

The Role of Blockchain Technology Application in Real Estate Market in Malaysia

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ABSTRACT

Blockchain is a cutting-edge distributed ledger technology that allows trading online without a centralised authority. Blockchain is the most likely technology to be used in the upcoming technological transformation affecting the industry. Numerous sectors, such as the real estate industry, require new technology to increase market efficiency, safety, and transparency, as transaction amounts can be substantial. This study employs a quantitative research method to investigate the role of blockchain technology in the Malaysian real estate market, focusing on the relationship between the independent variable of blockchain technology adoption in the real estate market. The Unified Theory of Acceptance and Use of Technology (UTAUT) framework guided the study. An exhaustive literature review has been conducted to address the research questions and objectives outlined in the thesis. Additionally, a survey questionnaire was developed to gather information from the target segment of real estate negotiators, and data analysis was conducted using SPSS version 26.0. The survey questionnaire had collected 281 respondents using a non-probability sampling method from real estate negotiators in Malaysia. A pilot test was conducted to evaluate the research model and determine Cronbach's Alpha values above the recommended threshold of 0.60, indicating excellent reliability of the constructs. One study finding is that real estate negotiators will likely use blockchain technology to alter the market. Fundamentally, it is for this reason that additional study on the topic and technological advancements are necessary for a successful application in the Malaysian real estate market.

Keywords: Blockchain, Technology Adoption, Unified Theory of Technology Acceptance and Usage (UTAUT), Real Estate

INTRODUCTION

The rapid advancement of technology is reshaping traditional industries, creating demand for systems that can accelerate operations while ensuring greater security and transparency (Tapscott, 2016). One sector significantly affected by these changes is the real estate market, which plays a crucial role in national economic stability. Real estate crises have historically triggered wider financial crises, leading to micro- and macroeconomic instability (Zhao & Michales, 2016). Inefficiencies, including high transaction costs, lengthy procedures, limited liquidity, personal bias, and a lack of transparency, have been identified as recurring challenges in this sector (Shiller, 2005).

In Malaysia, property transactions are often time-consuming and complex, taking an average of three to four months from listing to the completion of ownership transfer (Donovan & Ho, 2020). While legally essential, the Sales and Purchase Agreement (SPA) requires multiple steps, including legal reviews, financing, deposits, and state authority approvals, further extending transaction timelines (Crowston & Wigand, 2010; James, 2022). These inefficiencies slow down the market and reduce investor confidence.

Blockchain technology has recently emerged as a promising solution to these issues. Initially developed to support cryptocurrencies such as Bitcoin, blockchain has evolved into a versatile system for secure data storage,

asset registration, and automated transactions (Swan, 2015). Its unique features, decentralisation, immutability, transparency, and cryptographic security, enable more efficient and tamper-proof processes. By leveraging smart contracts, blockchain can automate transaction steps, reduce reliance on intermediaries, and significantly shorten completion times.

Given its potential to transform real estate transactions, blockchain presents a valuable opportunity for markets such as Malaysia, where delays and inefficiencies remain pressing concerns. This paper explores how blockchain technology can address these challenges and reshape the future of real estate transactions.

PROBLEM STATEMENT

The real estate industry is a vital driver of national economic development, yet it faces significant inefficiencies that hinder its growth. In Malaysia, property transactions typically take three to four months to complete, involving multiple intermediaries, lengthy legal procedures, and numerous administrative steps (Donovan & Ho, 2020). These processes create delays, increase transaction costs, and reduce market efficiency. Moreover, information asymmetry persists in nearly all real estate transactions, forcing buyers and sellers to bear significant costs related to information search, contracts, and supervision (Lantmäteriet et al., 2016). Such inefficiencies limit transparency and trust and discourage local and foreign investors from engaging in the property market.

Blockchain technology has been proposed to address these challenges, offering features such as immutability, transparency, decentralisation, and automation through smart contracts (Swan, 2015). By reducing reliance on intermediaries, improving verification processes, and enabling secure information sharing, blockchain has the potential to transform the real estate sector. However, its adoption in Malaysia remains early, with limited empirical research exploring the factors influencing its implementation.

Existing studies suggest that blockchain adoption is influenced by performance expectancy, effort expectancy, social influence, and facilitating conditions (Shimizu et al., 2016). However, it remains unclear how these factors influence adoption decisions in the Malaysian real estate market, where procedural delays, high costs, and inefficiencies persist. Without understanding these determinants, stakeholders may struggle to leverage blockchain effectively to address market inefficiencies and strengthen investor confidence.

Therefore, this study examines the relationship between performance expectancy, effort expectancy, social influence, facilitating conditions, and the adoption of blockchain technology in Malaysia's real estate sector. By addressing this gap, the research offers both theoretical and practical insights into how blockchain can be leveraged to mitigate inefficiencies, increase transparency, and enhance the overall effectiveness of real estate transactions.

LITERATURE REVIEW

Blockchain Technology

In this study, the dependent variable is the adoption of blockchain technology within the Malaysian real estate market. Blockchain is a decentralised and trustless data transaction system that eliminates the need for third-party verification by recording and validating transactions across a distributed network (Peters & Efstathios, 2016). As a chronological public ledger, blockchain maintains a database of records called "blocks," securely linked together through cryptographic hashes and time stamps. This chaining structure makes blockchain inherently resistant to tampering, ensuring that it cannot be easily altered or removed once data is recorded.

The network that underpins blockchain comprises nodes, or participants, some of which act as miners. These miners play a critical role in validating and adding new information to the blockchain through consensus mechanisms. Consensus protocols, such as proof-of-work or proof-of-stake, ensure trust and agreement across the decentralised system without reliance on central authorities (Backlund, 2016). Blockchain utilises public key cryptography to enhance security further, protecting the ledger from unauthorized access and manipulation (Peters & Efstathios, 2016).

Blockchain can be implemented as either a public ledger or a private ledger. Public blockchains, such as Bitcoin,

use cryptoeconomic incentives to achieve consensus among participants, while private blockchains typically rely on permissions and do not require the same level of computational validation. Beyond its applications in cryptocurrency, blockchain has expanded into various other industries. For instance, Ethereum has enabled the integration of smart contracts, allowing automated execution of agreements without intermediaries. At the same time, Nasdaq's Linq platform illustrates how blockchain can be leveraged for secure and transparent trading of private securities (Backlund, 2016).

Blockchain Applications in Real Estate

Blockchain technology is increasingly being leveraged in the real estate sector to reduce inefficiencies, enhance transparency, and streamline transaction processes. In the United States, blockchain-based platforms such as Propy have enabled end-to-end property transactions that eliminate intermediaries, thereby reducing administrative costs and transaction time (Ooi, Soh, & Soh, 2022). In Sweden, the Lantmäteriet pilot utilised blockchain and smart contracts for land registration, demonstrating how digital verification can reduce registration time, minimise fraud, and minimise manual processing errors (Proskurovska & Dörry, 2022). Similarly, in Dubai, the Dubai Land Department has implemented blockchain technology to securely manage real estate transactions securely, integrating smart contracts into its property database to enhance transparency and operational efficiency (Shuaib, Hassan, & Usman, 2022). Across Asia, initiatives such as Singapore's Smart Nation programme have explored blockchain-based systems like Averspace, which enable homeowners and tenants to execute digital tenancy agreements and property sales online, reducing paperwork and promoting trust in real estate transactions (Yong, Tay, & Khong, 2022). These global examples address persistent challenges in conventional real estate markets, including lengthy transaction timelines, high intermediary costs, and information asymmetry, by utilising immutable records and decentralised ledgers to enhance transparency, efficiency, and trust in property transactions.

Performance Expectancy

The extent to which individuals employ a particular technology for a specific activity is referred to as performance expectations (Davis et al., 1989). Performance expectations are explicitly specified in UTAUT as a measure of how technology is used to assist people in completing specific tasks (Venkatesh et al., 2012). The use of perception, increased effectiveness, productivity, and ease of getting information are the four factors that influence performance expectations. The combination of performance expectations and behavioural intentions is the strongest predictor of method adoption (Williams et al., 2015). Several additional studies have shown that performance expectations directly influence behavioural intentions (Nasir, 2013; Jati & Laksito, 2012; Venkatesh et al., 2012).

H1: Performance expectancy has a significant impact on blockchain technology adoption in Malaysia's real estate market.

Effort Expectancy

Effort expectations measure how easy a technology is to use. It is described as the ease with which current technology or technical items may be used (Venkatesh et al., 2012). In adoption technology, one of the most significant aspects to consider when assessing consumer technology use patterns and intents is effort expectations (Casey & Wilson-Evered, 2012). According to one study, ease of use, sophistication, and simplicity were the three characteristics predicted to influence effort. Perceived ease of use refers to how simple people perceive a technology to be in terms of its use (Venkatesh et al., 2012). The ease of use of new technology is determined by its simplicity (Jeng & Tzeng, 2012). The word "complexity" describes how difficult it is to learn and use new technology (Rogers et al., 2005)

H2: Effort expectancy has a significant impact on the adoption of blockchain technology in Malaysia's real estate market.

Social Influence

Many academics have examined social impact and how the social environment influences users' behavioural

intentions (Yellow & Gao, 2014). "The degree to which a person feels he or she must employ a new system based on the ideas of others," Venkatesh et al. (2012) define social influence. Leong et al. (2013) defined social effect as an individual's belief that many people should embrace a new technology. Venketesh et al. (2003) state that social influence comprises three variables: subjective norms, social factors, and image. Social influence can be classified into social norms and critical mass (Huang & Kao, 2014).

In encouraging adoption, social impact emphasises the roles and views of those directly associated with the user, such as family, friends, and coworkers (Tan et al., 2012). People consider the social influence of technology adoption in their own views and assessments of its utility, and they utilise technology to increase performance and job performance within workgroups, particularly in the early phases of the experience (Keong et al., 2012).

H3: Social Influence significantly affects blockchain technology adoption in Malaysia's real estate market.

Facilitating Conditions

Individuals' views that organisational and technical infrastructure or resources exist to facilitate the usage of the technology or system are facilitating conditions (Venkatesh et al., 2012). Facilitating conditions also refers to the extent to which users believe that organisational and technological infrastructure can help them acquire the knowledge and skills necessary to use new technologies. According to Venkatesh et al. (2003), variables like perceived behavioural control and compatibility significantly impact facilitating conditions. The UTAUT paradigm suggests that users' perceptions of convenience influence their adoption of technology. The cause is the user's surrounding environment, which motivates or forces users to decline adoption (Venkatesh et al., 2012). According to Akour and Dwairi (2011) and Alwahaishi and Snáe (2013), behavioural intentions to use technology are affected by convenience.

H4: Facilitating conditions have a significant impact on the adoption of blockchain technology in Malaysia's real estate market.

Unified Theory of Acceptance and Use of Technology (UTAUT)

According to the UTAUT theory, four primary elements determine the intention and use of information technology. The primary elements of UTAUT, among the variables, include performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), behavioural intention (BI), usage behaviour, gender, age, experience, and voluntariness to use. UTAUT aims to identify fundamental aspects and possibilities that influence the prediction of behavioural intentions to take advantage of new technologies and techniques (Venkatesh et al., 2003).

Based on the discussions above, a conceptual framework is developed, as shown in Figure 1.

Conceptual Framework

This research uses a modified version of the Unified Theory of Acceptance and Use of Technology (UTAUT) method. The UTAUT approach utilises variables such as performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC) as independent variables, with blockchain technology adoption (BCA) serving as the dependent variable. Therefore, the conceptual framework presented and constructed is based on the thesis phrases. The proposed framework offers a more precise and comprehensive explanation of the stated aim of utilising blockchain technology.

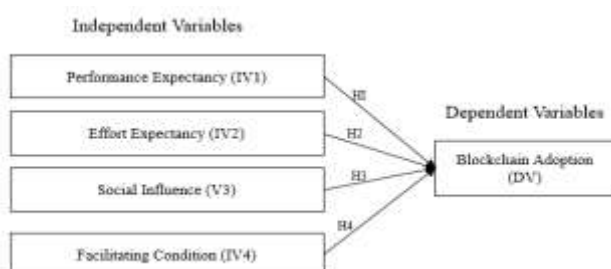


Fig. I. Conceptual framework

RESEARCH METHODOLOGY

Methodology

This study adopted a deductive approach within a descriptive quantitative research design to investigate the factors influencing blockchain adoption in the Malaysian real estate market, guided by the UTAUT framework. Data was collected through a structured survey distributed online via email and WhatsApp to real estate negotiators (REN), with purposive sampling chosen for its cost-effectiveness and practicality. From an estimated population of 25,000 REN registered under BOVAEA, 281 valid responses were obtained, exceeding the minimum threshold of 100–150 recommended for statistical analysis, despite being lower than Krejcie and Morgan's (1970) suggested minimum of 379.

The questionnaire, divided into demographics, UTAUT-based variables (performance expectancy, effort expectancy, social influence, and facilitating conditions), and respondents' perceptions of blockchain adoption, used a five-point Likert scale for measurement. A pilot test with 30 respondents was conducted to ensure clarity, reliability, and validity, with Cronbach's alpha and factor analysis confirming measurement consistency. Data analysis was conducted using SPSS version 29.0, employing descriptive statistics to summaries respondent profiles, Pearson correlation to test relationships, and multiple regression to identify significant predictors of adoption. A cross-sectional time horizon was applied due to resources and time constraints, allowing data to be collected at one point while maintaining methodological rigour and statistical robustness.

RESULT

Reliability Analysis

The table below presents a summary of reliability statistics for each independent variable (IV) and dependent variable (DV), calculated from the SPSS output results. Each IV and DV has 4 to 5 items, respectively. The Performance Expectancy (IV1) and Blockchain Adoption (DV) both demonstrated Cronbach's Alpha values of more than 0.91, indicating excellent reliability. While Effort Expectancy (IV2) and Facilitating Conditions (IV4) demonstrated values of 0.902 and 0.863, respectively, showing good reliability. Meanwhile, the Facilitating Condition (IV4) showed a good and acceptable reliability value of 0.773

TABLE I Summary of reliability analysis of independent and dependent variables

Construct Name	Cronbach's Alpha	Standardized Alpha	N of Items	Result
Performance Expectancy (IV1)	0.919	0.921	4	Excellent
Effort Expectancy (IV2)	0.902	0.902	5	Good
Social Influence (V3)	0.765	0.773	4	Good & Acceptable
Facilitating Condition (IV4)	0.861	0.863	4	Good
Blockchain Adoption (DV)	0.987	0.987	4	Excellent

The demographic profile of the respondents shows that the majority were male (62.3%), while females accounted for 37.7%. In terms of age distribution, most respondents fell within the younger and middle-aged groups, with 31–40 years old being the largest category (29.5%), followed by 18–30 years old (27.0%) and 41–50 years old (22.8%), whereas those aged 51–60 years (14.2%) and above 61 years (6.4%) were less represented. Regarding education level, most respondents had completed SPM (40.6%) or a degree (31.7%). In comparison, 18.9% held STPM or diploma qualifications, and only a small proportion had postgraduate qualifications (Master's, 0.7%, and PhD, 1.4%), with 6.8% indicating other qualifications. In terms of working experience, the majority of respondents were highly experienced, with over six years of work experience (56.6%) and 5–6 years (34.5%), while only a small percentage had less than four years of experience (1.1% less than 1 year, 1.8% 1–2 years, and 6% 3–4 years). This suggests that the sample is predominantly male, well-distributed across young to middle-aged groups, moderately educated, and comprised mainly of individuals with substantial professional experience.

Correlation Analysis

Table II presents the correlations between the variables, specifically the independent and dependent variables. The four independent variables in this research are Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Condition. The dependent variable is the adoption of blockchain in the real estate industry in Malaysia. The symbol ** proved that the IVs have strong relationships with the DV and are significant at the 0.001 level. The correlation of independent variables of Performance Expectancy, Social Influence, and Facilitating Condition is classified as a strong relationship towards Blockchain Adoption, as the correlation values are 0.630, 0.659, and 0.624, respectively.

These results showed the Pearson correlation coefficients among the independent variables —Performance Expectancy (IV1), Effort Expectancy (IV2), Social Influence (IV3), and Facilitating Conditions (IV4) — and the dependent variable, Blockchain Adoption (DV). All correlation coefficients are positive and significant at the $p < 0.01$ level, indicating that increases in each of the independent variables are associated with higher levels of blockchain adoption.

The results reveal strong intercorrelations among the independent variables, ranging from $r = 0.771$ to $r = 0.915$, indicating that these constructs are conceptually related yet distinct measures within the UTAUT framework. Specifically, the highest correlation was observed between Performance Expectancy (IV1) and effort Expectancy (IV2) ($r = 0.915$, $p < 0.001$), implying that respondents who perceive blockchain as applicable also tend to find it easy to use.

When examining relationships with the dependent variable, Effort Expectancy (IV2) shows the strongest positive correlation with Blockchain Adoption ($r = 0.704$, $p < 0.001$). This finding suggests that perceived ease of use is the primary factor influencing adoption among Malaysian real estate negotiators.

The correlations between Social Influence (IV3) and Blockchain Adoption ($r = 0.663$, $p < 0.001$), and between Facilitating Conditions (IV4) and Blockchain Adoption ($r = 0.681$, $p < 0.001$), are also strong and significant. These results suggest that peer influence, organisational encouragement, and available infrastructure support collectively foster positive attitudes toward blockchain utilisation.

Finally, Performance Expectancy (IV1) also exhibits a substantial correlation with Blockchain Adoption ($r = 0.630$, $p < 0.001$), indicating that the belief in blockchain's potential to enhance productivity and performance remains a significant motivator, albeit slightly less influential than effort expectancy.

TABLE II PEARSON CORRELATION ANALYSIS

Variables	IV1	IV2	IV3	IV4	DV
IV1	1	.915**	.830**	.879**	.630**
Sig.	—	0	0	0	0
N	—	281	281	281	281
IV2	.915**	1	.832**	.883**	.704**
Sig.	0	—	0	0	0
N	281	—	281	281	281
IV3	.830**	.832**	1	.771**	.663**
Sig.	0	0	—	0	0
N	281	281	—	281	281
IV4	.879**	.883**	.771**	1	.681**
Sig.	0	0	0	—	0

N	281	281	281	—	281
DV	.630**	.704**	.663**	.681**	1
Sig.	0	0	0	0	—
N	281	281	281	281	—

Multiple Regression Analysis

Multiple regression analysis will investigate the significance, as indicated by the p-value, which indicates the significance level; the size, as measured by the coefficient of unstandardized B, to determine the strength of the model; and the sign, indicating whether the relationship is positive or negative.

TABLE III Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	R ² Change	F Change	df1	df2	Sig. F Change
1	0.721	0.52	0.513	0.79411	0.52	74.802	4	276	0

Table III presents the model summary ($R = 0.721$, $R^2 = 0.520$, Adjusted $R^2 = 0.513$), indicating that the four independent variables collectively explain 51.3% of the variance in blockchain adoption. This indicates a moderately strong relationship between the predictors — Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions — and the dependent variable.

The F-change value of 74.802 ($p < 0.001$) confirms that the overall regression model is statistically significant, meaning the combination of predictors reliably explains the variation in blockchain adoption among real estate negotiators. In practical terms, this suggests that over half of the changes in adoption behaviour can be attributed to these four UTAUT-based factors, demonstrating the model's strong explanatory power.

TABLE V ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	188.685	4	47.171	74.802	.000 ^b
Residual	174.05	276	0.631	—	—
Total	362.736	280	—	—	—

Table V presents the ANOVA test results ($F = 74.802$, $p < 0.001$), indicating that the overall regression model is statistically significant. This suggests that the combination of the four independent variables — Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions — collectively provides a good fit for predicting the adoption of blockchain technology in Malaysia's real estate market. In other words, the model explains a substantial proportion of variance in blockchain adoption, confirming that these UTAUT-based predictors are relevant and meaningful in this context.

In the correlation analysis, the strongest positive relationship was observed between Effort Expectancy and Blockchain Adoption ($r = 0.704$, $p < 0.001$). This strong correlation suggests that real estate negotiators who perceive blockchain systems as easy to understand, user-friendly, and uncomplicated to implement are significantly more likely to adopt them. In practical terms, this implies that the perceived ease of use is a central driver of adoption among practitioners, particularly in environments where digital proficiency and exposure to advanced technology are still in development. This finding aligns with prior UTAUT-based studies (e.g., Venkatesh et al., 2003; Casey & Wilson-Evered, 2012), which consistently highlight effort expectancy as a significant determinant of behavioural intention in early stages of technology diffusion.

The F-value of 74.802 and the significance level ($p < 0.001$) further confirm that the predictors jointly have a

substantial and statistically significant effect on the dependent variable. Together with an adjusted R^2 value of 0.513 (as reported in the model summary), the analysis reveals that approximately 51.3% of the variance in blockchain adoption can be explained by the four predictors. This indicates a robust explanatory power of the model and supports the proposed hypotheses (H1–H4).

TABLE IV Coefficients

Variable	B (Unstandardized)	Std. Error	Beta (Standardised)	t-value	Sig. (p-value)
Constant	0.415	0.217	—	1.909	0.057
IV1	0.323	0.135	0.293	2.385	0.018
IV2	0.726	0.134	0.623	5.428	0.000
IV3	0.246	0.093	0.22	2.658	0.008
IV4	0.23	0.106	0.194	2.177	0.030

Table IV presents the coefficients of the multiple regression analysis. The findings indicate that all four independent variables —Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions —positively and significantly influence blockchain adoption among real estate negotiators in Malaysia.

Performance Expectancy recorded a significant effect ($B = 0.323$, $\beta = 0.293$, $t = 2.385$, $p = 0.018$), indicating that higher perceptions of blockchain usefulness are associated with greater adoption levels. Effort Expectancy displayed the most substantial Influence ($B = 0.726$, $\beta = 0.623$, $t = 5.428$, $p < 0.001$), confirming it as the most dominant factor in the model. Social influence also showed a significant positive effect ($B = 0.246$, $\beta = 0.220$, $t = 2.658$, $p = 0.008$), suggesting that support or encouragement from others enhances adoption. Similarly, Facilitating Conditions demonstrated a significant impact ($B = 0.230$, $\beta = 0.194$, $t = 2.177$, $p = 0.030$), indicating that adequate infrastructure and organisational support contribute to adoption.

The constant value ($B = 0.415$, $p = 0.057$) was not statistically significant, suggesting that blockchain adoption would remain limited without the influence of the identified predictors. Overall, the results confirm that all four variables significantly affect blockchain adoption, with Effort Expectancy emerging as the strongest predictor in this study.

TABLE VII Hypothesis

Hypothesis	Result
Performance expectancy has a significant impact on the adoption of blockchain technology in Malaysia's real estate market.	Accepted
Effort expectancy has a significant impact on the adoption of blockchain technology in Malaysia's real estate market.	Accepted
Social influence has a significant impact on the adoption of blockchain technology in the Malaysian real estate market.	Accepted
Facilitating conditions significantly affect the adoption of blockchain technology in Malaysia's real estate market.	Accepted

DISCUSSION

The findings of this study show that Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions all have a significant influence on the adoption of blockchain technology among real estate negotiators in Malaysia. This supports earlier research based on the Unified Theory of Acceptance and

Use of Technology (UTAUT), which identifies perceived usefulness, perceived ease of use, social influence, and enabling conditions as the main factors that encourage technology adoption (Venkatesh et al., 2003; Venkatesh et al., 2012).

Among the four factors, Effort Expectancy was found to be the strongest predictor of blockchain adoption. This means that when negotiators perceive blockchain as easy to use and simple to learn, they are more likely to adopt it. This result is consistent with studies by AlAwadhi and Morris (2008) and Ling Keong et al. (2012), which found that users in developing contexts are more willing to adopt technologies that are straightforward and user-friendly. The dominance of Effort Expectancy in this study suggests that ease of use is the most important factor influencing adoption decisions among Malaysian real estate practitioners.

One possible explanation for this finding is the lower level of digital literacy and limited training opportunities within Malaysia's real estate industry. Many negotiators still depend on traditional, manual procedures and have minimal experience with digital platforms. As a result, their willingness to adopt blockchain depends heavily on how simple and practical they perceive the technology to be. This aligns with Casey and Wilson-Evered (2012), who noted that ease of use is a strong predictor of adoption, especially when users are new to technology.

The demographic analysis further supports this interpretation. A large portion of respondents hold SPM-level qualifications, indicating a moderately educated workforce. This educational background may affect how users perceive both the usefulness and complexity of blockchain systems. Individuals with lower educational levels are more likely to value tools that are easy to understand and operate, rather than focusing on advanced or technical performance benefits. Consequently, Effort Expectancy becomes more influential than Performance Expectancy in explaining adoption behaviour.

Although Performance Expectancy also shows a positive and significant effect, it is not the primary driver in this context. Similarly, Social Influence and Facilitating Conditions are significant, indicating that peer support, professional endorsement, and organisational readiness play meaningful roles in encouraging adoption. These results are consistent with Salim (2012) and Alwahaishi and Snášel (2013), who found that a supportive environment and positive social norms increase users' confidence in adopting new technologies.

Overall, these findings suggest that the strength of UTAUT factors may vary depending on the local context. In developing countries like Malaysia, where awareness of technology and infrastructure is still growing, ease of use and supportive conditions have a greater impact on adoption than performance-related benefits. This supports the argument by Venkatesh et al. (2012) that contextual and demographic factors can shape how users respond to different elements of the UTAUT model.

CONCLUSIONS

This study examined the factors influencing the adoption of blockchain technology in Malaysia's real estate market, utilising the UTAUT framework. The results showed that Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions all have a significant effect on blockchain adoption, with Effort Expectancy being the most influential factor. This finding indicates that when real estate negotiators find blockchain systems easy to use and understand, they are more likely to adopt them. The study also demonstrates that the UTAUT model is suitable for explaining the acceptance of new technologies in industries that are still developing their digital capabilities.

From a practical perspective, the findings provide several important recommendations. BOVAEA should organise structured blockchain awareness and training programs to improve the digital skills of real estate negotiators. Government regulators need to establish clear policies and provide incentives to promote the adoption of blockchain technology and enhance technological infrastructure. Real estate firms should start utilising blockchain-based platforms to demonstrate how technology can expedite, enhance transparency, and increase the security of property transactions.

Although the study provides valuable insights, it has some limitations. The sample size of 281 respondents and the focus on the real estate sector limit the generalisation of the results. The use of self-reported data may also

affect accuracy. Therefore, future research should include a larger number of respondents from diverse sectors and employ both surveys and interviews to gain deeper insights. Future studies can also track adoption over time to understand how awareness and readiness change.

In conclusion, blockchain technology has strong potential to transform Malaysia's real estate market by improving transparency, trust, and efficiency. However, its success depends on providing adequate training, developing supportive policies, and ensuring that the technology remains simple and accessible to users. By addressing these factors, Malaysia can move toward a more innovative and technology-driven real estate industry.

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