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Risk Management in Real Estate Property Management Systems

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Abstract

The purpose of this study is to analyze risk management in real estate property management systems. The study will seek to address two specific objectives: to establish risks involved in the adoption of electronic commerce in real estate transactions and explore best practices in risk control inherent in electronic transactions in real estate sector. The study entailed a systematic review of empirical literature in order to arrive at conclusions. It was revealed that the most prevalent risks in real estate property management systems include fraud, theft, security and confidentiality of information, information asymmetry, lack of trust, security of e-commerce infrastructure, existing and new laws among others. Some of the best risk management practices adopted include use of privacy enhancement technologies, adoption of account-based transactions, better website management, insurance and arbitration.

Keywords

Real Estate Property, Management

Organization of the Article

This article has seven sections. Section 1 is the introduction, Section 2 is literature review, Section 3 is methodology, Section 4 contains findings based on literature, Section 5 is the recommendations, Section 6 has the key contributions and Section 7 is the limitations of the study.

1. Introduction

The last two decades have experienced an upsurge in the use of internet in providing real estate services to various stakeholders in the industry. Due to the quest for greater efficiency and improved trade effectiveness, consumers and service providers in the real estate industry have embraced internet use in contemporary times. The use of internet in real estate is likely to expand more in the future as more real estate service providers seek to increase their revenues, reach a wider clientele and provide real time quality services (Chin & Liu, 2004).

The adoption of internet based real estate transactions can be traced back to the mid-1990s. Chin and Liu (2004) reveal that in the year 1995 only 2 percent of buyers utilized the internet to search for homes. However, by the year 1999, the percentage of American buyers using the internet to search for homes rose to 23 percent (Muhanna, 2000). This was a significant increase in duration of four years in the USA alone. Further statistics reveal that in the first month of the year 1995, there were only 100 websites that offered properties for sale in USA. However, the number shot astronomically to 4000 websites by the end of the same year (Heller & Krukoff, 1997).

The fact that there have been developments in how real estate transactions are carried out especially through the internet, has led to increment in the level of risk associated with these types of transactions. Trautman (2015) insinuates that online e-commerce systems spend a huge amount of financial resources to deal with risks that threaten their businesses. He further provides an example of PayPal which spends tens of millions of dollars annually to meet the cost of accounting, legal fees and managerial activities associated with e-commerce risk management.

With the above understanding, it suffices to argue that as the adoption of e-commerce real estate property management systems continues to expand around the globe, so does the level of risk associated with online real estate transactions. Most of the cyber risks that are faced by e-commerce platforms' owners if they do occur can significantly lead to escalation of the operating costs of an enterprise or even endanger the very existence of the entity (Trautman, 2015).

According to Evans (2014), the time that is available in a day is only limited to 24 hours and business entities must fight for the attention of the people within this limited time. They further argue that this intense competition for people's attention has necessitated the invention of creative ways such as social platforms, software platforms and many other internet applications to enable businesses to reach their customers. This has led to an increment in the number of e-commerce platforms thus posing huge risks to the businesses involved. The major question, therefore, facing most e-commerce businesses including those in real estate is how to manage the risks that are associated with online systems such as the real estate property management systems.

The fact that there are many businesses that are currently conducting their businesses through the internet or through e-commerce is a wake-up call for effective risk management. Business entities need to encourage early detection of risks in order to develop appropriate mitigation measures. This will significantly reduce the operating costs that may increase due to occurrence of a particular risk. Risk management will assist entities to avert risks that may lead to extermination of the business itself (Trautman, 2015). This article, therefore, seeks to establish the risks involved in the adoption of electronic commerce in real estate transactions and explore best practices in risk control inherent in electronic transactions in real estate sector.

2. Literature Review

2.1. Risks Prevalent in Real Estate E-Commerce Platforms

According to Chin and Liu (2004) one of the very common risks in real estate e-commerce platforms is associated with misleading information. They argue that the main aim of a real estate platform is to facilitate listing and eventual purchase by potential buyers. Chin and Liu (2004) further assert that at the point of listing there is a possibility of both good and bad listings to be made on the website. However, it is the responsibility of website managers to develop procedures that can enable potential buyers to identify property listings that do not meet their expectations or have misleading information. They further argue that buyers can use the procedures to differentiate between the genuine from the bad property listings.

According to Trautman (2015) fraud is one of the most common and serious risks that the majority of e-commerce platforms are faced. The increased use of internet globally by majority of businesses in transacting has equally raised the level of fraud associated with internet-based transactions. Trautman further argues that monetary fraud is common when movement of money between the parties involved is taking place. This normally occurs because in some occasions some sensitive financial information such as the credit card and debit card details may be revealed to the wrong people.

In a study that was carried out by Pinguelo and Muller (2011) several risks associated with e-commerce platforms were revealed. They indicated that cybercrime is a common risk that most e-commerce systems must contend with. The various forms of cybercrime that are common include economic or foreign spying, malicious employees who pose a threat to the business, spamming, phishing, hacking of systems and email extraction programmes. All the above are issues that have received increased attention by management in recent years.

Long (2007) argues that cyberspace can be equated to a battlefront with a wide collection of soldiers prepared to fight and challenge one another in search of supremacy. Estelle further indicates that some of the battles that are fought in the e-commerce platform relate to legal protection of intellectual property. The battles are likely to have an impact on how protection of intellectual property is likely to be conducted in the future.

All those entities engaged in conducting business through the e-commerce platform or those who are involved in the use of electronic payment systems are faced with very many potential risks they must be aware of. These risks may include cybercrime, cyberterrorism, crime that is committed electronically, security of the e-commerce infrastructure, protection of intellectual property, issues related to internet governance as well as jurisdictional disputes among other risks (Scott, 2016).

Trautman (2015) also argues that e-commerce systems are also likely to face the risk associated with compliance to current and new laws and regulations. He further insinuates that as the e-commerce platform expands the scope of its business and spreads its business tentacles to other jurisdictions, the business is then subject to new laws relating to money laundering, terror financing, consumer protection, electronic funds transfer (EFT) and many others. Trautman and Harrell (2016) also asserts if the e-commerce platform is found to be in contravention of these laws, then it may be subject to liability and this may necessitate change of business practices.

Trautman (2015) while referring to PayPal online payment system indicates that an online payment system is subject to laws that are applicable in the home country and other countries where the business operates. They argue that there is no universality in terms of the laws governing online payment business since they vary from one jurisdiction to another. In as much as there may be in place a program on compliance Trautman (2015) indicates that there can be no assurance that the business can avoid fines or other enforcement actions in a few jurisdictions.

E-commerce systems including real estate property management systems also face the risk of litigation especially if they violate laws and policies on privacy relating to collection, usage and revelation of data that belongs to the users of their sites. If the business fails to comply with its own policy or law relating to privacy or consumer protection legislation, it may attract litigation and subsequent fining of the entity. Customers and state agencies are very vigilant and ready to take action against a business that does not comply with existing laws and regulations. This happened to Delta Airlines in December 2012 when California Attoney General sued the firm for failing to include a privacy policy in its mobile phone applications (Biener, Eling, & Wirfs, 2015).

According to Tu and Meredith (2015) e-commerce platforms entirely depend on internet access to carry out their businesses. The users also depend on internet to be able to transact through these platforms. The biggest risk associate with overreliance on internet access is the understanding that the firms that provide internet and related infrastructure may take actions or even introduce new charges that can easily affect internet usage. If this happens, then e-commerce platforms including real estate property management systems will be affected. Poor development and maintenance of internet infrastructure will adversely affect the e-commerce businesses.

2.2. Best Risk Control Practices in Real Estate E-Commerce

One of the ways through which fraud has been significantly reduced in real estate e-commerce systems and other online e-commerce systems is through the adoption of account-based networks. These types of networks make it possible for incoming, flow through and exiting funds to be detected by the system. This close monitoring through the network makes it possible to detect fraud and arrest the transactions before completion (Trautman, 2015). In addition, Trautman further indicates that performing financial transactions without requiring the customers to reveal crucial financial information such as debit and credit card details provides a better opportunity to minimize fraud in e-commerce.

According to Chin and Liu (2004) risk in real estate websites can be reduced through the efforts of a good website manager. They argue that the website manager has the sole responsibility of either accepting or rejecting a property listing before the same is listed on the real estate website. If the website manager follows down the laid down procedures in differentiating between good and bad lists of properties, then it is possible to reject lists that do not reflect the actual conditions of the listed properties.

One of the old proven best practices in managing risk in real estate websites and transactions is through avoidance of incomplete and slanted information in the e-commerce real estate property management systems. In every market transaction, there are three distinct activities that must be carried out and the include gathering relevant information, formation of a contract and trade settlement (Lee & Clarke, 1996). Lee and Clarke further suggested that there are two important elements that can eliminate information asymmetry in real estate transactions and include some standards for property ratings and using trusted local parties to inspect and evaluate properties.

Chin and Liu (2004) introduced the transfer of risk mitigation strategy as one of the best practices in real estate risk management. They assert that buyers and sellers in real estate transactions may consider buying insurance especially in cases where the buyers are interested in making pure electronic transactions. By involving insurance, the risks that may be associated with conducting electronic transactions will definitely be hedged out.

According to Westland (2002), one of the ways through which risk in real estate property management e-commerce platforms can be dealt with is through building trust between the buyers and sellers. Westland asserts that it is the responsibility of electronic markets such as real estate e-commerce platforms to decide measures to be undertaken when buyers and sellers fail to perform their obligations or even provide fraudulent information. In such situations the mitigation measures proposed by Westland (2002) include arbitration and insurance.

2.3. Critical Review of Literature and Research Gap

Most of the studies available on the risks prevalent in real estate property management e-commerce systems seemed to have a narrow scope thus identifying only very few risks yet there are a myriad of risks facing this industry. Studies such as Chin and Liu (2004) and Trautman and Harrell (2016) only mentioned less than 3 types of risks facing the real estate property management e-commerce systems.

I was further clear from the studies reviewed that majority of the studies looked at context specific risks in real estate property management e-commerce systems. Tu and Meredith (2015) and Westland (2002) are a few examples.

Therefore no study attempted to have a universal and global view of risks prevalent in real estate property management e-commerce systems as well as the risk mitigation strategies.

From the studies reviewed, no study had made an attempt to provide a conclusive summary of the risks prevalent in real estate property management e-commerce systems and the best practices in risk management. This is the gap the study sought to bridge.

3. Methodology

The paper systematically reviewed various articles on risk management in real estate property management e-commerce platforms. While reviewing literature, the researcher relied on online search engines such as the American Society of Civil Engineers (ASCE) library, Taylor & Francis Online, Emerald Insight, Science Direct, Web of Science and Scopus databases (Ullah, Sepasgozar, & Wang, 2018). In doing this, keyword and semantic searches were applied in attaining the required literature. The study approach involved use of keyword searches, screenings and categorisation (Ullah, Sepasgozar, & Wang, 2018). Keyword searches applied the following content word(s) "e-commerce in real estate", "real estate", "risks in real estate e-commerce platforms,"best practices in risk management in e-commerce real estate", e-commerce and Real Estate" and management of real estate using e-commerce". A total of 250 articles were obtained which were systematically filtered thus remaining with 25 which were relevant to scope of the study.

In this paper, the researcher, with the help of a research assistant conducted a thorough literature review for a period of two months. In ensuring dependability and validity of the review process, the researcher applied the following criteria: clearly formulated research questions; set a clear inclusion and exclusion criteria; selected and accessed the required literature for the study. Content analysis was used in analyzing the data collected from empirical studies since it was qualitative. The information collected was then categorized into the two objectives of the study. It was further presented in form of tables

4. Findings

The purpose of this study was to investigate risk management in real estate property management systems. The study sought to achieve two specific objectives: to establish risks prevalent in adoption of electronic commerce in real estate transactions and to explore best practices in risk control inherent in electronic transactions in real estate sector. Through the use of secondary data, the following findings were obtained.

4.1. Risks Prevalent in Adoption of Electronic Commerce in Real Estate Transactions

The research conducted a detailed review of literature on the empirical evidence collected by other researchers on the risks prevalent in real estate property management systems. The findings were summarized and presented in Table 1 below.

Table 1. Findings on risks prevalent in real estate e-commerce.

Authors	Research topic	Key Risks Identified
Trautman (2017)	E-commerce and electronic payment system risks: Lessons from Paypal	Fraud in e-commerce transactions is one among the serious risks businesses have to contend with. Another risk is compliance to existing and new laws.
Chin and Liu (2004)	Risk management in real estate electronic transactions	Misleading information is a risk in the real estate e-commerce platform. Bad listings may find access to real estate websites. Properties not meeting expectations may be listed if website managers are not keen.
Pinguelo and Muller (2011)	Virtual Crimes, Real Damages: A Primer on Cybercrimes in The United States and Efforts to Combat Cybercriminals	Study identified the following risks: economic or foreign spying, malicious employees who pose a threat to the business, spamming, phishing, hacking of systems and email extraction programmes.
Hu and Henry (2011)	Too Complex to Depict? Innovation, "Pure Information", and the SEC Disclosure Paradigm, 90 TEX.	Risks identified by the study include: Laws of the home country; International laws due to geographical expansion; Money transfer laws; Money laundering laws; Terrorism financing laws.
Long (2007)	Long, Messages from the Front: Hard Earned Lessons on Information Security from the IP War	Risk identified was war on protection of intellectual property in cyberspace
Scott (2016)	Protecting Intellectual Property and Privacy in the Digital Age: The Use of National Cybersecurity Strategies to Mitigate Cyber Risk	Risks established by the study include: Cybercrime Cyberterrorism; Crime that is committed electronically, Security of the e-commerce infrastructure, Protection of intellectual property; Internet governance; Jurisdictional disputes.
Biener, Eling and Wirfs, (2015)	Insurability of Cyber Risk: An Empirical Analysis	Study established risks such as: Litigation due to violation of laws; Litigation due to violation of policies on privacy and disclosure of customer information; Fines resulting from violation of laws such as consumer protection legislation.
Tu and Meredith (2015)	Rethinking Virtual Currency Regulation in the Bitcoin Age	Risk identified by the study is overreliance on the internet If internet providers make any changes e-commerce platforms will be affected; If they develop policies restricting access then business will be adversely affected.

Source: Empirical research Findings.

4.2. Best Risk Control Practices in Real Estate E-Commerce

The study further sought to establish the best risk control practices in real estate e-commerce. Several papers on this topic were reviewed and a summary of the most relevant ones is provided in Table 2 below.

Table 2. Best risk control practices in real estate e-commerce.

Authors	Research topic	Main Risk control practices identified
Westland (2002)		Building trust among buyers and sellers. Use of arbitration to sort out issues between buyers and sellers. Adoption of insurance in case of any risks.
Lee and Clarke (1996)		Eliminate information asymmetry in real estate electronic transactions through: Proper information gathering. Use of local trusted agents to evaluate property before transaction is completed. Adopting some specific standards for property ratings and listing.
Chin and Liu (2004)	Risk management in real estate electronic transactions	Transfer of risk through adoption of insurance especially where the buyers and sellers are interested in a pure electronic transaction. Better website management through a knowledgeable website manager's effort to reject bad listings.
Gupta and Dupey (2016)	E-Commerce-Study of Privacy, Trust and Security from Consumer's Perspective	Enhancing security of user information through the adoption of privacy enhancing technologies (PETs). Enhancing the trust users have with the e-commerce platform through improvement of privacy and confidentiality, company reputation, payment methods offered by the company, ease of use and website design. Protection of e-commerce infrastructure from damage and vandalism.

Source: Empirical research Findings.

5. Recommendations

Real estate property management e-commerce systems just like other e-commerce platforms face a myriad number of threats. One such risk is breach of privacy through unauthorized access to user information. The firms operating real estate property management systems must ensure that they have in place privacy enhancing technologies in order to protect the privacy of user information. This will be one of the ways of improving users' trust in the real estate e-commerce systems.

It was evident from the findings that information asymmetry between buyers and sellers of properties is also a common risk that needs to be dealt with. It may be necessary for real estate property management systems to include the services of local trusted agents (who are internationally certified) to carry out evaluation of property before the buyers make decisions on payment.

Theft and fraud also featured prominently as major risks, especially in situations where payments for properties have to be made electronically. Some payment systems may lead to disclosure of user information thus increasing the chances of theft and fraud. It is important for real estate property management system owners to carefully evaluate payment options and identify the ones that have a high degree of privacy and partner with them. This will enhance user confidence and reduce incidents of theft and fraud.

Over-reliance on internet for real estate property management e-commerce systems to operate was also considered a major risk. It may be necessary for the firms involved in real estate property management e-commerce to put in place remedial measures on how to protect themselves from any changes that may be introduced by internet providers.

6. Key Contributions

The study has been able to shed more light on the risks that are faced by most real estate property management systems globally. It has provided an elaborate discussion of these risks as well as their sources.

The study has also been able to establish the risk management strategies that have been applied by a number of real estate property management systems to mitigate against the risks they face. This is a very important contribution towards assisting new and existing real estate property management system owners to understand how to handle risk.

7. Limitations of This Article

This was a literature-based study which examined studies that have been done in the past. Empirical evidence from past studies forms the foundation of the paper's findings. The accuracy of the findings, therefore, is limited to the empirical evidence from the papers reviewed.

The findings of the study are relevant to the various contexts in which they were conducted. They may not be directly applicable to other contexts.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Biener, C., Eling, M., & Wirfs, J. H. (2015). Insurability of Cyber Risk: An Empirical Analysis. *The Geneva Papers on Risk and Insurance—Issues and Practice, 40,* 131-158. https://doi.org/10.1057/gpp.2014.19

Chin, L., & Liu, J. (2004). Risk Management in Real Estate Electronic Transactions. *Journal of Real Estate Literature, 12,* 51-66.

https://doi.org/10.1080/10835547.2004.12090131

Evans, D. S. (2014, February 1). Rivals for Attention: How Competition for Scarce Time Drove the Web Revolution, What It Means for the Mobile Revolution, and the Future of Advertising. *Social Science Research Network.* https://doi.org/10.2139/ssrn.2391833

Gupta, M. P., & Dubey, A. (2016). E-Commerce-Study of Privacy, Trust and Security from Consumer's Perspective. *Transactions, 37,* 38.

Heller, F. A., & Krukoff, J. (1997). Staking a Claim on the Electronic Frontier: Real Estate Finds a Home Online. *Database, 20,* 51-59.

Hu, H., & Henry, T. C. (2011). Too Complex to Depict-Innovation, Pure Information, and the SEC Disclosure Paradigm. *Texas Law Review, 90,* 1601.

Lee, H. G., & Clark, T. H. (1996). Market Process Reengineering through Electronic Market Systems: Opportunities and Challenges. *Journal of Management Information Systems, 13,* 113-136. https://doi.org/10.1080/07421222.1996.11518136

Long, D. E. (2007). Messages from the Front: Hard Earned Lessons on Information Security from the IP Wars. *Michigan State International Law Revie, 16,* 71.

Muhanna, W. (2000). E-Commerce in the Real Estate Brokerage Industry. *Journal of Real Estate Practice and Education, 3,* 1-16. https://doi.org/10.1080/10835547.2000.12091570

Pinguelo, F. M., & Muller, B. W. (2011). Virtual Crimes, Real Damages: A Primer on Cybercrimes in the United States and Efforts to Combat Cybercriminals. *Virginia Journal of Law & Technology, 16,* 116.

Scott, B. (2016). *How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance?* (No. 2016-1). UNRISD Working Paper, United Nations Research Institute for Social Development (UNRISD).

Trautman, L. J. (2015). E-Commerce, Cyber, and Electronic Payment System Risks: Lessons from PayPal. *UC Davis School of Law—Business Law Journal, 16,* 261-307.

Trautman, L. J. (2017). *How Law Operates in a Wired Global Society: Cyber and E-Commerce Risk*. Prepared for the Korea Legislation Research Institute (KLRI). https://doi.org/10.2139/ssrn.3033776

Trautman, L. J., & Harrell, A. C. (2016). Bitcoin versus Regulated Payment Systems: What Gives. *Cardozo Law Review, 38,* 1041. https://doi.org/10.2139/ssrn.2730983

Tu, K. V., & Meredith, M. W. (2015). Rethinking Virtual Currency Regulation in the Bitcoin Age. *Washington Law Review, 90,* 271-347.

Ullah, F., Sepasgozar, S. M., & Wang, C. (2018). A Systematic Review of Smart Real Estate Technology: Drivers of, and Barriers to, the Use of Digital Disruptive Technologies and Online Platforms. *Sustainability, 10,* Article No. 3142. https://doi.org/10.3390/su10093142

Westland, J. C. (2002). Transaction Risk in Electronic Commerce. *Decision Support Systems, 33,* 87-103. https://doi.org/10.1016/S0167-9236(02)00010-6