

Enhancing estate governance using blockchain technology through risk management in estate governance of business sustainability

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CHRONICLE

Article history:

Received: November 20, 2023

Received in revised format: January 2, 2024

Accepted: March 1, 2024

Available online: March 1, 2024

Keywords:

Blockchain

Governance

Risk Management

Estate Governance

Business Sustainability and Technology

ABSTRACT

The integration of blockchain technology into estate governance has the potential to revolutionize transparency, efficiency, and security in estate management. Traditional governance structures often grapple with inefficiencies, lack of transparency, and security issues in estate management. This paper comprehensively explores the impact of blockchain on estate governance, and then risk management and business sustainability. This research centers on the role of risk management on business sustainability to mediate and moderate the effect of estate governance on business sustainability. The results indicate that effective real estate governance positively affects risk management practices in real estate. However, both real estate governance and risk management contribute to business sustainability. Moreover, there are still gaps in the literature that require further investigation. Where policymakers and practitioners can develop informed strategies to strengthen governance structures, mitigate risks, and promote sustainable practices in real estate; Thus, promoting long-term success and resilience in the real estate industry. It is worth noting that future research should focus on empirical testing of the proposed hypotheses to provide a better understanding of these dynamics and their implications for risk management that can affect business sustainability.

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1. Introduction

Blockchain allows for smart transaction execution and is decentralised, secure, and auditable. Data are safely and reliably transferred via a peer-to-peer network in this distributed ledger (Zheng et al., 2017; Zile & Strazdiņa, 2018). One of the technologies that is now evolving the fastest is blockchain technology, which makes sense for most applications (Yang et al., 2022; Al-Taani et al., 2024). Blockchain is a distributed system in which users do not have specific delegates. Manufacturers can handle their customers with an easy approach in this method. Since it is essential to have confidence in the market and stakeholders, trust is an inherent component of these commercial relationships. In addition, it is unclear whether Blockchain will have these effects on all industries and whether it will be able to perform all tasks well, the executive's goals for utilising Blockchain to complete transactions are supportability, risk decrease, speed, reliability, quality, cost or adaptability disintermediation and bypassing agents guarantees are completed (Farouk et al., 2020). As a result of new technologies combining

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ISSN 2561-8156 (Online) - ISSN 2561-8148 (Print)

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doi: 10.5267/j.ijds.2024.3.002

with traditional industries, governance and management have undergone a paradigm shift in many different fields in recent years. Using blockchain technology in real estate governance is a notable example of this shift in the dynamics of estate administration (Yaga et al., 2019; Chhabra et al., 2021; Varga et al., 2023) state that blockchain, which was once intended to serve as the foundational technology for cryptocurrencies, has grown into a robust, decentralised system that permits secure, open-book transactions.

Integration of blockchain technology has promise for improving and streamlining estate management processes, solving present issues, and launching a new era of efficient governance (Wafa'Q et al., 2022). In traditional real estate management, due to the involvement of intermediaries and cumbersome paperwork, transparency is essential for effective governance, as a ledger provides and allows a decentralized and shared record of all transactions and activities related to real estate (Siegfried et al., 2020). Additionally, due to blockchain's automation capabilities, estate administration efficiency has increased dramatically, which minimises duplication and speeds up transactions (Alrefai et al., 2023). However, this paper investigates the use of blockchain technology through risk management in estate governance to enhance estate governance in business sustainability. This paper includes direct and indirect effects. In addition, to mix roles for risk management as a mediator and moderator to be double-checking. This is a contribution to defining the main role of RM that may influence sustainability. Thus, this paper provides a valuable insight to businesses that can affect blockchain and improves estate governance to ensure long-term success and resilience across generations.

2. Literature Review

Effective real estate governance is of utmost importance to ensure continuity, and stability between generations (Kinani, 2023). Moreover, it is necessary to manage risks associated with real estate governance more effectively and efficiently, such as succession planning, asset allocation, as well as asset allocation, and compliance with legal regulations (Alflaieh, 2022). The emergence of blockchain has led to interest and increased discussion about blockchain's ability to revolutionize traditional practices (Omeish, 2022). Blockchain offers a promising way to enhance real estate management through transparency, risk, efficiency, and security. Hence, the ability to transform how real estate data is managed, shared, secured and risk mitigated. Shubailat et al. (2024) pointed out that blockchain governance has a statistically significant impact on real estate governance in Jordan. As Jordanian real estate management will not be greatly affected by blockchain governance.

This article provides a thorough study of these ideas as well as insights into the ways that blockchain technology might impact Jordan's estate management practices and the dynamics of estate governance. In addition, Konashevych (2020) blockchain is a novel term in governance, set apart from permissioned systems as the technology of the immutable ledger that does not require authorities. However, Konashevych (2020) indicated that a suitable underlying technology architecture is needed for the use of blockchain to support the updating of inaccurate and out-of-date data, handle concerns about digital identity and privacy, ensure legal compliance, make smart contracts enforceable, and allow the scalability of the ledger.

Risks related to technology, organisations, and the outside world affect sustainable smart cities, making their governance challenging and subject to manipulation. Ullah et al. (2021) found that, based on a thorough review of the literature, there are 28 external hazards that affect the governance of smart cities. These risks include those related to the environment, governance, integration, and security of smart cities, accounting for 46.7% of the total. Moreover, the discovery, analysis, and assessment steps of the iterative risk management process. In addition, Khanna et al. (2021) examined the potential of Blockchain technology as a facilitator for e-governance in smart cities. They looked at the problems that residents face daily and contrasted them with the advantages that blockchain integration offers. Veuger (2020) offers a summary and analysis of all pertinent scientific articles with a focus on the Netherlands. This is done within the framework of a preliminary global investigation into global specialists, research, and goods, namely land registration. Fiorentino and Bartolucci (2021) shows that there are more and more instances of sharing economy platforms, which is raising new questions about the exploitation of intellectual property, ethics, and local resources.

According to Spielman (2016), a blockchain-based title recording system is the way of the future for title record keeping. It would have immediate advantages over the existing system and bring forth more benefits as blockchain technology gains traction. These advantages do not, however, currently outweigh the expenses and difficulties involved in putting a blockchain prototype title registration system into place in Davidson County or anywhere else in the nation. Having said that, actions can and need to be done right away to set the stage for a blockchain system. According to Sankar et al. (2023), the world's population is rapidly urbanising, which leads to several social, economic, and environmental problems that have a substantial impact on people's living conditions and quality of life. The concept of the "smart city" is becoming more and more popular, and it offers the chance to address these urban problems. The goals of smart cities are to maximise the use of available resources, improve people's quality of life, and offer top-notch services (Adaileh, 2020; Alqudah, 2023; Barqawi, 2023). Additionally, creative uses of cutting-edge information and communication technologies to encourage group sharing are advantageous for smart cities. By using blockchain technology across various industries, it can be more beneficial to the development of smart cities. The smart city's smart real estate market is being upended by blockchain-based smart contracts. Dashottar and Srivastava (2021) found that also regulatory frameworks struggle to forecast impending disruptions, especially when it comes to the risk management function of banks. As banks redesign their corporate client experience through digital means and make use of readily available large-scale data, the regulator has an increased responsibility to guarantee that risk

regulations are effective and economical. They propose that also the blockchain protocols might potentially reduce uncertainty in the event of information asymmetry.

2.1 Governance of Blockchain on Estate Governance

The fields of blockchain governance and estate governance are closely related and together they are revolutionising the field of traditional estate management (Alshehadeh & Al-Khawaja, 2022). The decentralised, transparent, and secure characteristics of blockchain governance offer a basis for restructuring the management of agreements, transactions, and record-keeping within the estate realm (Azim & Khairi, 2022). Conversely, estate governance covers a broad range of legal, financial, and operational duties and entails the efficient administration, control, and management of assets, properties, and inheritances. Blockchain governance provides the tools and technology needed to improve efficiency and transparency in the real estate governance environment (Casino et al., 2019). The integrity of real estate-related data and transactions is ensured through Blockchain governance using smart contracts as well as cryptographic security.

2.2 Governance of Estate-on-Estate Management

The larger regulatory and policy-oriented approach known as estate governance outlines the laws, regulations, and principles that specify how estates must be managed, dispersed, and disposed of. The required legal and ethical rules that direct the entire process are provided by this governance framework, which sets the scene (Azim & Khairi, 2022). However, estate management is the day-to-day, hands-on implementation of these regulations. It includes carrying out estate planning, valuing assets, allocating them to beneficiaries, and making sure all legal requirements are met. Estate management and estate governance have a complex and interconnected connection. However, a symbiotic connection that guarantees the correct and lawful administration of estates is created when effective estate governance establishes the guidelines and standards for efficient estate management, and efficient estate management guarantees adherence to the established governance. Together, they provide a framework for estate affairs that strikes a balance between efficiency, the law, and the interests of stakeholders and beneficiaries.

2.3 Estate Governance on Risk Management and Business Sustainability

Processes associated with estates are transformed by the incorporation of Blockchain Governance (Casino et al., 2019). However, the strength and suitability of the estate governance procedures in place must be considered in order to fully realise this impact. Serving as a conduit, estate governance makes it easier to apply blockchain-based technologies in the estate management space. It guarantees that the estate management framework's operationalization and smooth integration of Blockchain Governance's tenets and features. Estate Governance maximises the potential of Blockchain Governance by optimising its contribution to the overall security and efficiency of estate management activities through well-defined protocols, rules, and procedures. Estate Governance serves as a middleman, converting the potential of Blockchain Governance into concrete improvements throughout the whole Estate Management domain. Additional analysis and empirical study are necessary to measure and confirm the magnitude of this mediation effect. In addition, estate governance plays a crucial mediating role in the interaction between estate management and blockchain governance.

2.4 Risk Management effect

Risks can be defined according to the most important standards and practices of global institutions as follows: They affect the organization's objectives, which fully benefits it. According to the ISO 31000 standard, risks are defined as a state of uncertainty that could affect the organization's strategic objectives. Accordingly, the impact resulting from risks may be negative (threats) or positive (opportunities). The interest of risk management is to increase the probability of opportunities occurring or reduce the probability and impact. Threats. Risk management is also defined, according to the British Institute of Risk Management (2023), as several activities that must be integrated into the organization's culture through an effective policy and multiple programs led by senior executive management. In addition, enterprise risk management is defined, according to the Institute of Internal Auditors, as a systematic and consistent approach to managing risk by identifying, evaluating, and deciding the appropriate response to it, and building reports on threats and opportunities that may affect the organization's objectives, which fully benefits it.

The integration of risk management strategies and blockchain has garnered significant attention from researchers and practitioners. The effect of Risk management on blockchain has been examined, by Ombati (2022) emphasizes the importance of risk mitigation strategies in addressing various challenges like issues related to internet governance and intellectual property protection. Malhotra et al. (2022) also confirm the effective risk management on governance mechanisms in blockchain to be as mediator. In addition, Sladić et al. (2021) confirmed the blockchain effectiveness in expediting transactions and reducing costs in the real estate domain, as well as enhancing trust between stakeholders and operational efficiency. In addition, Liu et al. (2021) examine the effect of blockchain on enhancing collaboration in sustainable building projects. In addition, Shuaib et al. (2021) found that the uses of blockchain have improved real estate, this also confirmed by Paik et al. (2019). However, Pankratov et al. (2020) found that use of blockchain has an important effect in facilitating real estate. Liu et al. (2019)

emphasize the role of blockchain in enhancing intellectual property protection, and data security in sustainable projects. Moreover, Zachariadis et al. (2019) found that effective governance is the same as in Liu et al. (2019).

3. Hypothesis Development and Proposed Research Model

Based on the literature six hypotheses were developed, For H1 as findings of Casino et al. (2019); Azim and Khairi (2022). For H2, as suggested by Bailis et al. (2017). For H3, as in Casino et al. (2019); Azim and Khairi (2022). For H4 as in Casino et al. (2019); Siegfried et al. (2020). In addition, H5 suggests that risk management is expected to mediate the effect of Estate Governance on Business Sustainability. Lastly, for H6 “Risk Management moderates the effect of Estate Governance on Business Sustainability”, this hypothesized that Risk Management practices will moderate the relationship towards sustainability. This is assumed that risk management related to inheritance can mediate the relationship, that is, there is a mediating effect. On the other hand, it can improve the relationship or constitute an obstacle in the context of Jordan, in which case there is a moderating effect. Studies have indicated that there is a mediating and moderating role for the latent variables as suggested by (Judd et al., 2001; MacKinnon, 2011; Alzaqeba 2023; 2024; Cheah et al., 2023) at the same time, especially when using Smartpls4 because it allows this model to be conducted with one test, and from there can be a mediating and moderating role for risk management in this relationship. However, Fig. 1 below shows the proposed Research Model.

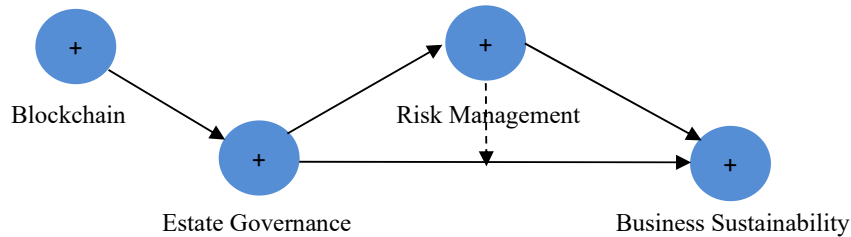


Fig. 1. proposed Research Model

The link between the factors is depicted in Fig. 1 above. Nonetheless, this paper's hypotheses are as follows.

H1: *Blockchain positively affects Estate Governance.*

H2: *Estate Governance positively affects Risk Management.*

H3: *Estate Governance positively affects Business Sustainability.*

H4: *Risk Management positively affects Business Sustainability.*

H5: *Risk Management mediates the effect of Estate Governance on Business Sustainability.*

H6: *Risk Management moderates the effect of Estate Governance on Business Sustainability.*

4. Material and Methods

A quantitative survey is employed as the approach for the study. Questionnaires are used to collect data for this research. The fifth point Likert scale questionnaires were used to collect data for the study. Professionals with extensive knowledge of blockchain technology, including business owners, legal experts, financial advisers, and technology specialists, made up the study sample. They also included experts in inherent risk management and estate management. A total of 142 responders were gathered. Partial least squares (SmartPLS-4) structural equation modelling was used to analyse the gathered data. The appropriateness of this statistical analysis method for evaluating intricate linkages and structural patterns within a data set led to its selection. Using a single test, SmartPLS4 simplifies the process of testing and examining the correlations between variables.

3. Results

To examine the effects of blockchain, estate governance, and risk management on business sustainability the path coefficient is calculated. R-Square is also used to quantify the impact of an exogenous variable on an endogenous variable. With an R^2 value of 0.67 or above, the endogenous latent variables in this structural model show a strong positive correlation with the exogenous variables. The route coefficients for the achievement motivation research framework are displayed in detail in Fig. 2.

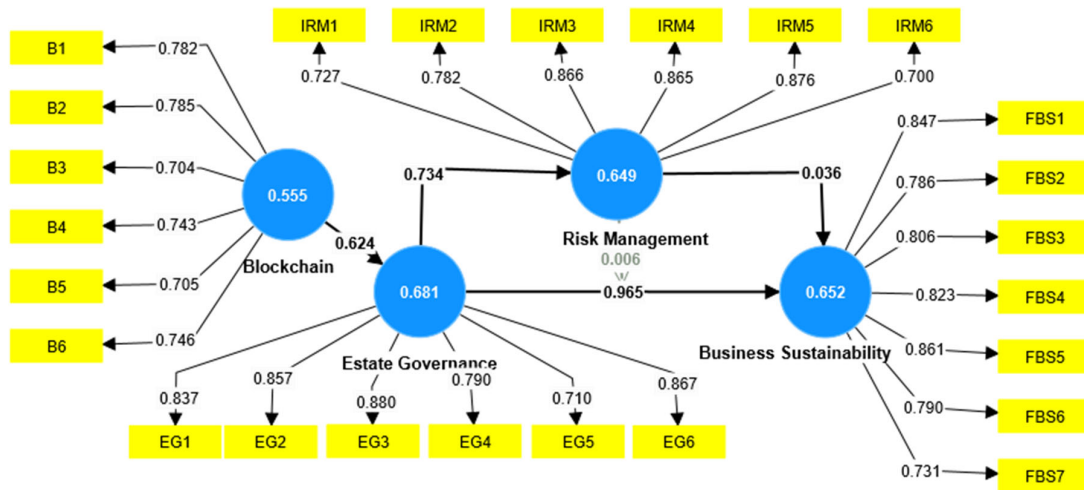


Fig. 2. Research Measurement Model

There is a substantial link between the observable variables and the relevant underlying constructs, as evidenced by the fact that all indicators of the various study variables consistently have outer loading values larger than 0.70. However, a couple indicators fall just short of the 0.70 threshold. An outer loading value between 0.5 and 0.6 is sufficient to meet the criterion for convergent validity. By the investigation this paper constructs dependability as presented in Table 1.

Table 1
Reliability Testing

	Cronbach alpha	Composite reliability	AVE
Blockchain	0.840	0.846	0.555
Estate Governance	0.916	0.916	0.666
Business Sustainability	0.910	0.911	0.652
Risk Management	0.890	0.900	0.649

Table 1 above indicates that the values are from 0.840 to 0.916. This means that there is a strong relationship between Blockchain, Estate Governance, Risk Management, and Business Sustainability. Similarly, composite reliability values between 0.846 and 0.916 confirm the measurement reliability. Additionally, AVE values above 0.5, indicating adequate convergent validity. However, Table 2 shows R^2 adjusted results.

Table 2
 R^2 - adjusted results

	R-square	R-square adjusted
Estate Governance	0.389	0.387
Business Sustainability	0.993	0.993
Risk Management	0.558	0.556

Table 2 above, shows the R^2 adjusted values of Blockchain, Estate Governance, and Risk Management. This is explained by Business Sustainability. For Estate Governance is 38.7%; this indicates a moderating effect. On the other hand, business sustainability shows that R-square is 99.3%, 0.7% explained by other cases. In addition, Risk Management shows to have a moderating role with variance explained at 55.6%.

3.1 Hypotheses Testing

Hypothesis testing for this paper includes testing t statistics (T), probability values (P), as well as original value sample estimates (O). Whereas values close to +1 indicate a positive relationship, while values close to -1 indicate a negative relationship between the variables. The ensuing presentation of these indicators in Fig. 3 and Table 3 below offers a thorough examination of the results of hypothesis testing, aiding in the comprehension of the correlations among variables and enabling researchers to draw significant conclusions supported by statistical data.

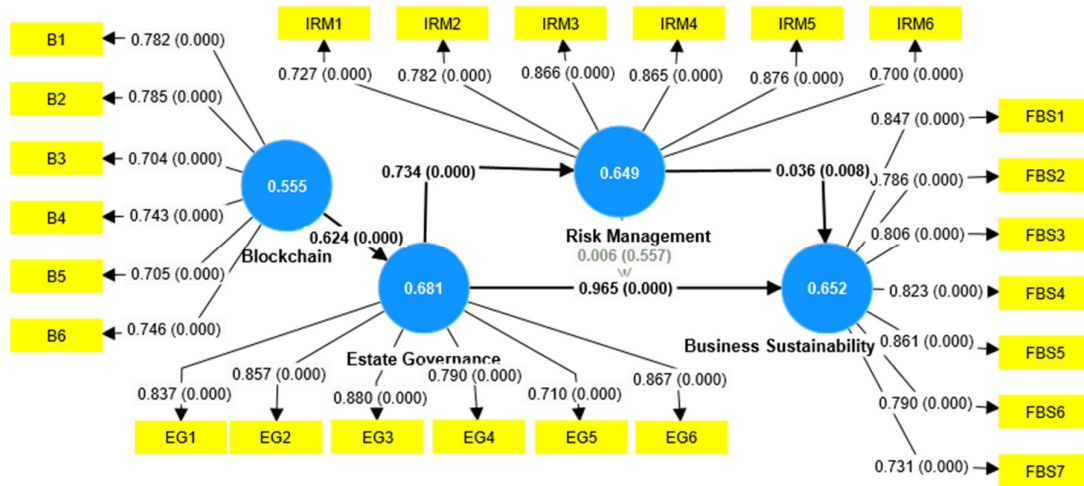


Fig. 3. Structural Model

The process of hypothesis testing, which includes assessing the study hypotheses, is depicted in Fig. 3. The route coefficients that were previously mentioned provide important information for this testing. Table 3 presents data on the strength and importance of the links between the main study variables to support the hypotheses under investigation. This table provides a detailed explanation of the correlations between the variables and allows for the investigation of the hypotheses. Based on the direct effects between variables that are noticed, as indicated in Table (3) below, researchers can determine if the study hypotheses have been accepted or denied.

Table 3
Results of Hypothesis Testing

Path	β	STDEV	T-values	P-Values
Direct Effect				
Blockchain → Estate Governance	0.624	0.038	16.494	0.000
Estate Governance → Business Sustainability	0.965	0.012	82.656	0.000
Estate Governance → Risk Management	0.734	0.034	21.893	0.000
Risk Management → Business Sustainability	0.036	0.014	2.646	0.008
Risk Management x Estate Governance → Business Sustainability	0.006	0.010	0.587	0.557
Indirect Effect				
Blockchain → Business Sustainability	0.619	0.037	16.591	0.000
Blockchain → Risk Management	0.458	0.041	11.265	0.000
Estate Governance → Business Sustainability	0.026	0.010	2.572	0.010

The above table provides the results of hypothesis testing for various direct and indirect effects in the research model. In direct effects without considering mediating variables. The results indicated that Blockchain and Estate Governance indicated that there is a significant positive relationship (t-value = 16.494 and a p-value = 0.000), thus, this hypothesis is strongly supported. Similarly, other direct effects such as Estate Governance → Risk Management as well as Estate Governance → Business Sustainability show significant and positive relationships (high t-values and low p-values), thus, the direct and indirect effects in the research model are supported. For indirect effects path, the focus is on relationships mediated by Estate Governance and Risk Management. For instance, the path coefficient between Blockchain and Business Sustainability suggests that Blockchain indirectly influences Business Sustainability through other mediators. Thus, this indicates a significant positive relationship is 0.619. Additionally, the path coefficient between Blockchain and Risk Management is 0.458, which indicates a significant indirect effect, implying that Blockchain impacts Risk Management effects on Business Sustainability. Nevertheless, these results provide empirical support for the hypothesized pathways and highlight the interconnectedness of Blockchain, Risk Management, Estate Governance, and Sustainability in business.

For H6, as the above results, Table 3 shows that the direct effect of Risk Management on Business Sustainability ($\beta = 0.036$, $p = 0.008$), as well as the direct effect of Estate Governance on Business Sustainability ($\beta = 0.965$, $p < 0.001$), this indicates that Estate Governance and Risk Management independently contribute to the Business Sustainability prediction. However, to test the moderation effect in H6, Table 4 indicates that β for "Estate Governance → Risk Management → Business Sustainability" is $\beta = 0.026$ ($p = 0.010$). Furthermore, the interaction effect "Blockchain → Estate Governance → Risk Management → Business Sustainability" also shows a significant path coefficient ($\beta = 0.016$, $p = 0.017$), indicating that the relationship between Estate Governance and Business Sustainability is moderated by the presence of Risk Management. In addition, to suggest that impact of Estate Governance on Business Sustainability is further influenced by the presence of Risk Management as an intermediary respectively. The analysis results support Risk Management's dual role as a moderator as well as a

mediator between Estate Governance and Business Sustainability. In addition, the significant path of mediation effect is explaining the influence of Estate Governance on Business Sustainability. Moreover, the effectiveness of Estate Governance practices in driving Business Sustainability outcomes is contingent upon the level and quality of Risk Management, while Risk Management moderates the impact of Estate Governance on Business Sustainability. However, below Table 4 shows the results of effecting testing, which explores the sequential relationships between variables in the research model.

Table 4
Effecting Testing Results

Path	β	STDEV	T-values	P Values
Blockchain → Estate Governance → Business Sustainability	0.602	0.035	17.410	0.000
Blockchain → Estate Governance → Risk Management	0.458	0.041	11.265	0.000
Blockchain → Estate Governance → Risk Management → Business Sustainability	0.016	0.007	2.382	0.017
Estate Governance → Risk Management → Business Sustainability	0.026	0.010	2.572	0.010

Table 4 indicates the effects of “Blockchain → Estate Governance → Business Sustainability”, which indicates that the relationship between Blockchain and Business Sustainability is mediated by Estate Governance. The path coefficient ($\beta = 0.602$; t-value = 17.410 and low p-value of 0.000) indicates a significant positive relationship between Blockchain and Business Sustainability through the intermediary variable of Estate Governance, in addition t-value and p-value indicates a strong support for this relationship. Similarly, the next path in the table represents a sequence of “Blockchain → Estate Governance → Risk Management”, the path coefficient = 0.458; high t-value and low p-value, indicates a significant positive relationship between Blockchain and Risk Management through Estate Governance. In addition, for “Blockchain → Estate Governance → Risk Management → Business Sustainability”. This path extends to including Risk Management as an additional mediator between Estate Governance and Business Sustainability (path coefficient = 0.016; t-value of 2.382; and p-value of 0.017), this indicates statistical significance, in addition to have a significant positive relationship between Risk Management and Business Sustainability when mediated by Estate Governance as well as Blockchain. For H5, “Estate Governance → Risk Management → Business Sustainability”, this path examines the Risk Management as mediator between Estate Governance and Business Sustainability with ($\beta = 0.026$; t-value = 2.572 and p-value = 0.010) suggests a significant positive relationship between Estate Governance and Business Sustainability is mediated by Risk Management.

4. Discussion

The findings of this paper confirm H1 indicating that blockchain positively affects estate governance and this result is consistent with Azim and Khairi (2022) and Casino et al. (2019). The decentralized nature of Blockchain enhances estate management processes, thereby bolstering governance practices in businesses. This is also supported by Shuaib et al. (2021) as well as Pankratov et al. (2020). Similarly, for H2, “Estate Governance positively affects Risk Management”. This suggests that effective estate governance positively impacts risk management practices. In addition, the findings also support H2. This finding aligns with Azim and Khairi (2022) and Casino et al. (2019). Ombati (2022), and Sladić et al. (2021), thus there is both empirical and theoretical support for H2. Furthermore, H3 indicates that estate governance positively affects business sustainability, this result means that estate governance plays a positive role in promoting business sustainability as confirmed by Liu et al. (2019), the mechanisms of effective governance are crucial for implementing sustainable practices and ensuring compliance in environmental regulations. Hence, H4 indicates that risk management positively affects business sustainability. This confirms that effective risk management practices positively impact business sustainability, which are supported by Ombati (2022), and Farouk et al. (2020). In addition, for mediate and moderate effect of risk management towards business sustainability are also supported to have a double impact (mediate and moderate effect) towards sustainability, and in the context of family companies, family businesses and real estate, Inheritance Risk Management (IRM) can also have a similar role, given that risk management is allocated to inheritance under the name of inheritance risk management, and in the context of family companies, inheritance has an important role towards sustainability. However, for both, H5 indicates also that risk management mediates the effect of estate governance on business sustainability, and H6 indicates that also risk management moderate the effect of estate governance on business sustainability. Thus, the results also support H5 “Risk Management mediates the effect of Estate Governance on Business Sustainability” as well as H6 “Risk Management moderates the effect of Estate Governance on Business Sustainability” (Zheng et al., 2017; Zile & Strazdiņa, 2018; Yang et al., 2022). This explains that effective risk management practices can increase the positive impact of real estate governance on business sustainability. In the same time, effective estate governance structures also can facilitate the implementation of risk management practices, which in turn contribute to enhancing business sustainability outcomes. Future research should investigate the moderating effect of risk management on the relationship between real estate management and business sustainability, which ensures resilience in the face of external threats and enhances risk mitigation efforts.

5. Conclusion

This paper has investigated the Enhancing Estate Governance using Blockchain Technology through Risk Management in Estate Governance of Business Sustainability. This investigation was done by six consistent hypotheses, the focus of this study is on the impact of risk management to have a dual impact on sustainability. This paper recommends that future research should test the mediation and moderation hypothesis by empirically allocating risk management to inheritance to provide an

understanding of the factors that influence business sustainability in a business context. Thus, the results indicate that effective real estate governance positively impacts risk management practices in real estate, which are essential for protecting assets and enhancing operational resilience in the dynamic real estate environment. However, it has been found that both real estate governance and risk management contribute to business sustainability. Moreover, there are still gaps in the literature that require further investigation. For example, the mediating and moderating roles of legacy risk management towards business sustainability have not been explicitly tested and deserve empirical validation. Where policymakers and practitioners can develop informed strategies to strengthen governance structures, mitigate risks, and promote sustainable practices in real estate. Thus, promoting long-term success and resilience in the real estate industry. It is worth noting that future research should focus on empirical testing of the proposed hypotheses in order to provide a better understanding of these dynamics and their implications for risk management that can affect business sustainability, in particular for policy makers by customizing risk management to each context; Given the presence of factors that dominate the success and sustainability of business, especially in light of the other environmental orientation of business. However, the mediation effect of Inheritance Risk Management (IRM) may play a crucial role in shaping the intricate dynamics between family business success and family business sustainability. In addition, IRM introduces a nuanced dimension to the interplay between family business success and sustainability. While this paper focuses on risk management, it is also recommended for future research to examine IRM towards family business sustainability in a business context.

Acknowledgements

All of Authors, would like to express our gratitude to Abdel Basset for his contribution to including a new concept, which is inheritance risk management. We also express our thanks to fellow researchers and friends who shared meaningful and useful discussions with me and contributed to expanding research horizons and improving understanding. We feel profound gratitude and great confidence for your support and encouragement, and I hope that this will be useful and contribute to the scientific field. However, Abdulbasit is a PhD student, he would like to point out that the ideas presented in this conceptual paper are not final and complete, but rather are considered a focus for future research and development of the basic idea of the thesis. He also extends special thanks to the principal to the supervisor Dr. Teoh Ai Ping, as well as to the supervisory committee Dr. Yuvaraj A/L Ganesan, and Dr. Murad Al-Zaqeba.

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