocurrencies, which represent a form of built-in inflation protection [51]. Some businesses accept all cryptocurrencies as payment. For instance, TravelChain is a platform that allows storing personal data in an encrypted form, including the digital footprint such as visited places, restaurants, cafés, and the type of recreation they prefer. These integrated, decentralised global registries

show both global trends and aim to open the doors for businesses to further analyse the market's needs. Businesses make use of users' databases to offer potential customers' goods and services. This saves the advertising budget by selling them directly to the client. On the other hand, users gain tokens for viewing offers and personalised tours [90]. Furthermore, Expedia uses it for booking flights and hotels when required by clients [91]. Winding Tree can also use the BT in the services' commissions [92]. The acceptance of cryptocurrencies by societies benefits the main players within the tourism industry [93]. Cryptocurrencies allow for easy interchange without the interference of a third-party trusted party. Therefore, this party depends widely on cryptocurrencies, which might affect or create a new form of customer-to-customer tourism market [94]. There is a high operational cost of exceeding \$1.6 trillion in cross-border transactions that could be minimised depending on the BT [51]. Blockchain automates many business tasks in an economical and efficient manner by eliminating transactions' costs where some financial institutions (e.g., banks) are made optional in their use [90].

Peer-to-Peer (P2P) mobile payments solutions improve the experience of consumers who are looking for an efficient payment method to secure faster, more suitable, and shared network access [95]. Therefore, the innovation of cryptocurrencies is a disruptive payment approach based on the capabilities that are offered to participants in a business transaction [26]. Disruptive innovation is a powerful means of broadening and developing new markets and providing new functionality that is governed by the disruptive innovation theory [96]. In the travel industry, travelers use cryptocurrency to pay for several activities such as accommodation, air tickets, tour packages, etc. [50]. For example, there is an intention to purchase travel products online when using the Bitcoin [47]. This motivates tourism operators to develop a decentralised payment system to suit the needs of the market. Developing such systems enables a new type of C2C online commerce.

### 3.2 Organisational Perspective

*From an organisational perspective, how does the widespread adoption of cryptocurrencies bring new types of customer-to-customer markets?*

Reduced transaction costs and increasing the level of disintermediation lead to a new type of business model [97, 98]. One of the significant organisational factors that determines the IT innovation adoption is the business model readiness [99–103]. Business models are a major concern for businesses that aim to understand the existing business context to come up with a new way of conducting a business [104]. Organisational structure changes might lead to the development of innovative business models that require configuring relationships among organisations that could

affect the network value [45]. For instance, there is an impact of Blockchain technology on business models within the tourism industry [104]. Further, organizations need to consider how their business models might be affected by the growing adoption of Blockchain applications [53]. This will support developers and designers in developing decentralized applications (Dapps) for peer-to-peer transactions that will implement sustainable business models using cryptocurrencies [105]. The impact of Blockchain can also alter the financial transactions of consumers [106]. It might create a new business model and remove the existing business model (Weking et al., 2020).

Trust in C2C receives high intentions [40]. Trust is critical in e-commerce [43]. Therefore, the cryptocurrency's value relies on; 1) users' trust in the crypto, 2) the effectiveness of the crypto in empowering transactions, and 3) crypto's reputation [26]. Blockchain enables people to build trust more rapidly [76]. Trust can be defined as a major factor that is needed by C2C markets. The reduced trust in financial systems and banks by the region's inhabitants and country-level inflation crises led to the spread of the Bitcoin infrastructure [108]. There are several factors that increase trust in online C2C transactions such as the experience of performing transactions, personal relationships, risk, knowledge, and experience [62]. Therefore, trust is a significant component in C2C e-commerce that attracts more participants in the business context by indicating the need to clarify the operational framework [63]. This is due to the positive impact for which travelers are looking when trusting cryptocurrency payment systems [50].

### 3.3 Environmental Perspective

*From an environmental perspective, how will the widespread adoption of cryptocurrencies bring new types of customer-to-customer markets?*

There are a few considerations. For example, the regulatory environment, industry and competitive pressure, market dynamics, business use cases, industry and market standards, and government support [3, 68, 103, 109–111]. The environmental domain gains an impact on the wide adoption of the BT. For instance, a governments' support for establishing regulations is a critical driver for the adoption of Blockchain [112]. This is because of the need for further participants in the C2C market who will gain legal reference for solving dispute cases. Due to the nature of the blockchain technology implementation, organisations need collaborations from other organisations in the field to adopt the technology. This collaboration can positively influence the adoption [112]. In the event of a widespread adoption, organisations start to find a new market for their

business. Quality control is another factor impacting the C2C market's success. C2C also explores exceptional, and cost-saving marketing approaches for driving clients through to the online store. Reputation and the auction of C2C markets are important factors that drive the growth of crypto adoption [40]. The cryptocurrency markets' features attempt to significantly secure further confidence and trust from possible users [51]. Even though, trust is at the core of using cryptocurrencies, and users still need to trust the payment system [50]. Investments are attracted by cryptocurrencies in different funding forms [113]. For example, Safello employs Blockchain to deliver transparency for exchanging Bitcoins to reduce the use of fiat money. Additionally, Centbee is used for sending Bitcoin to contacts. Such applications remove service providers who are involved in the process of currency exchange [53]. One of cryptocurrency's most important value creations is investing in the future of decentralised finance (DeFi) [114]. The adoption of cryptocurrencies is a result of the perceived failings of legacy financial systems [108]. This adoption allows access to a non-reachable market [115]. Further, the adoption affects the creation of a new segmentation for businesses [53]. Using the Blockchain mobile payment method eliminates the risk of intermediary services. Therefore, the Blockchain payment method allows users to join a digital economy without the need for intermediary services [90]. Several types of C2C markets are affected by the cryptocurrency adoption, such as online auctions, e-commerce, money transfers, and social media platforms [116]. Based on that, a new C2C market could be derived from the widespread of cryptocurrency adoption by solving the challenges of its adoption.

On the other hand, the lack of regulations that cryptocurrencies face affects users' images. Therefore, it must determine the legality of cryptocurrencies that affect their sustainability on the market. Formulating regulations to govern cryptocurrencies minimise their volatility [117]. Blockchain has the ability to obtain a high level of privacy that allows users to hide their personal identities. However, the lack of regulations allows users to use cryptocurrencies for illegal activities such as money laundering, crimes, and drugs. Therefore, regulating cryptocurrencies is necessary to minimise illegal activities [51]. Tax evasion is another area of concern [22].

Based on the foregoing analysis of the technical, organisational, and environmental perspectives, it is clear that these combined factors combined have an impact on creating new markets in the consumer-to-consumer model. The mentioned factors possess a major role in transforming the business of this type of business. Since there is a development of the consumer market for consumers led by the rapid development of technology, it is expected that this market will grow significantly, taking advantage of the

benefits offered by the Blockchain technology, particularly, modern cryptocurrencies. If cryptocurrencies are adopted at the level of countries, the impact will be clear and rapid for several levels, including the customer-to-customer markets.

#### 4. Discussion

Blockchain technology can more efficiently align different payment solutions in compliance with clients' demands where mass customisation is improved in individual-oriented services. Blockchain technology enables digital payment networks and cryptocurrencies by providing a significant opportunity to act as key players in this rapidly emerging sector [51]. In particular, Blockchain network structures still cannot manage the high volumes of different transactions related to concurrent payments that occur in airline reservations and (or) in booking different hotels. Moreover, this can obtain high levels of various transaction costs for delivering products (e.g., assignments of guest-oriented rooms, including bulk reservations prepared for massive groups of travelers) for industries applying blockchain systems. Based on the diffusion of innovation theory, the feasible adoption of Blockchain technology might be separated from the tourism and hospitality industries if there is no collaborating culture of platforms' businesses with several stakeholders that become further integrated parts of business functions and core operations pertaining to these industries in the future [55].

Based on Don Tapscott, CEO, one of the members of the Tapscott Group, the BT can be defined as a disseminated transaction log in which Bitcoin, including several cryptocurrencies, has further application scenarios than is normally available. Additionally, the global economy is disseminated by amending the implementation of wealth creation. According to Don Tapscott, the BT can enable billions of people who do not yet have bank accounts to join the digital economy [118]. Currently, cryptocurrency platforms that are operated by Blockchain technology can implement a comprehensive system, which can in turn contribute to several applications of global money transfers. The usual practice of cryptocurrencies is exploited for a major approach for the transfer of money and digital payments globally, which can reshape conventional banking operations through offering a high-level of efficiency, enhanced transparency, convenience, accuracy, transaction cost reduction for participants (customers or businesses), and faster processing time in real-time [51]. Over the longer term, digital money plays a significant role in customer expenditures. Community interest in cryptocurrencies is positively increasing. This will help the next generation of travelers who are looking for modern ways to plan and book their vacations [46]. For instance, the

preliminary cost of technology, the lack of related and regulated jurisdiction, the speed of transaction due to the size of the database(s), the environmental cost and energy consumption due to the various complicated cryptography approaches that are used, user privacy protection, and overall system reliability are all critical issues that must be considered [55].

#### 4.1 Research Implications

Opportunities in the business concerning the promising transformation of the BT are extraordinary. Nonetheless, the enormous extent of uncertainty is real in a way to take advantage of the expected value of the innovative technology. While the BT remains facing an absence of governing misunderstanding, which hinders wide-ranging investment, it has well-known remarkable answers for precise regular complications that are frequently permitting the advancement of well-known marketplace actors. The developed framework can provide businesses to scientifically explore the probable impact of Blockchain-based cryptocurrencies on C2C markets.

#### 4.2 Research Limitations

The results show the limitations of the technology and the scarcity of available literature that explores Blockchain applications in consumer-to-consumer markets. Moreover, the continuous development of technologies based on Blockchain and cryptocurrencies, taking into account the legal status of cryptocurrencies globally, makes it difficult to predict what the technology will be able to offer in the future and its legality to be operated with partners across the globe. Therefore, the paper addressed the research questions that dealt with the technological, organisational, and environmental frameworks that can have an impact on the customer-to-customer markets in light of the reliance on cryptocurrencies, mainly as an electronic payment method for replacing conventional systems. To the best of the researcher's knowledge, no particular legal framework or business model for adoption has been identified. As a substitute, they are articulated as generic frameworks, which need to be further refined and emphasised on particular and obvious problems by complying with the principles of different related narrative reviews. Accordingly, the field is open for future studies to identify appropriate theories and move to empirical studies for further investigations within the research topic. The Blockchain technology has turned into a technology that has attracted the attention of many researchers and investments that are estimated at billions of dollars. Nevertheless, there is still more vagueness concerning the future development of the Blockchain technology and its probable effects on both society and economy. This paper deals with the three aspects related to the technological, organisational, and

environmental aspects that may have an impact on the consumer market.

Based on the study findings, another research is can be proposed to differentiate between the permissioned and non-permissioned Blockchains and to understand how the value of each one can be obtained at the level of customer-to-customer markets. Additionally, understanding the ways in which these types can be of benefit to customer-to-customer markets and on how they intersect. What other requirements are needed to implement the technology among customer-to-customer market participants?

### 5. Conclusion

Tourism products aim to conduct the transfer process of money locally and internationally between different cities within the same country or between different countries. In particular, the Blockchain technology can align different payment solutions more efficiently based on clients' demands. On the other hand, mass customisation has been improved in individual-oriented services. The industry of tourism should create different appropriate platforms that are advantageous to individuals and that aim to increase their demand for satisfaction. According to the literature, this satisfaction is based on three factors, such as industry, knowledge, and technology. In order to reduce the encountered issues that are involved in the non-fulfilment of contracts between available users and service providers, intermediaries are taken into account to be implemented for such an action. Nonetheless, intermediaries should be reliable and efficient enough to handle any potential charges for commissions. Further, the Blockchain technology uses cryptocurrencies to simplify the process of money interchange without referring to reliable third parties. Such an interchange allows for various current forms of different customer-to-customer transactions to be increased. The consumer-to-consumer markets enabled by Blockchain technology are on their way to influencing online C2C markets. Further, the increasing acceptance of its capability shows the impact of the BT on C2C markets. The study contributes to a theoretical review of the topic by developing a framework that describes the impact of the Blockchain technology across C2C markets. The study offers a roadmap detailing the potential impact of the BT on customer-to-customer markets. Moreover, the paper investigates the ways the BT could improve the performance of processes, which are associated with customer-to-customer markets, such as payment methods and processes, trust, and reputation of customer-to-customer markets. The paper presents the techniques by which the BT impacts on several domains of customer-to-customer market efficiency. Professionals can use the proposed framework as a reference point from several

perspectives in the BT, such as secure payment, reputation, and trust in transactions.

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