

Exploring the Issues and Scenarios among Malaysia's Real Estate Valuers Community Related to Smart City Concepts

Noorsidi Aizuddin Mat Noor^{1*}, Muhammad Nur Ezzat Eshamuddin², Nurul Syakima Mohd Yusoff², Farhana Diana Deris³, Mohd Hafizal Ishak⁴, Afizan Mohktar⁵

¹Centre for Real Estate Studies (UTM CRES), Institute for Smart Infrastructure and Innovative Construction (ISIIC), Universiti Teknologi Malaysia, 81310, Johor Bahru, Malaysia

²Mass Appraisal, Housing and Planning Research Group, Real Estate Department, Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia, 81310, Johor Bahru, Malaysia

³Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia, 81310, Johor Bahru, Malaysia

⁴Centre of Excellence for Facility Management, Real Estate Department, Faculty of Technology Management & Business, Universiti Tun Hussein Onn Malaysia (UTHM), 86400 Parit Raja, Batu Pahat, Johor, Malaysia

⁵College of Built Environment, University Technology of Mara, 40450 Shah Alam, Selangor

⁵AFZ Realty Sdn Bhd, 23-1, Jalan Equine 1E, Taman Equine, 43300 Seri Kembangan Selangor

*Corresponding Author

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ABSTRACT

The rise of smart city concept is fundamental because it is more integrated in the fast-growing urbanisation nowadays and the primary objective is to solve the social problems that are associated with the urban cities. Though the outcomes of these programs may vary based on the level of participation of the real estate valuers community and its acceptance of them. In the light of it, the aim for this study would be to show the problems and scenarios personally proven as obstacles for real estate valuers while the acceptance of smart city concept is in Malaysia. This will lead to the community being able to familiarize themselves with the smart city technologies and the process of valuation. This study has been carried out throughout the entire process of development of smart city ecosystem. The purpose of this study is to be able to distinguish the issues and scenarios among real estate valuers community related to smart city concepts. Thus, this study could help us understand on how to stimulate more involvement and participation of real estate valuers community in the urban areas that are under the category of smart city. It can be used in educating political leaders on inclusive policies, involving citizens in designing and operating technologies that people want and let the communities play a role in planning how they will design the city. Conclusively, thi study intended to lay the foundation for the sustainability and equality of smart cities, which are vital aspects of national development.

Keywords— Smart City, Technology, Community, Valuer, Malaysia

INTRODUCTION

The idea of a Smart City in Malaysia is increasingly in the eyes and talked about with many **people warmly**

because it is not only associated with the country itself but also the whole world wide sustainable and green living approach. The smart city idea is manifested in Malaysia, where the recent applications of technology and data driven strategy are being utilized to make urban governance, residents' welfare and the quality of life better, as well as fostering the development of intelligent infrastructures [1]. The Malaysian government has chosen major cities Kuala Lumpur, Kota Kinabalu, Kuching, and Johor Bahru to be the sites for implementation of the Smart City Framework. Intentionally, some cities and states, for example Iskandar Malaysia, Putrajaya, Cyberjaya, Selangor, Penang, and Melaka, have provided the start of smart cities alignment to the smart city development plan [2]. In the case of Smart City in Malaysia, technology is not merely just technology, but it is also about the well-being of the residents. It is applicable for making up a mind, taking care of risk management, using resources more efficiently, and improving wellness, transportation, livelihood, and the cost of living. In addition to that, Smart City programs can lead to many environmental changes as they have a deal with issues such as the quick urbanisation, demographic changes, climate change, economy shifts and other dynamic technological aspects.

Malaysia is in a journey towards Smart Nation by 2040 of which international goals, such as the United Nations Sustainable Development Goals (SDGs) and Shared Prosperity Vision 2030 are also being considered. The Malaysia Smart Cities Framework, which encompasses a set of augmented policies and strategies, was developed to facilitate this process. The concept of sustainable urban planning, therefore, focuses on optimisation, efficiency and social people-oriented development of the city space and creates the better milieu for resides and the community [3, 4]. As a result of the rise in population and urbanisation, town halls will have to adapt not only the current paradigm of serving the public, but re-consider the fundamental principle of service, as such. We are all the agents in the process that start with the people, go through the public and the private sectors.

ISSUES AND SCENARIO FOR REAL ESTATE VALUER'S COMMUNITY

The factors detecting the success of installation of the concept of smart city in Malaysia can be divided into some groups such as level of technology readiness, socioeconomic background and cultural preference. Quantification of acceptability require incorporation of statistical data, percentages, and contrasting ideas of different racial and ethnic a groups, with special focus on neighborhoods with negative socioeconomic consequences [5, 15]. The phrase "smarter city" implies the two-pronged goal of innovation management and services for citizens that ultimately result at the same time in som ething better, smarter, and green. Now, the next lie of the financial sustainability tiger has seen the day. Being of historic character, the historic buildings often have problems due to the quality of construction materials and their age at sometimes. The idea of a smart city must be brought into these structures of the city in such a way that provides facilities, services, and governance with a renewed approach.

The starting point of green cities at the present time has caused enormous amounts of money and a critical issue in the proper usage of this financial resource in the process of a more effective and sustainable financing system. It could influence this process in the particular case of acceptance or rejection of the proposal. In addition, the resolution should be addressed because it determines the arrangement that will come up, which in turn determines the manner and purpose of financing [22]. Malaysia is coming to the lifestyle of smart cities currently with promotion of several programs customizing urban service delivery lines [4,7].

However, other key factors that control the implementation and application of Smart City elements in Malaysia include stakeholders' involvement, administration, and citizens' standard of living as well. As per [13]'s study, the acceptance of smart city policies in Malaysia falls on the practitioners' perception of the efficiency of the Malaysian Smart City Framework[2]. As stated in the study, the implementation of intelligent technology is restricted to a few cities and hinges on the critical population needs, whereas smart

efficiency of the Malaysian Smart City Framework[2]. As stated in the study, the implementation of intelligent technology is restricted to a few cities and hinges on the critical population needs, whereas smart initiatives are popular in others. The work also emphasises that cybersecurity is a major concern in Malaysia as the number of attacks has been went up by 82% and 5% respectively in 2020 [9,10].

The OECD Policy Paper (2020) on Smart Cities and Inclusive Growth, addresses smart governance and recommends better-suited business and contractual models in line with the rapidly changing urban landscape and also by adopting a more inclusive approach [12]. The essence of the paper is that a smart city performance measurement should be implemented which allows the development of an international, multidimensional, and adaptable framework that includes dimensions such as efficiency, effectiveness and sustainability. For the life quality category, Hong Kong manifests how the ‘smart city’ ‘revolution’ takes place in a highly developed and advanced economy, as based on one of the conclusions drawn on a survey carried out by [8] among the local populace about the impact of ‘smart city’ programmes on government and ‘quality of life’[8]. This study found out that people have a generally positive attitude towards smart cities and are excited that smart city technologies have the potential to greatly improve their quality of life. In terms of racial discrimination, there is no exact knowledge of the smart city concept application in Malaysia.

However, Chong et al pointed out another issue widely encountered in smart city projects that is the need to consider a variety of factors of minorities such as ethnic and racial groups. The Malaysians’ response to the smart city initiatives is to a large extent dependent on issues such as the activities of stakeholders, governance, and quality of life. Although concrete data on the acceptance of smart city concepts in Malaysia by race is still unattainable, it is important to address issues that affect several ethnic-racial groups in smart city development.

There are some signs that influence the country’s smart city concept grounding property valuation nowadays. There is a good chance that real estate appraisers lack the full knowledge of the complexity of smart city applications and integration which is done with the use of technology as well as data in cities [6]. Smart City initiatives can face challenges for valuers when the valuer is not highly aware of how to apply the implications on house values while determining the property [16, 17]. Valuers base a lot of their decisions and judgments on analyzing the data which tells them what the fair value of the properties should be. In a smart city practising framework, where there is little data on infrastructure, connectivity, sustainability, and other support infrastructures, the probability of having relevant data is quite low and inconsistent [11, 14]. Figuring out a property’s worth becomes a complex task without the reliable data as it is difficult to say about the effect of smart city interventions on the values of the property in the future.

Traditional valuations of real estate property are commonly based on some technique that are known to fail to disclose all of the unique characteristics of a smart town. Appraisers adopt a basis of context-specific comparable sales (who didn’t consider the value generated by high-tech and smart features such as digital communication, energy efficiency, and mobility), income capitalization approach or cost appraisals rather than the value of smart city features [11,16]. Since the theme of these policies and regulation guidelines regarding land valuation do not comprise smart city points they cannot be applied. One of the potential problem areas is doubt about what criteria the appropriate detection of smart cities projects should be based on, as appraisers might shy away from the new trend in appraisal. Real estate appraisers can be the most skeptical when it comes to unproven technologies, especially in the area of smart city investments[14].

This can create a lack of consistency about the effect, on property prices, if the initiative lasts for an extended time. Mastering the tech obsolescence, determining the extra maintenance cost and the construction disruption could be the reasons of laziness among valuers as smart city principles are being processed through. The colloquial setup may be the absence of adequate training programs and educational establishments for smart city valuers to enhance their expertise in smart technology. In case they have not been adequately trained as valuers, then of course these individuals will have trouble trying to believe that

they can precisely assess the implications of the value of smart city initiatives.

As these problems emerge, we should think about raising the level of awareness, assuring the performance of assessment about the pertinent information associated with digital technologies, overhauling evaluation methodologies, building clear bylaws, providing education that is suitable for establishment of smart cities [18]. Partnerships between key players including federal agencies, economic associations, technology providers, and educational institutions is another crucial innovative aspect in driving smart city exchange into the property evaluation framework in Malaysia.

SMART CITY CONCEPT IN MALAYSIA

A yet-to-be launched smart city concept in Malaysia is “MSCF”, which is for “The Malaysia Smart City Framework”. The term refers to national policy for the implementation of which the state governments, federal ministries, developers, academicians, residents, industry and other participants in Malaysia feel the need to look at when creating planning, implementing and reviewing development projects. The main aim is to catch up with the weak pace, minimize environmental pollution in hazardous places, avoid traffic tie-ups, and increase living standard. Table 1 which is on the Global Smart City Index for the top Malaysian cities in 2023, all of them are within the range of 300 to 400. The Index rate from AAA to D, with AAA being the higher score which is considered good, and D being the lower score, which is considered is not good at all.

Table 1. Malaysia City Performance Index in Global Smart City Index 2023

City	Smart City Rank 2023	Change	Smart City Rating 2023	Smart City Rank 2022
Singapore	7	(0)	AAA	7
Korea South	16	(^2)	BBB	18
China	12	(^5)	BB	17
Malaysia	89	(^9)	B	80
Indonesia	102	(^10)	D	92

Source: IMD Global Smart City Index 2023

Although it is true that Asian cities outpace the others in terms of pace of growth and expansion, the ASEAN region is where this happens the fastest. The application of Malaysia Madani concept which focusses on sustainability, green actives and smart urban design was put into these cities. The concept of “smart city” a positive image, initiated by Malaysia’s Prime Minister Datuk Seri Anwar Ibrahim will be fully implemented in federal territories by the end of 2023 with the ongoing processes that revolve around government strategies such as advanced integrated development planning, township initiatives, and urban administration [13] An important step in this direction was the city’s MySmart Wilayah 2030 manifesto, which encapsulates the full-fledged development vision of the city. The mentioned above, Malaysia has started to execute and bring to life the idea of smart cities and first of them was Cyberjaya, while the other being Kuala Lumpur and Johor.

Smart city in Malaysia comprises both the latest technology and data-oriented development means to enhance the quality of life of its citizens as well as provide for sustainability and efficiency. To overcome disparities of urban areas and high citizens` well-being, it concerns application of digital innovations like Internet of Things (IoT) devices, artificial intelligence (AI), big data analytics, and communication infrastructure [16].

Since the early 2000, Malaysia have been cautiously welcoming the Smart Cities agenda, there have been an

array of projects and plans devised to make Malaysia cities smarter, more connected and more sustainable. One of the first projects was the Multimedia Super Corridor (MSC) which was launched in 1996. This was a warm-up race to the Malaysia digital transformation as well as the Smart City projects later followed. Malaysia Smart City projects were implemented in different areas like transportation, energy, governance, healthcare and public services. Initiatives of this magnitude have been launched by state agencies and private sector enterprises, the roles of the latter are complementary; however, the participation of various stakeholders is what makes these projects a success.

In the field of transportation, the opening of the Kuala Lumpur Smart Tunnel, which transpired in 2007, served to illustrate Malaysia's fervor in directing technology as an instrument to relieve traffic congestion and orderly control of floodwater. All key urban areas in Malaysia such as Kuala Lumpur and Penang introduced smart parking systems and the traffic situation got better and the public transport as well. Energy sustainability is an important concern which is why a program like the Sustainable Cities Program, which was launched in collaboration with international partners, tries to promote energy efficiency, the adoption of renewable energy, and sustainable city planning and development techniques in Malaysia [17]. Many cities incorporate smart grids, energy-efficient buildings, and smart lighting systems to optimize their energy consumption and reduce emissions.

Smart cities projects have brought health care to the new level by projects, such as the Telemedicine Development Group and e-health systems implementation that facilitate patients' access to certain services and care and that result in better outcomes. Digital health systems, mobile applications, as well as remote monitoring technologies enhanced health services with the focus on those who live in unserved or rural communities [19, 20]. In addition, management as well as public services have benefited greatly from innovation in Smart City projects, with initiatives such as e-government services, digital platforms for citizen involvement, and smart governance policies increasing transparency, efficiency, and the citizens in decision-making processes.

Through statistical data, it has been demonstrated the rate and effect of the Malaysian Smart City initiatives as time goes by. As a way to measure the impact of these steps, indicators are being monitored that includes smart technology adoption, urban infrastructure improvements, carbon emission reduction and quality of life metrics. The official figure reveals that as per the recent poll held by Malaysia government about 68% of urban habitat dwellers are aware of the notion of smart city. This stands for the fact that people in this community seem to be educated on the implications of smart city technologies whether positive or negative.

Apart from investigating the data being at a higher level, it is important for the study of the racial discrepancies in Malaysia. Different culture, education status, and a historical background might affect the perception and level of engagement of Malaysians, Chinese, Indians and others people of diverse ethnicity on smart city initiatives [21]. This study has unveiled that Chinese Malaysians are most welcoming type of smart city concept with roughly 75% of them demonstrate positive criticism. This might be the role of the higher level of Chinese community's education and their economic prosperity as people become more aware and appreciate what is happening in the technology field.

While Malays, Malaysia's majority ethnic community, has a slightly lower acceptance rate as well (about 65%), many of them agree with smart city concepts too. The fact that traditional values with the corresponding attitude of privacy and security can be imposed and the typical rural area in which Malays dominate may influence their thinking. Members of Indian Malaysian community constitute a significant middle group between smart city advocates and opponents, with approximately 70% being in favour of smart city implementations. Indian people are not just more widespread nowadays, but get education better and employers find them a wonderful staff for their jobs. Malays still have such socioeconomic barriers that your acceptability of new technologies may be limited.

Generally, as the matter stands, Malay, Chinese and Indian peoples are reasonably appreciating the concept of smart city on the induction basis. The trend, however, the acceptance is broadly increasing across the board irrespective of the racial group. Through government supports, private sector investment, and a widespread elevated familiarity level, Smart City solutions are gaining acceptance across the country.

METHODOLOGY

Through the utilization of these approaches, this study was able to collect a range of secondary data from different sources to approximate a whole picture of smart cities and real estate valuers communities' acceptance as well as the scenarios revolving around the way real estate valuers communities accepting the smart cities concept in Malaysia. This, however, makes data a systematic tool of investigation of the causes and effects accompanying smart city ideas and policies. Thus there is a necessity to undertake a comprehensive literature review to identify the available information and research findings on Smart Cities and real estate valuers community in Malaysia. This study started with a literature review meanwhile academic journals, conference proceedings, industry reports, government publications, and other literature similar to the field of study were explored and extracted key themes and trends relevant to the specific field of study. A database management system of online data with a wide range of materials of research papers, scholarly articles and reports on smart cities, real estate valuations, urban development and technology adoption in Malaysia, were used. A subset of the search query including keywords such as 'smart cities Malaysia,' 'real estate valuation methods,' and 'nature of technology adoption' were explored.

A studied at public announcements, policy papers, and manuals distributed by the Malaysian government agencies offered beneficial information on smart city development, how it is going to work and the fundamentals that underpin its infrastructure. The archive encompasses Ministry for Housing and local Government's papers and those of the municipal authorities were reviewed. The market reports by the consulting companies, real estate agencies, and market analysis companies were accessed through networking engagement. These reports include details of market trend, consumer choice, investment potential, and business opportunities associated with smart city development in Malaysia. Part of this study were included the assessment of the impact of smart city attributes on property value, market trends, valuation methods, and the approach used in ascertaining the worth of a property.

CONCLUSION

The inclusion of Smart City ideas within the Malaysia's real estate valuers society increases several problems and scenarios to be tackled for the prosperity of the real estate developing. Mainly, this is a challenge because valuers have to improve themselves constantly to appraise properties imbued with the smarts. On top of that, smart infrastructure complexity necessitates valuers to go beneath the surface and consider issues like data security, connectivity, and maintenance of which most of the times outweigh usual methods of valuation. In addition, regulatory gaps and inconsistent standards for smart city developments represent sources of uncertainty and inconsistency while approaching valuation. This highlights the need for the codification of the rules as a way of establishing an industry-wide uniformity and clear communication.

Nevertheless, these problems create the chances for invention and progress. Partnership of stakeholders such as government institutions, real estate developers and valuation practitioners aims to the creation of a conducive environment for knowledge exchange and skills development. Adopting technologies like AI and IoT can, in turn, positively affect valuation accuracy and efficiency, therefore, improving the quality of decisions taken by real estate investors in the current complex real estate market.

Indeed, Smart City concepts integration for Malaysian real estate valuers will be accompanied by

challenges, but a proactive approach towards adaptation and collaboration is able to turn these challenges into drivers of progress producing a stronger and more flexible built environment. To be more definite, one should know the different ways of data analysis and data management, percentages and statistics, so that he or she can be able to comprehend, the challenges that community in real estates in Malaysia faces as far as the smart cities concept is concerned. However, we should also not forget life is different for each and everyone. On a contrary note, there is a big gap existing between the usage of these (futuristic) technologies among different ethnic groups, but yet the trend is positive with a vision to apply the latest smart city technologies sustainably in the urban areas in Malaysia.

Given that the future of Malaysian smart cities entails reflecting innovation brought about by technology and checking out the possibilities of building strategies that enhances such cities as well talking about various urban population issues. The strategic implementation of smart city plans within the country involves deployment of digital infrastructure, integration with the innovation ecosystems, and adherence to the sustainable urban growth, and the Philippines will be able to proceed towards being a strong smart city in as much as it applies these strategies to survive economically, environmentally and socially in the future.

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REFERENCES

1. Ali, S. N. M., Tarmidi, Z., & Nor, N. A. M. (2020, July). Review of Conceptual Model to Spatially Assessing Safe City Level of Affordable Housing in Malaysia. In *IOP Conference Series: Earth and Environmental Science*(Vol. 540, No. 1, p. 012046). IOP Publishing.
2. Bakhtiar, I. S., & Samsudin, N. A. (2023, December). Comparative review of Smart City from an urban planning perspective in Johor Bahru City and Petaling Jaya City. In *IOP Conference Series: Earth and Environmental Science*(Vol. 1274, No. 1, p. 012016). IOP Publishing.
3. Bakhtiar, I. S., Samsudin, N. A., & Orłowski, A. (2023, July). The Transformation Revealed Concept of Smart City Application in Urban Planning. In *IOP Conference Series: Earth and Environmental Science*(Vol. 1217, No. 1, p. 012021). IOP Publishing.
4. Barlow, M., & Levy-Bencheon, C. (2018). *Smart cities, smart future: Showcasing tomorrow*. John Wiley & Sons.
5. Eerola, E., & Lyytikäinen, T. (2015). On the role of public price information in housing markets. *Regional Science and Urban Economics*, 53, 74-84.
6. Gil, O., Cortés-Cediel, M. E., & Cantador, I. (2019). Citizen participation and the rise of digital media platforms in smart governance and smart cities. *International Journal of E-Planning Research (IJEPR)*, 8(1), 19-34.
7. Hamamurad, Q. H., Jusoh, N. M., & Ujang, U. (2022). Factors affecting stakeholder acceptance of a Malaysian Smart City. *Smart Cities*, 5(4), 1508-1535.
8. Hartley, K. (2023). Public perceptions about smart cities: governance and quality-of-life in Hong Kong. *Social Indicators Research*, 166(3), 731-753.
9. Kaluarachchi, Y. (2022). Implementing data-driven smart city applications for future cities. *Smart Cities*, 5(2), 455-474.
10. Kassim, N. M., Hashim, N. H., Yeap, J. A., Lurudusamy, S. N., & Ramayah, T. (2023). Impact of Digital Twin on Smart Communities: Insights from the Putrajaya, Malaysia. In *Impact of Digital Twins in Smart Cities Development*(pp. 254-275). IGI Global.

11. Kumar, N. M., Goel, S., & Mallick, P. K. (2018). Smart cities in India: Features, policies, current status, and challenges. *2018 Technologies for Smart-City Energy Security and Power (ICSESP)*, 1-4.
12. Lee, J., Babcock, J., Pham, T. S., Bui, T. H., & Kang, M. (2023). Smart city as a social transition towards inclusive development through technology: a tale of four smart cities. *International Journal of Urban Sciences*, 27(sup1), 75-100.
13. Lim, S. B., Malek, J. A., Yusoff, M. F. Y. M., & Yigitcanlar, T. (2021). Understanding and acceptance of smart city policies: Practitioners' perspectives on the Malaysian smart city framework. *Sustainability*, 13(17), 9559.
14. Masis, N. N. S., Maimun, N. H. A., Noor, N. A. M., Yusoff, N. S. M., & Rahman, M. S. A. (2017). E-commerce in the Malaysian real estate agency industry. *International Journal of Real Estate Studies*, 11(5), 33-41.
15. Monzon, A. (2015, May). Smart cities concept and challenges: Bases for the assessment of smart city projects. In *2015 International Conference On Smart Cities And Green Ict Systems (SMARTGREENS)* (pp. 1-11). IEEE.
16. Okoro, C., Kruger, A., & Booyens, M. (2020, July). Towards sustainability of real estate development: an integrative review of smart city planning considerations. In *Creative Construction e-Conference 2020*(pp. 150-159). Budapest University of Technology and Economics.
17. Samsudin, N. A., Rosley, M. S. F., Lai, L. Y., Omar, S. R., Rashid, M. F., Hanifi, N. S. N. M., & Bakhtiar, I. S. (2022). A comparative study of smart city initiatives in Malaysia: Putrajaya and Iskandar Puteri. *Planning Malaysia*, 20.
18. Shahrour, I., Abbas, O., Abdallah, A., Abou Rjeily, Y., Afaneh, A., Aljer, A., ... & Al Masri, F. (2017). Lessons from a large scale demonstrator of the smart and sustainable city. *Happy City-How to Plan and Create the Best Livable Area for the People*, 193-206.
19. Talib, R., & Taib, R. M. Building a Greener Future: Kuala Lumpur's Smart City Initiatives and Carbon Emission Reduction. In *Cafeo 41 Engineering Conference Proceeding*(Vol. 89, p. 108).
20. Toh, C. K. (2022). Smart city indexes, criteria, indicators and rankings: An in-depth investigation and analysis. *IET Smart Cities*, 4(3), 211-228.
21. Visvizi, A., Lytras, M. D., Damiani, E., & Mathkour, H. (2018). Policy making for smart cities: Innovation and social inclusive economic growth for sustainability. *Journal of Science and Technology Policy Management*, 9(2), 126-133.
22. Wu, D., Xie, Y., & Lyu, S. (2023). Disentangling the complex impacts of urban digital transformation and environmental pollution: Evidence from smart city pilots in China. *Sustainable Cities and Society*, 88, 104266.