

Land Value Information System as a Solution for the Shortage of Property Transaction Evidence in Sri Lanka: Property Valuers' Perception

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Abstract

In developing markets, obtaining comparable evidence for real estate valuations is often challenging. Land Value Information Systems that aim to gather, store, handle, retrieve, and perform land-related data for lawful, organizational, and institutional decision-making processes, have been used in developed countries to address this issue. However, Sri Lanka lacks a comprehensive land value information system. Thus, this study aimed to explore how property valuers in Sri Lanka perceive these types of systems as a potential solution for the lack of property transaction data. Interviews were conducted with 30 real estate valuers, revealing a positive attitude towards adopting the system. The advantages of such systems were aligned with time saving, accessibility to up-to-date data, convenience, etc., while concerns included disrupting the valuation industry's monopoly and information security challenges. A model was developed to identify factors contributing to a successful system, where technological factors were ranked high as most impactful for the effectiveness of a land value information system. While technological and organisational factors were deemed achievable during implementation, the study suggests additional efforts, such as establishing a help desk, to address people-related factors.

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Introduction

Data plays a crucial role in the contemporary economy (Oluwunmi et al., 2019). When it comes to the real estate valuation, comparable evidence is at the heart of virtually all valuations, yet in developing markets, data on comparable evidence is often more difficult to obtain (RICS, 2019). A comparable is a piece of information that is used as proof during the valuation process to support the valuation of another, comparable item. A variety of pertinent data is used by the valuer as comparable evidence to back up a valuation (Crosby et al., 2018; RICS, 2019). However, real estate market uncertainty is frequently caused by a lack of comparable evidence. Due to these uncertainties, accuracy of the valuation gets badly affected and clients get disappointed about the inconsistencies in valuation opinions (RICS, 2019).

As the valuation process is also becoming increasingly regulated worldwide mitigating the said inconsistencies, the adoption of technology in the valuation process has increased drastically over the past few years, introducing various tech-solutions such as Automated Valuation Models. Further, information systems have been identified as solutions and adopted in developed countries for sharing data, developing databases as well as enabling access to up-to-date property transaction data. Information systems consist of interconnected components for data collection, storage, analysis, and provision of information, knowledge, digital goods, etc. and also facilitate this process (Zwass, 2020; Listglobally, 2018).

Efficient property valuation systems require access to data encompassing legal, geometric, physical, locational, and environmental property aspects, along with economic indices (Prathapasinghe & Ariyawansa, 2016). Valuation surveys, complying with International Valuation Standards and Sri Lanka Valuation Standards, outline the structure and methodologies employed in the valuation process (Monetary Board Central Bank of Sri Lanka, 2020; IVSC, 2022). Being a developing country, the valuers in Sri Lanka also face difficulties in accessing reliable market data. While global efforts have focused on enhancing transparency and integrity in real estate, the Sri Lankan context has shown limited attention to transparency in the industry (Prathapasinghe, 2018). Consequently, finding reliable comparables becomes challenging, primarily due to the absence of a central database for local real estate data and information. Thus, this study aims to explore valuers' perceptions of the Land Value Information System (LVIS) as a potential solution for the scarcity of property transaction evidence in Sri Lanka.

The Objective of the Study

This study aims to explore the perceptions of valuers regarding the LVIS and its potential as a solution for the shortage of property transaction evidence in Sri Lanka. To achieve this, following specific objectives have been established.

- To identify the commonly used sources of real estate transaction data by property valuers.
- To investigate the advantages and disadvantages associated with the Land Value Information System.
- To explore the key determinants of a successful Land Value Information System implementation.

Literature Review

Property valuation is a systematic process used to determine the worth of land and real estate assets (RICS, 2019). Valuations play a crucial role in the property market, ensuring accurate assessments of property worth. Valuers utilize a range of techniques and professional judgment to estimate property values, often aided by technology. The accuracy and professionalism of valuations are essential to maintain public confidence in the valuation system and uphold the valuer's reputation. Finding reliable comparable data for property valuations can be challenging. Valuers rely on various sources, including market evidence from recent comparable transactions, direct transactional evidence, publicly available information, published databases, and asking prices. Careful interpretation and expert judgment are necessary when utilizing these sources.

Sources of Comparable Evidence

As revealed by RICS (2019), the most valuable evidence typically comes from recent comparable market transactions, which should be current, relevant, and thorough. However, complete information on sales and rentals is often not publicly available, requiring valuers to gather as much information as possible and verify its accuracy. On the other hand, publicly available information, such as data released by the government or real estate agencies, can be useful but may require further research and analysis. Published databases, created by larger real estate advisory firms or research institutions, can offer an overview of values and market dynamics. However, the aggregation of data in these databases may overlook regional variations and unique property characteristics. Asking prices can provide some insight into market conditions and trends but should be used with caution, as they may differ significantly from the actual transaction prices. Historic evidence, although dated, can still be helpful when combined with knowledge of market movements. Real estate market indexes, based on compiled data regarding market prices or transactions, exist in many developed markets. These indexes can serve as a general indicator

of market trends at various levels, but valuers need to consider the reliability and sources of the data.

Land Value Information System

LVIS are comprehensive tools used for legal, administrative, and economic decision-making in land management (Tuladhar, 2003). LVIS aim to gather, store, handle, retrieve, and perform land-related data for lawful, organizational, and institutional decision-making processes (Robinson, 2003). These systems provide a foundation for integrating land-related data and support activities such as land transactions, property valuation, taxation, and land market analysis (Tuladhar, 2003). The system's technological resources, organizational processes, institutional structures, data platforms, and policies for information sharing and openness are integral components. It incorporates hardware and software, organizational processes, and a platform or resource base for storing and analysing land-related data. Additionally, it includes policies that reflect the nation's land policy and guidelines for information sharing (Addis, 1998). The consistent geographically referenced system in an LVIS facilitates the integration of data with other land-related information, enabling quick and reliable land transactions, property valuation, taxation, and land market analysis.

Components of LVIS

LVIS are composed of several essential components that enable effective land administration and management (Quintero, 2004; Dale, 1999): i) **Property data** which include physical descriptions, identification of rights, current real estate market information, and other geographic characteristics that affect value assessment, ii) **Cadastral data**, such as accurate parcel boundary lines, size, legal and descriptive information, and parcel numbers, is crucial for proper data gathering and connection to other information in databases (McLaughlin, 1987) and iii) **Sales and other market data**: Gathering and maintaining relevant information about the real estate market at the time of sale is essential. This includes information about the status and circumstances necessary for the market to function, as well as the characteristics of properties being traded. Land prices can vary significantly over time and by location, so sales prices should be adjusted to reflect these changes. Regularly collecting market data on land values and other relevant information ensures the system's values and land-related data remain current.

Advantageous and Disadvantageous of LVIS

LVIS provides quick access to information and the ability to tailor outputs to individual or group needs (Furmston, 1986). It allows for the interrelation of different types of land information and ensures data accuracy and integrity. The system also reduces staff time and accelerates service and product delivery. By fostering connections with new organizations, LVIS promotes advancement in data quality assurance and offers long-term benefits (Groot, 1997). It improves public access to assessed land values, aiding informed decision-making and property tax payments (Wyatt, 1996). Furthermore, a land value map generated through LVIS can help identify geographic variations in property values. Government organizations, ministries, and commercial companies in the research region can benefit from the LVIS by requesting and presenting relevant value data.

On the other hand, there are general disadvantages associated with LVIS. Implementing new solutions incurs costs and requires regulatory compliance, leading to temporary service interruptions and the need for personnel training (Kimberlee, 2019). Strict regulations must be followed to avoid fines and legal consequences. Cloud-based technologies, although enabling workforce mobilization and remote work, also pose security risks. Cybercriminals can exploit vulnerabilities and engage in activities such as hacking, hijacking, and theft of client or corporate

data. Spyware can compromise private information, leading to unauthorized transactions and identity theft (Fredrick, 2022).

Factors Affecting the Successfulness of LVIS

Literature reveals various factors that affect to the success of a Land Value Information System. Table 01 summarises the reviewed literature.

Table 01: Factors Affecting the Successfulness of LVIS

Main Factor	Sub-factors	Literature
Technological factors	System quality	According to Sedon (1997), system quality is concerned with whether the system has defects, the consistency of the user interface, convenience of use, the quality of documentation, and occasionally, the quality and maintainability of program code. System quality is determined by factors such as user friendly, easy to use and easy accessibility (DeLone, 2003).
	Information quality	Information quality relates to outputs of an information system, which might be reports or online displays and describe information quality in four dimensions: precise information, sufficient information, up-to date information and affordable fee (DeLone, 2003).
	Service quality	The service quality has been defined as “the degree of discrepancy between users’ normative expectations for service and their perceptions of service performance in solving problems, feel safe when using, fulfil requirements” (DeLone, 2003).
Organizational factors	Top management support	Top management support is defined as “the degree to which top management understands the importance of the information system function and are personally involved in information system activities” (Thawatchai, 2005).
	User training	User training means the, training specified in order to be provided by employer to employees to enable a reasonably skilled employee of the client to operate and use the products and to use information systems effectively in practice (Philipp, 2014).
People factors	Computer self-efficacy	Self-efficacy is defined as individuals' beliefs about their ability to successfully achieve goals and manage environments (Chen, 2017). Hence, computer self-efficacy refers to individuals' beliefs about their ability to successfully use computers to complete tasks (Compeau, 1995).
	User experience	The emotion that people get when utilising a product, application, system, or service is referred to as user experience (Philipp, 2014).

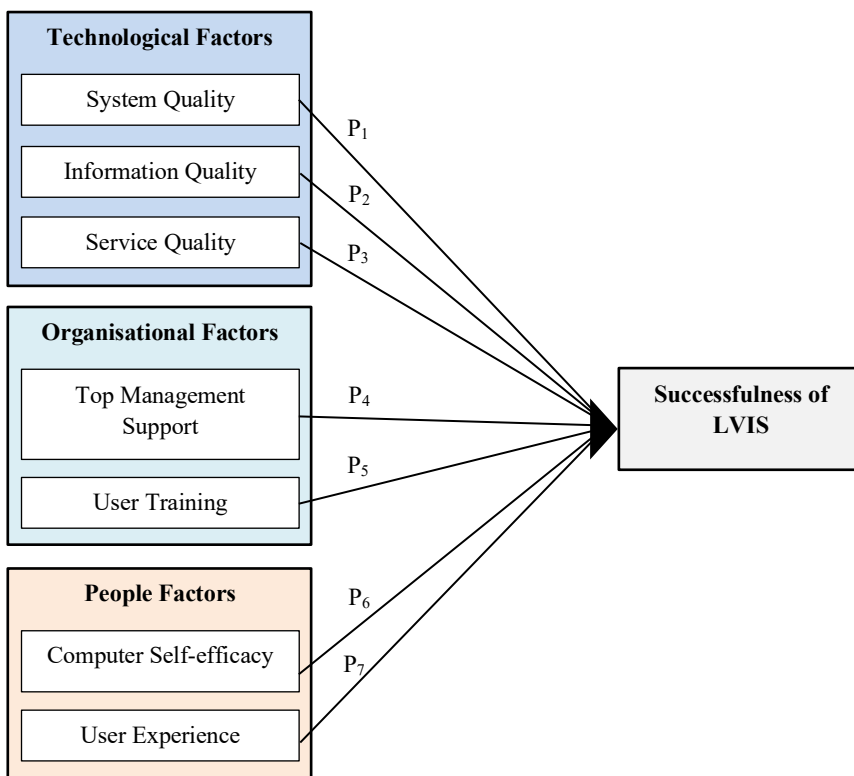
Source: Compiled using Literature (2022)

Methods

Study Design

The factors identified in the reviewing literature are used to develop the conceptual model shown in Figure 01. The dependent variable is the successfulness of LVIS and the independent variables are the seven factors identified under three categories; technology, organisation and people.

Figure 01: Conceptual Framework



Source: Authors (2022)

Propositions

Table 02: Propositions of the Study

Proposition	Statement
P ₁	System quality affects the successfulness of a LVIS
P ₂	Information quality affects the successfulness of a LVIS
P ₃	Service quality affects the successfulness of a LVIS
P ₄	Top management Support affects the successfulness of a LVIS
P ₅	User training the successfulness of a LVIS
P ₆	Computer self-efficacy affects the successfulness of a LVIS
P ₇	User experience affects the successfulness of a LVIS

Source: Author (2022)

This research adopts a pragmatism philosophy and employs both inductive and deductive approaches, using both quantitative and qualitative methods. The population of interest consists of all real estate valuers in Sri Lanka who hold memberships in the Institute of Valuers of Sri Lanka and Royal Institution of Chartered Valuation Surveyors, encompassing individuals at

various membership levels. A sample of 30 valuers/ valuation surveyors was selected for data collection. Both primary and secondary data collection methods were utilized in this study. Primary data was obtained through interviews and surveys using a semi-structured guides. Secondary data were sourced from journal articles, conference reports, websites, and research reports authored by experts familiar with the real estate sector. Qualitative data analysis techniques, specifically descriptive methods such as mean value comparison analysis, were employed to analyse the primary data whereas the analysis of secondary data primarily employed descriptive data analysis techniques.

Results and Discussion

Commonly used sources of real estate transaction data by property valuers

The availability of reliable and comparable data in real estate markets can often be challenging for valuers. When direct transactional evidence is not readily accessible, valuers need to rely on additional sources of data and employ careful interpretation and expert judgment. Understanding the advantages and disadvantages of different data sources is crucial in this regard. In the survey conducted among valuers, it was found that the majority of respondents utilized land registry sources and historic evidence to provide valuation opinions. This was particularly common among valuers working for the Government Valuation Department, as they had easier access to government information sources compared to private valuers. Local authority information was also identified as a rich source of data for valuers. Valuers also made use of asking prices available on listing websites, land sale information, and advertisements. However, the use of direct transactional evidence, published databases, and land value indices was less prevalent, primarily due to their rarity in the market and the unavailability of published databases in Sri Lanka. Thus, the findings show that some key sources stated by RICS (2019) are not frequently being used in Sri Lanka.

Advantages and disadvantages associated with the Land Value Information System

The advantages of implementing a Land Value Information System (LVIS) were identified through the survey. One significant advantage is the time saved in finding comparables. In today's society, time is valuable, and the use of technology can automate tasks that would otherwise require a significant amount of time. Valuers in Sri Lanka currently spend considerable time searching for transaction evidence from various sources. Implementing an information system would enable valuers to find comparables more efficiently, as highlighted by respondents in the survey. Easy accessibility to comparables is another advantage of an LVIS. Having data readily available and accessible is crucial for organizations, and valuers expressed the need for a system that allows them to access comparables without complex approval processes. By providing limited access through user accounts, a computerized system can address this issue effectively. The availability of updated information is a key advantage of an LVIS. Valuers in Sri Lanka face the common challenge of a lack of updated comparables, which leads them to employ various approaches to gather information, consuming significant time and effort. A proposed LVIS could address this issue by ensuring that the system is regularly updated with the latest transaction data. Information mobility, the ability to access data from anywhere and on any device, was also identified as a benefit. This feature would allow valuers to access data in the field using mobile devices, enhancing their efficiency and effectiveness. These findings are supported by several previous scholars such as Groot (1997), Wyatt (1996), Kimberlee (2019) and Fredrick (2022).

However, there are also some disadvantages to consider. One concern is the potential impact on the valuation industry itself. If the proposed system were made available to the general public, it might reduce the demand for valuers' services, as individuals could access property data easily on their own. To maintain the integrity of the valuation industry, some valuers suggested restricting access to the system only to professionals. Another potential disadvantage is the

subscription-based payment model for valuers to use the system. This could create income disparities among valuers, with those who can afford the subscription gaining an advantage over those who cannot. Additionally, the developers of the LVIS would need to provide technical knowledge sessions to valuers, which would require time, effort, and cost. There is also the challenge of capturing and feeding data into the system, which may require significant investment and resources. These findings are supported by several previous scholars such as Kimberlee (2019) and Fredrick (2022).

Key determinants of a successful Land Value Information System implementation

Using means comparison analysis, the researcher analysed the primary data collected from the sample. Five-point Likert scale was used. Table 03 summarises the findings.

Table 03: Mean comparison for determinants of successful land value information system

Factor		Mean Value
Technological factors		3.929
Information quality	3.914	
System quality	3.943	
Service quality	3.931	
Organizational factors		3.881
Top management support	3.906	
User training	3.856	
People factors		
User experience	3.877	3.592
Computer self-efficacy	3.307	

Source: Survey Data (2022)

The analysis categorized the data into three main categories: technological factors, organizational factors, and people factors. Mean values revealed that technological factors have a high impact on the successfulness of LVIS. This agrees with the findings of the studies done by RICS (2019), DeLone (2003) and Thawatchai (2005). Since all the mean values are over 2.5, the results of the analysis indicate that all the identified technological, organisational, and people factors should be given careful attention to ensure the success of the land value information system implementation. Therefore, developers of the system should take into account the research findings pertaining to each variable in order to optimize the performance of the land value information system.

Conclusion

The primary aim of this study was to investigate property valuers' perception of the land value information system as a potential solution for the lack of property transaction data sources in Sri Lanka. The research design employed qualitative approaches, with data collected through interviews from 30 real estate valuers in Sri Lanka. The majority of participants in the study were valuers affiliated with the Government Valuation Department in Sri Lanka, who are members of the Institute of Valuers of Sri Lanka (IVSL). The study found that the land value information system, categorized as a published database, is currently unavailable in Sri Lanka. However, the responses from valuers indicated that the proposed system has the potential to effectively address the lack of property transaction comparables. Advantages of the system aligned with the benefits of information and communication technology, while disadvantages included the potential disruption of the valuation industry's monopoly and typical challenges associated with information systems. Overall, valuers displayed a positive attitude toward adopting the system due to its advantages outweighing the disadvantages. The researcher identified the knowledge gap in software-related expertise among developers and highlighted critical attributes necessary for the successful development of the land value information system, particularly the requested

map interface. A model was also conceptualized to identify the determinants of a successful land value information system, consisting of technological, organizational, and people factors. While technological and organizational factors were deemed achievable during implementation, people factors may require additional efforts, and establishing a help desk was suggested to address user issues. Overall, the findings provide valuable insights into the perception and potential implementation of the land value information system in Sri Lanka.

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