

Factors Affecting Young Customers' Intention to Adopt Blockchain Technology in E-commerce Platforms

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Abstract

The research was conducted to examine the factors influencing the intention to use blockchain-integrated e-commerce platforms among young consumers in Hanoi. Drawing on employing structural equation modeling (SEM), the research surveyed a sample size of 253 by google form on various social media platforms. The results showed that cost savings and perceived ease of use have a positive impact on the intention to use blockchain-integrated e-commerce platforms among young consumers in the Hanoi area. However, source traceability and personal data security do not significantly influence users' intentions. Based on these findings, several recommendations are proposed for businesses and the government to promote the adoption of blockchain-integrated e-commerce platforms by consumers.

Keywords: E-commerce platform, blockchain adoption, young customers intention

1. Introduction

In today's digital age, new technologies such as blockchain, cloud computing, artificial intelligence or the internet of things are expected to create a new turning point for the global economy because of their superior features. Among these new-generation technologies, blockchain receives increasing attention both from scientists and users because of the benefits it brings such as cost optimization, efficient traceability, verifiable record keeping, transparency, etc. Many sectors have been integrating this blockchain technology such as manufacturing, healthcare, education, etc with the desire to be able to create competitive advantage, while improving performance.

With e-commerce, the majority of customer interactions with suppliers take place online. Therefore, they need to communicate through a more secure method because the security of online transactions is not always guaranteed (Roy et al., 2019). In fact, there have been many documented security vulnerabilities when a

huge amount of data about customer-related information falls into the hands of third parties (Zyskind et al., 2015). Some individuals or organizations take advantage of this to commit illegal acts. Therefore, e-commerce sites applying blockchain technology were born with the desire to be able to solve this problem. The application of blockchain in this field aims to improve the security, ease of use as well as speed of transactions on the exchange.

However, there is currently not much research on the factors affecting the intention to use blockchain-integrated e-commerce platforms even though this technology has been around since 2008. The evidence suggests that customers are still skeptical about integrating blockchain technology due to concerns about issues such as fraud, non-transparent pricing, limited transparency, limited contact between buyers and sellers, and misuse of data privacy (Van Heel et al., 2014). On the contrary, many also believe that the integration of blockchain technology can alleviate these dangers because it provides

a shared database, which is characterized by tamper-proofness, transparency and traceability and allows users to record, and access information quickly and accurately. (Milani et al., 2021). In Vietnam, research articles related to blockchain-integrated e-commerce floors are still very few and there has not been a specific study showing factors affecting consumers' intentions or behaviors of using e-commerce floors applying blockchain technology. Therefore, this research paper is conducted with the aim of finding, analyzing and evaluating factors, including cost savings, traceability and personal data security.

2. Literature review

2.1. E-commerce

According to ISO (2009), an e-commerce platform is defined as an online platform where business transactions take place, involving making commitments, in a defined collaboration space, between users of their IT systems, according to the Open-Edi standard. An e-commerce floor is defined as a place where goods and services purchase and sale activities take place through telecommunications and telecommunications tools (Clark, 2015). An e-commerce platform is also defined as an online business environment where the purchase and sale of goods and services are both online and offline, including products presented online, delivered and managed through software (Coppel, 2000). In general, an e-commerce platform is generally defined as follows: an online platform or a website that provides users with an environment to make transactions to buy and sell goods and services through the Internet. By providing tools and features such as product display, advertising, ordering, payment and shipping, the e-commerce platform facilitates online sales

and purchase transactions between sellers and buyers to take place more smoothly.

There are many studies showing the characteristics of e-commerce floors, in which Taher (2021), Laudon and Traver (2019), Yakovenko et al. (2020) have found and analyzed the outstanding features of e-commerce floors. These characteristics make up a system to optimize consumers' online shopping, including visibility, interactivity, variety of payment methods, automation, information security, omnichannel customer support and data processing capabilities.

2.2. Blockchain technology

According to Pérez-Marco (2016), blockchain is a decentralized database where every organization or individual who compiled and modified the database has the same rights and obligations. They follow pre-established rules. The essence of blockchain is that whenever two network members transact, they announce their transaction to all network members (nodes) who record the transaction to a block of limited capacity. Once the block is full, nodes simultaneously perform verification operations. The first node that succeeds in solving the problem will transmit the transaction to all other nodes. Nodes can verify quickly, and when 51% of the network's processing power votes to approve a block, nodes start recording new transactions into a new block, which is modified to all previous blocks (Ammous, 2016). In short, blockchain can be broadly defined as a technology that stores and transmits information securely and transparently by creating blocks of data that are tightly linked together in an encrypted and immutable manner. These blocks are stored in the form of linked chains, creating

a distributed database that cannot be easily changed.

The advantages of blockchain include the following:

Cost savings

One of the biggest benefits of the blockchain cryptocurrency market is lower transaction costs (Chang et al., 2019). By eliminating reliance on traditional intermediaries, such as banks or financial institutions, transactions become fast and cost-effective (Xiong et al. 2020). Besides, with the help of blockchain listing algorithms, consumers can save time in finding products that suit their needs (Subramanian, 2017). In addition, blockchain systems can reduce negotiation costs for the parties involved. By using this blockchain technology, self-executing programs, especially smart contracts, can automate multi-party transactions, while assisting them in negotiating and drafting digital contracts (Milani et al., 2021).

Traceability

According to Kshetri (2018), blockchain's traceability feature can make many positive contributions to the e-commerce supply chain, including reducing costs, increasing reliability, reducing risk, improving sustainability and flexibility. Traceability through blockchain helps establish a more transparent logistics system and provides customers with reliable information, creating trust in the online procurement process. Lee and Yeon (2021) also emphasized that blockchain supports the secure and widespread sharing of product information among supply chain stakeholders, from sellers to customers. This can be effective in preventing the spread of counterfeit goods by helping consumers verify the authenticity of

products and report any counterfeit goods before making payment.

Security of personal data

In addition to the above advantages, blockchain technology also can protect the privacy and data security of customers in the field of e-commerce. By using the encryption and distributed nature of blockchain, personal data can be stored more securely, and each transaction can be confirmed and recorded transparently on the network. This enhances trust, while ensuring safety for consumers, while minimizing the risk of information security during e-commerce transactions. Jiang et al. (2019) showed that private smart contracts based on blockchain technology will help related parties carry out transactions without revealing personal information such as identity, address and phone number, thereby ensuring the safety of consumers' information during transactions on e-commerce platforms. In addition, Shaikh and Iliev (2018) also affirmed that a blockchain-integrated transaction processing system for e-commerce will improve the security of customer transactions.

3. Theoretical framework

The Technology Acceptance Model (TAM) (Davis, 1989) is a theoretical framework that assesses the adoption and usage of technology by individuals. TAM is widely utilized in various disciplines to understand users' behavioral intentions towards technology. The model posits that perceived ease of use and perceived usefulness are key determinants influencing an individual's attitude towards adopting a particular technology. These attitudes, in turn, shape the individual's intention to use the technology, ultimately impacting the

actual usage behavior. TAM has proven instrumental in predicting and explaining user acceptance of diverse technologies across different contexts, providing valuable insights for researchers and practitioners in the field of technology adoption. With the rapid development of technology, the TAM model is also increasingly expanded by incorporating system characteristics to provide a more comprehensive view of consumer behavior (Folkinshteyn and Lenno, 2016).

The existing research has limitations in providing guidance on the influence of society on adoption of technology despite recent developments in the TAM model, highlighting the necessity for further investigation (Chtourou and Souiden, 2010; Huang and Liao, 2015). Additionally, as the classic TAM model does not consider internal factors, its application may be limited in customer environments where users adopt new technology to fulfill their emotional needs, necessitating further investigation (Taherdoost, 2018; Kim, 2012). This study aims to bridge this research gap by integrating core features of blockchain technology into the TAM model to explore their effects on user acceptance, a topic not extensively covered in current literature (Saber et al., 2019). Furthermore, previous TAM studies related to blockchain technology often focus on aggregate organizational levels, such as technology adoption within SMEs (Clohessy and Acton, 2019; Saurabh and Dey, 2021). In contrast, this paper focuses on individual customers and explores the determinants of blockchain technology acceptance in the e-commerce sector, potentially providing developers with insights for client-specific

product improvements (Huang and Liao, 2015; Kim, 2012).

4. Current situation of integrating blockchain into e-commerce platforms in Vietnam

With the explosive development of global technology and the keenness in capturing new trends, an increasing number of Vietnamese enterprises have been utilizing blockchain technology. According to Markets and Markets, the blockchain market in Vietnam is projected to exceed \$2.5 billion by 2026, a fivefold increase compared to the scale in 2021 (Quynh Nga, 2022). Particularly, during the period of 2023-2027, the Vietnamese blockchain market is expected to continue growing at a high rate.

The e-commerce sector in Vietnam stands out as a leading force in the digital economy, driving economic development and spearheading the digital transformation of businesses. By 2022, according to a report by the Ministry of Industry and Trade, Vietnam's retail e-commerce revenue is forecasted to grow by about 19% compared to 2021, reaching \$16.3 billion, accounting for 7.6% of the total retail revenue of goods and services nationwide. The number of online shoppers has exceeded 54.5 million, with an average annual online shopping value of \$260 per person. In the first 6 months of 2023, Vietnam's retail e-commerce reached \$10.2 billion, a growth of over 24% compared to the same period, accounting for 7.7% of the total revenue from consumer goods and services nationwide. Additionally, it is predicted that from 2023 to 2025, Vietnam's Internet economy will emerge as a leader in the region with an annual growth rate of about 30%.

In order to further promote the strong growth of the e-commerce industry and to keep up with the general trend of innovation worldwide, some Vietnamese e-commerce companies have been researching and launching blockchain-integrated e-commerce platforms. This not only meets the increasing demand for security and transparency in transactions but also promotes innovation and competition in the domestic e-commerce market. Some real-life examples include platforms like Fado.vn, Gcaeco.vn, GPC, which have

integrated blockchain to optimize user experience.

5. Methodology

5.1. Research Model

In this study, the advantages of blockchain technology will be incorporated into the TAM model to explore the impact of those advantages on individual consumer usage intent rather than the organizational level as in previous studies (Clohessy and Acton, 2019). The model will be applied to evaluate individual consumer behavior in using e-commerce platforms integrated with blockchain technology (Figure 1).

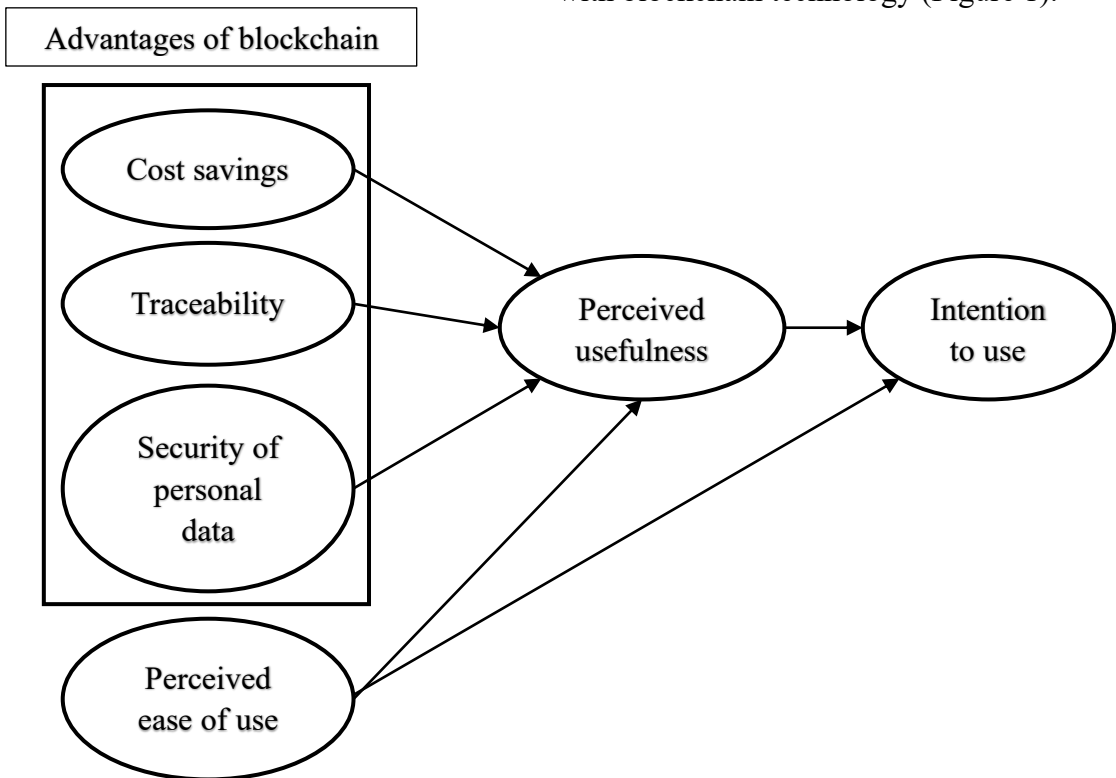


Figure 1. Proposed Research Model

5.2. Research hypotheses

Cost savings and perceived usefulness

Ullah et al. (2020) proposed that cost savings will positively and significantly affect the perceived usefulness during the use of blockchain technology. In addition, Ullah et al. (2022) have shown that cost savings are the most important factor in the

adoption of disruptive technology for financial institutions, positively influencing perceived usefulness. Sciarelli et al. (2022) has yielded an important analysis of the impact of cost reductions on the adoption and intention of using blockchain technology in Italy. According to this study, the reduction in costs not only has a positive impact on the financial capacity of

businesses but also makes an important contribution to enhancing the perception of the usefulness of this technology on the part of customers. Yaghoubi et al. (2010) also concluded that cost savings positively affect the perceived usefulness of customers during the e-commerce purchase process.

H1. Cost savings positively affect perceived usefulness.

Traceability and perceived usefulness

Saurabh and Dey (2021) have shown that blockchain traceability can positively influence the perceived usefulness of blockchain technology adoption, especially in the context of consumers' increasing interest in the provenance of products. In addition, results from a survey of 420 participants analyzed using a qualitative texture model suggest that traceability has a significant effect on the perceived usefulness of consumers during the use of QR codes to track food provenance (Kim and Woo, 2016). Lin et al. (2021) delved into determining that implementing a product traceability tracking system had a significant positive impact on customers' perception of usefulness, which in turn influenced their shopping behavior. Na (2012) suggested that the quality of information regarding the origin of beef has a positive impact on perceived usefulness.

H2. Traceability positively affects perceived usefulness.

Security of personal data and perceived usefulness

Jahangir and Begum (2008) have shown that the fact that personal data is highly secure has a positive effect on perceived usefulness. In addition, Larasetiati and Ali (2019) investigated the

behavior of customers using the services of online travel agents, from which they concluded that high security of personal data will have a significant impact on perceived usefulness, thereby leading to usage behavior. The study by Kumar et al. (2022) has focused on determining the importance of perceived safety and privacy for blockchain technology, especially in the context of higher education. In addition, Knauer and Mann (2019) clarified consumers' view that blockchain is seen as having the potential to enhance their power in online transactions, thereby creating a positive influence on how they perceive the usefulness of this technology.

H3. Security of personal data positively affects perceived usefulness.

Perceived ease of use and perceived usefulness

Davis (1989) shows that perceived ease of use has a positive effect on perceived usefulness. In addition, Lu and Gustafson (1994), after partial correlation analysis, found that perceived ease of use also positively affects perceived usefulness. In addition, Huang and Liao (2015) established a positive relationship between perceived ease of use and perceived usefulness. Elkaseh et al. (2016) published a study that aims to provide more detail on how the perception of ease of use has a positive impact on perceived usefulness in using social media to apply e-learning to the context of higher education in Libya.

H4. Perceiving ease of use has a positive effect on perceived usefulness.

Perceived usefulness and intention to use

According to model of technology acceptance (Davis, 1989), perceived usefulness has a positive effect on

consumers' intentions to use technology. Perceptual usefulness has also been cited as determinants of intention to adopt technology (Wamba et al., 2020). In addition, Grover et al. (2019) assert that perceived usefulness is an important factor for analyzing customers' intentions to use technology. Lee et al. (2019) places emphasis on the role of perceived usefulness and its impact on intentions to use blockchain technology. These studies and observations provide a solid basis for the view that perceived usefulness plays an important role in the decision-making process about whether or not to use technology.

H5. Perceived usefulness has a positive effect on intention to use.

Recognize ease of use and intention to use

Based on model of technology acceptance (Davis, 1989), we find that perceived ease of use has a direct impact on technology intent. Agreeing with that view, Sohaib et al. (2019) also showed that the perception of ease of use has a positive effect on users' attitudes and behavioral intentions when using new technology. Saputra and Darma (2022) show that the ease of use of My-T wallets has a positive effect on user intent. Thereby, the perception of ease of use is not only considered as an important factor in the process of forming user intent, but also a decisive factor for user attitudes and behavior

H6. Perceiving ease of use has a positive effect on intention to use.

Based on the preceding literature review and hypotheses development, the indicators of research model are shown in Table 1.

Table 1. Indicators of research model

| Constructs | Items | Measurement | Sources |
|-----------------------------|-------|---|------------------------|
| Cost Saving (TK) | TK1 | Buyers experience reduced search costs with the implementation of blockchain. | Kim (2020) |
| | TK2 | Blockchain lowers the negotiation costs incurred by buyers. | |
| | TK3 | Long-term cost savings for buyers are enhanced through blockchain technology. | |
| Traceability (TX) | TX1 | Blockchain ensures accurate tracking of logistics. | Saurabh and Dey (2021) |
| | TX2 | The tracking of logistics is reliably carried out by blockchain. | |
| | TX3 | Real-time tracking and tracing of product/service movement are enabled by blockchain | |
| Personal Data Security (BM) | BM1 | Blockchain offers protection for customer data. | Lallmahamood (2007) |
| | BM2 | Prevention of customer information leakage and abuse is a feature of blockchain. | |
| | BM3 | Blockchain guarantees the protection of customers' transactional information from accidental alteration or destruction during e-commerce transmissions. | |

| Constructs | Items | Measurement | Sources |
|----------------------------|-------|---|----------------------------|
| Perceived Usefulness (HI) | BM4 | Appropriate security measures are implemented by blockchain to protect customers' personal information and preferences. | Kumar et al. (2021) |
| | HI1 | The use of blockchain enhances my effectiveness in EC transactions. | |
| | HI2 | The performance of e-commerce is improved through the use of blockchain. | |
| Perceived ease of use (SD) | HI3 | I find the utility of blockchain technology in e-commerce. | Venkatesh and Davis (2000) |
| | SD1 | My interaction with the blockchain system is straightforward and comprehensible. | |
| | SD2 | Interacting with the blockchain system demands minimal mental effort. | |
| Intention to Use (YD) | SD3 | Achieving my desired outcomes with the system is easy. | Taylor and Todd (1995) |
| | YD1 | I have the intention to utilize the blockchain-based system. | |
| | YD2 | I plan to maximize the use of the blockchain-based system. | |
| | YD3 | Compared to alternative systems, my preference lies in using the blockchain system. | |

5.3. Data collection

Due to apprehensions regarding limited understanding of blockchain technology, convenience sampling was utilized to enlist potential users of the blockchain e-commerce system, specifically targeting respondents possessing a certain level of blockchain knowledge (Fowler, 2013). A concise overview of blockchain technology was presented in the online survey to ensure that participants had a foundational understanding before responding to questions. Mohammed et al. (2018) described this as a just-in-time, on-demand, bite-sized method of delivering information, reflective of a new trend in learning. Meanwhile, Manasrah et al. (2021) suggested that short videos are effective for visualizing concepts and capturing audience attention. Additionally,

a 2-minute video outlining the features of blockchain technology was shared with participants through a hyperlink in the context of e-commerce to offer additional insight. To avoid the problem of social desirability, respondents' anonymity and data confidentiality were maintained. The authors administered a survey using Google Form, distributing it to consumers through various social media platforms. Upon the form's availability, a total of 259 responses were collected. Following the removal of 6 invalid responses, the final sample size for analysis comprised 253 valid responses.

5.4. Data analysis

Path analysis techniques at a significant level of 5% were employed to analyze the Structural Equation Modeling (SEM) framework. After statistical description of the sample, the authors test the scale using Cronbach's Alpha

confidence coefficient, EFA discovery factor analysis and CFA confirmation factor to assess the suitability of the SEM model. Moreover, to assess the robustness of the model, the authors employed bootstrap testing with 2000 resamples from the sample data.

6. Results and Discussion

6.1. Statistical description of the research sample

Out of a total of 253 participants in the survey, females constituted the majority (59.7%), while males accounted for 40.3%. Regarding age, most participants fell within the range of 18-22 years old (68.8%) and 23-28 years old (22.5%). In terms of educational attainment, survey participants were primarily individuals with a bachelor's degree (68.4%), followed by those with postgraduate degrees (24.9%). Information on occupation indicates that most

participants were students (62.5%) and office workers (19%). Regarding income, the distribution was as follows: below 3 million VND (30.8%), from 3-7 million VND (33.2%), from 7-15 million VND (19.4%), from 15-25 million VND (7.9%), and 25 million VND and above (8.7%).

6.2. The results of Cronbach’s Alpha and Exploratory Factor Analysis (EFA)

Cronbach’s Alpha, the Kaiser-Meyer-Olkin (KMO) metric and the total extracted variance meet the required conditions, affirming the suitability of the data for conducting factor analysis. Additionally, the Bartlett test (p-value = 0.000) suggests that the observed variables exhibit overall correlation (Table 2). Hence, the variables included in the model are deemed appropriate for further analysis in subsequent steps.

Table 2. The results of Cronbach’s Alpha and Exploratory Factor Analysis (EFA)

| Factor | Cronbach’s Alpha | P-value of the Bartlett test | KMO | Total variance extracted | Eigenvalue Index |
|---------------------------------|------------------|------------------------------|-------|--------------------------|------------------|
| Independent variables | 0.949 | | | | |
| Cost savings | 0.949 | | | | |
| Traceability | 0.940 | 0.000 | 0.787 | 88.935% | 1.864 |
| Security of personal data | 0.943 | | | | |
| Variable "Perceived usefulness" | 0.959 | 0.000 | 0.761 | 92.365% | 2.771 |
| "Intention to use" variable | 0.942 | 0.000 | 0.736 | 92.204% | 2.766 |

6.3. The results of Confirmatory Factor Analysis (CFA)

From the results of CFA factor analysis extracted from AMOS, indicators assessing the suitability of the model include Chi-square/df = 1.171, lower than threshold 3;

GFI = 0.941; CFI = 0.995, above the threshold of 0.95; TLI = 0.994, crossing the threshold of 0.9; RMSEA = 0.026, below the threshold of 0.06; PCLOSE = 0.997, greater than the threshold of 0.05 (Table 3). Based on these indicators, it can be affirmed that the model is consistent with real data.

Table 3. The results of Confirmatory Factor Analysis (CFA)

| Model conformity assessment index | Value |
|-----------------------------------|-------|
| Chi-square/df | 1.171 |
| GFI | 0.941 |
| CFI | 0.995 |
| TLI | 0.994 |
| RMSEA | 0.026 |
| PCLOSE | 0.997 |

6.4. Model analysis of linear structures

The normalized estimation parameters for the relationship between variables include: Cost Savings (TK) variable and the Perceived Usefulness (HI) variable which have p-value = 0.000 < 0.005, the Perceived Usefulness (HI) variable and the Intention to Use (YD) variable which have p-value = 0.042 < 0.05, the Perceived ease of use (SD) variable, and the Intention to Use (YD) variable that has p-value = 0.005 < 0.05. Therefore, the relationship between the

above variables is statistically significant at 0.05.

However, standardized estimation parameters for relationships of the variable Perceived Usefulness with the Traceability variable has p-value = 0.091, the variable Perceived Usefulness with the Personal Data Security variable has p-value = 0.354, the Perceived Usefulness variable with the Perceived Ease of Use variable has p-value = 0.107. Therefore, the above hypotheses are rejected (p-value > 0.05) (Table 4).

Table 4. Standard path coefficient estimates and hypothesis testing

| Relations between variables | Standardized Beta coefficients | S.E. | C.R. | P-value |
|-----------------------------|--------------------------------|-------|-------|---------|
| HI <--- TK | 0.222 | 0.067 | 3.334 | *** |
| HI <--- TX | 0.113 | 0.084 | 1.690 | 0.091 |
| HI <--- BM | 0.063 | 0.082 | 0.927 | 0.354 |
| HI <--- SD | 0.099 | 0.059 | 1.612 | 0.107 |
| YD <--- HI | 0.122 | 0.068 | 1.944 | 0.042 |
| YD <--- SD | 0.173 | 0.064 | 2.802 | 0.005 |

6.5. Discussion

From analyzing the indicators of the model, the authors have shown the influence of factors affecting the intention of young Hanoi consumers to use blockchain-integrated e-commerce floors. After a series of tests including reliability, discovery factor analysis (EFA), affirmative factor validation (CFA), linear structure model analysis and hypothesis validation,

the results obtained show that three hypotheses are suitable including: (H1) Cost savings have a positive impact on perceived usefulness, (H5) Perceiving ease of use has a positive effect on use intent, (H6) Perceived usefulness has a positive effect on user intent. In addition, the rejected hypotheses include: (H2) Traceability has a positive impact on perceived usefulness, (H3) Security of

personal data has a positive impact on perceived usefulness, (H4) Perceived ease of use has a positive impact on perceived usefulness.

Cost savings have a co-contingent effect on perceived usefulness with an estimated coefficient of 0.222 (Figure 2). This is understood to mean that cost savings have a positive impact on perceived usefulness. Therefore, this result reflects consistency with previous studies, such as Ullah et al. (2020) and Yaghoubi et al. (2010). In the actual context, the survey subjects of this study are young consumers, mainly aged between 18 and 22, and with low incomes. Therefore, cost is an important factor influencing their decision to use.

The perceived usefulness has the same effect as the intended use with an estimated coefficient of 0.122 (Figure 2). This is understood to mean that perceived usefulness has a positive impact on the intention to use. Thus, this result reflects consistency with previous studies like Davis (1989), Wamba et al. (2020). Grover et al. (2019) also confirmed that

perceived usefulness plays an important role in analyzing customer intention to use technology. In fact, when users feel the usefulness of the product/ service, they will make decisions to use it faster.

The perceived ease of use has the same effect as the intention of use with an estimated coefficient of 0.173 (Figure 2). This is understood to mean that the perception of ease of use has a positive impact on the intention to use. Therefore, this result reflects consistency with Davis (1989). Agreeing with that view, Sohaib et al. (2019) also showed that the perception of ease of use has a positive effect on users' attitudes and behavioral intentions when using new technology. In fact, when consumers perceive the ease of use of technology, they will quickly adopt and use it more easily.

Although hypotheses include: (H2), (H3) and (H4) have been accepted by a number of previous studies (Davis, 1989; Guan et al., 2020; Saurabh and Dey, 2021), however, in this study, the above hypotheses were refuted (Figure 2).

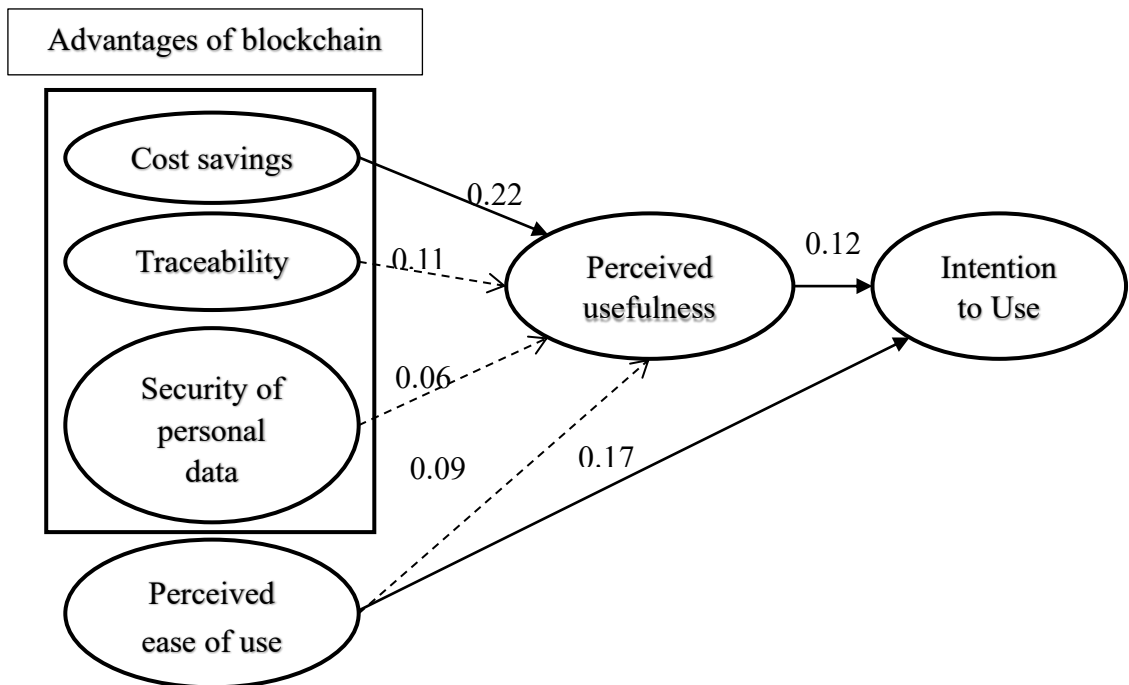
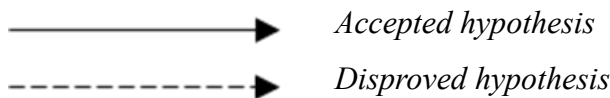


Figure 2. SEM results

Note:



7. Conclusion and implications

7.1. Conclusion

The research showed that cost savings and perceived ease of use have a positive impact on the intention to use blockchain-integrated e-commerce platforms among young consumers in the Hanoi area. However, source traceability and personal data security do not significantly influence users' intentions. Based on these findings, several recommendations are proposed for businesses and the government to promote the adoption of blockchain-integrated e-commerce platforms by consumers.

This study's primary contribution lies in conducting empirical research to analyze the key technical features of blockchain applications for e-commerce consumers. By doing so, it offers theoretical guidance for the advancement of blockchain

technology. While prior studies have primarily focused on blockchain adoption from the perspective of corporate users, particularly small and medium enterprises in supply chains, there has been limited examination of the influence of blockchain's technical characteristics from the viewpoint of individual users. This study addresses this gap by investigating the relationship between blockchain's technical features and users' adoption intention.

Furthermore, the study contributes to the existing literature by introducing different constructs from previous research to assess their impact on users' adoption. In contrast to previous research on blockchain acceptance, which often focuses on factors like trust, this study selects 'trust' as a technical feature of blockchain to

investigate users' acceptance. The findings highlight the significance of cost saving and perceived ease of use in influencing consumers' willingness to adopt blockchain. Notably, the study reveals that consumers may perceive greater usefulness from objective features such as reduced cost and easy use, while potentially undervaluing the significance of subjective aspects like protected data security and privacy.

7.2. Implications

The findings of this study suggest recommendations for companies aiming to adopt blockchain technology in terms of utilizing marketing strategies to promote their blockchain-related products and services and enhance consumer willingness to use them.

The results highlight the significance of cost savings as a crucial factor perceived as advantageous by consumers. Therefore, companies should focus on enhancing the system's capability to reduce costs, particularly in terms of search and negotiation costs, and emphasize these features during the marketing process to convince consumers to adopt their products. Firstly, in advertising or introducing blockchain-related applications, companies can showcase the reduction in search costs as one of blockchain's characteristics. Secondly, companies can communicate to customers that blockchain applications contribute to lowering negotiation costs. Based on these findings, it is recommended that blockchain companies continually upgrade their buyer-seller matching algorithms to provide consumers with a faster and improved experience.

In addition to cost savings, the perceived ease of use has a positive impact on consumers' intention to use blockchain-integrated e-commerce platforms. Therefore, businesses can leverage the potential of mobile applications and user-friendly interfaces to enhance the user-friendliness of blockchain-integrated e-commerce platforms and optimize customers' online shopping experiences. This not only facilitates consumers in searching for and purchasing products but also boosts interaction and brand loyalty. It simplifies the complexity of the online shopping process, creating a convenient experience and encouraging customer retention.

Apart from businesses' initiatives, the government plays a critical role in promoting the adoption of blockchain-integrated e-commerce platforms among young consumers in Hanoi. Firstly, the government can promote the shift from traditional commerce to blockchain-integrated e-commerce by implementing policies that offer incentives and special tax benefits. Providing financial support packages can motivate businesses to integrate blockchain technology into their business models. Additionally, the government needs to establish a stable and long-term blockchain infrastructure capable of meeting the substantial usage demands of users.

Conflict of Interest

The authors declare no conflict of interest.

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