



A COMPARATIVE STUDY OF SMART CITY INITIATIVES IN MALAYSIA: PUTRAJAYA AND ISKANDAR PUTERI

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Abstract

The Smart City concept has grown exponentially and is rapidly accepted by wider international communities and developed countries. Smart City implementation may lead to a high-quality, more resilient, liveable and sustainable development for a nation. Malaysia's urban population will increase from 74.3% in 2015 to 79.6% in 2025. By 2040, Malaysia is expected to reach 84% of the urbanisation rate. In managing and solving daily urban issues (e.g., congestion, energy, crime, pollution, waste management, etc.), urban planners are searching for implementing Smart Cities as a primary solution. This study aims to investigate two (2) cities' experiences in implementing these initiatives, namely, Putrajaya and Iskandar Puteri. Both cities act as administrative centres at the national and state levels. Since established in 1995, Putrajaya promoted as the 'Garden City' and 'Intelligent City'. This is followed by the new administrative city of Johor State, Iskandar Puteri (previously known as Nusajaya), officiated in 2009 in the Southern part of Peninsular Malaysia. Both cities introduced their own Smart City blueprint, with 93 strategies in the Putrajaya Smart City Blueprint (2018), and 28 in Smart City Iskandar Malaysia (2012). By comparing the Smart City strategies or initiatives in both areas, this study concludes that Putrajaya's strategies are more focused on micro-city-level implementation. Iskandar Puteri (in Iskandar Malaysia Development Region) has a brief and wider context at the regional level (macro). In both cities, there are still no clear measurement methods or indicators that can assess the achievement of Smart City initiatives implemented at the local level.

Keywords: Smart City, Smart Governance, Smart Mobility, Putrajaya, Iskandar Puteri

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INTRODUCTION

The study conducted a content analysis of Smart City initiatives to evaluate the status and progress development within Malaysian Cities, namely Putrajaya and Iskandar Puteri. Adapting the Smart City incentive is a vital development approach that incorporates various leading industrial sectors. It touches on several critical urban policy issues and the usage of technology in urban management (e.g., 5G network coverage, cybersecurity, renewable energy, big data, sustainable development, optimisation of land management, traffic management, etc.). It influences how urban areas are managed and governed around the world. The Smart City conceptually depends on the availability of technology growth, technological infrastructure, and the Internet of Things (IoT) within countries, regions or cities. It combines IoT devices, software solutions, user interfaces (UI), data gathering and communication networks in urban settings. Therefore, this study compares the smart city initiatives in Malaysia between Putrajaya and Iskandar Puteri.

These concepts offered urban managers (local authorities known as Putrajaya Holdings and Iskandar Puteri City Council) an advanced urban management ecosystem. As a result, a modern living environment, high quality, cost-effective, efficient and proactive action creates better living conditions. It is not only about creating a better living environment, it may be up to the established nation-state for '*Bangsa Pintar*', the term used to refer to smart Malaysian citizenship as discussed by Lim et al. (2021). The Smart City concept in Malaysia has been embedded in several policies and development plans such as the 11th Malaysian Plan, National Physical Plan 3 (NPP3), National Urbanization Policy 2 (NUP2), Malaysia Smart City Framework, Putrajaya Smart City Blueprints, Smart City Iskandar Malaysia, Green Technology Master Plan 2017 – 2030 and Low Carbon Cities Framework (LCCF). The development of Smart Cities also uplifts Malaysian Cities' competitiveness and supports Malaysia's commitment to reaching the global agenda such as Sustainable Development Goals (SDGs) and New Urban Agenda (NUA).

The Fourth Industrial Revolution (4IR) had been introduced and promoted globally. It can upgrade city life, improve decision-making efficiency and process (urban planner, governance, urban manager etc.), and enable a determined sufficient budget allocation to provide better infrastructure and significant design approaches. The Smart City concept has grown and is rapidly accepted by wider international communities and developed countries. Under the US-ASEAN Smart Cities Partnership, Malaysia has identified at least four (4) major cities with the potential to implement the Smart Cities Framework, namely Kuala Lumpur, Kota Kinabalu (Sabah), Kuching (Sarawak), and Johor Bahru (Johor). Several cities and states have implemented smart cities, such as Iskandar Malaysia, Putrajaya, Cyberjaya, Selangor, Melaka and Penang. The Malaysian

government had launched its first national–Malaysia Smart City Framework (MSCF) (Loo, 2019).

In general, this concept is expected to lead a high-quality, sustainable development in city development and future nation-building. Despite the 'Smart City' term being widely used, several other terms are commonly used: 'Digital City', 'Intelligent City' and 'Knowledge-based City'. However, assessment methods to measure the effectiveness of Smart City initiatives implementation are still unclear locally. This study explores the Smart City initiative implementation locally by comparing well-plan administrative centres in Malaysia, namely Putrajaya and Iskandar Puteri city.

WHAT ARE SMART CITY INITIATIVES?

Generally, the Smart City promotes the use of technology in the development and improvement of the quality of life in society. Smart cities are designed to encourage smarter choices and provide a better quality of life using technology and data. Aside from the advantages of safety, resources, health, connections, employment, and cost of living, significant changes in the environmental sector are possible. Cities are almost universally confronted with rapidly growing demographics, significant demographic trends, climate changes, economic shifts, and rapid technological transition. Smart City Initiatives in Malaysia could be the new idea and mode of promoting better urban planning in a more efficient and smart manner.

Applying technology in daily life can optimise available resources and sustainable energy management. This would also promote investment in green infrastructure, reduce urban traffic and road congestion, and improve quality of life. Technology and the integration of spatial geographical information can develop futuristic cities and provide adequate urban infrastructure to meet the increasing pace of urbanisation. Performance benchmarks also accompany these initiatives compared to globally recognised Smart City indicators for Malaysian Urban development. The Smart City development in Malaysia is in line with the existing global and national plan, which will form a Smart City framework in Malaysia.

The 'Smart City' concept has not been too clear in its definition and is still debatable. There are several definitions from various sources and scholars globally. There may not have yet been a globally accepted definition for the Smart City. According to Georgiadis, A. (2021), it can be understood as *"Any city that uses advanced technologies to achieve the goals has set either financial development, education, eradication of poverty, social equality, enhanced citizens' security, tourism, cultural education, intercultural physique, environment, and fast citizen service in public services can be presumed as Smart City"*.

Malaysian Industry-Government Group for High Technology, MIGHT (2021) refers to 'Smart City' as the *"One which uses digital technology to empower the economy and creates a harmonious living environment for its citizens"*. In Malaysia Smart City Outlook 2021-2022 (MSCF), the term smart city was defined as *"Cities that use ICT and technological advancement to address urban issues, including improving quality of life, promoting economic growth, developing sustainable and safe environment."*

The goals can vary depending on the city's geographical location, socio-economic conditions, allocation of city resources, and the perceptions of the respective local authorities. Smart Cities projects are often related to many applications, such as communication, culture, energy, environment, climate, health, tourism, and transport. The existence of 'smart buildings', 'smart devices', and 'smart applications' used by people daily in the city strengthens such ideas and concepts. The idea relies on the city administration's smartness, politicians, and citizens to utilise technology in 'smart' ways (Berntzen, L. and Johannessen, M.R., 2016). The use of technology in urban management is very important because neither city is smart by itself.

'Smart City' is also defined as *"a concept for managing resources effectively and efficiently to improve the quality of life in urban areas. The initial step is through infrastructure development as part of overall development"* (Al-Hader M, RA, 2009). According to Athey, G. (2008), it is very important to obtain support from the public since Smart City initiatives were one of the innovation policies promoted by the government. Smart cities have seen much coverage around the global economy because they have the potential to offer value and approaches to challenges and opportunities presented by urbanisation.

Malaysia Smart City Outlook 2021-2022 reported that the economy, government and people are the main beneficiaries of Smart City, primed to benefit from its development and implementation. As cities grapple with ever-increasing costs of delivering efficient services to their citizens, the effective deployment of digital technologies would significantly improve performance, reduce costs and minimise environmental impact. This would result in enhanced liveability and workability standards for communities. The combination of efficient mobility, effective resources management, reliable digital infrastructure and the positive attitude of communities and the society at large would further enhance city living (MIGHT, 2021).

COMPONENTS OF SMART CITY

According to Ong and Ong (2018), developing a Smart City vision requires many phases, including defining relevant Smart City principles, creating the development phase, collaborating and drafting approaches with shareholders, prioritising projects, and crafting the roadmap. Smart City initiatives are divided

into seven (7) main components contributing to implementing strategies and initiatives and a concrete framework for resolving urban problems and core challenges in Malaysia (Table 1). Smart City prioritises infrastructure growth and improves economic, social, cultural, and urban development. This is why it works to expand connectivity networks so that facilities such as housing, culture, telecommunications, and industry, among others, can be linked using emerging technology to help a community grow and prosper.

According to the Malaysia Smart City Framework, these seven components of smart cities are commonly used to solve urban problems due to rapid urbanisation. Smart City is a global innovation in the use of technology for sustainability, communal growth, and the improvement of the quality of community life. This would result in improved liveability and workability standards for communities. The combination of efficient mobility, effective resources management, reliable digital infrastructure and the positive attitude of communities and the society at large would further enhance city living (MIGHT, 2021).

Table 1: Seven main components of Smart City

Dimensions	Functions	Aspect/Focus
Smart Governance	To improve citizen access to government services	<ul style="list-style-type: none"> ● Public participation ● Efficient public and social services ● Private-public partnership ● Transparent governance
Smart Mobility	Increase the quality of public transit, accessibility, people mobility, and road traffic in the city by adopting intelligent traffic management.	<ul style="list-style-type: none"> ● Efficient road accessibility ● Efficient public transportation ● Non-motorised accessibility Availability of ICT infrastructure
Smart People	To improve the quality of life of urban areas by high human capital (knowledge workers), a high Human Development Index, and highly adaptable and resilient people to changing circumstances.	<ul style="list-style-type: none"> ● Caring community ● High Human Development Index ● Skilled and talented human capital ● Racial harmony
Smart Environment	To reduce greenhouse gas emissions and live a low-carbon lifestyle, emphasising energy conservation, clean	<ul style="list-style-type: none"> ● Clean environment ● Environmental protection ● Green economy development ● Green infrastructure

	energy, and green technologies to build a better climate.	<ul style="list-style-type: none"> ● Smart growth
Smart Economy	To create competitiveness, innovation and diverse economic opportunities to prepare for the challenges and opportunities of economic globalisation.	<ul style="list-style-type: none"> ● Economic growth and value creation ● Innovative economic growth ● Equitable wealth distribution ● Entrepreneurship
Smart Living	To create a sustainable, vibrant and ideal place of living, especially for women, children, and senior citizens in the city	<ul style="list-style-type: none"> ● Safety and security ● Low carbon lifestyle ● Housing quality ● Cultural facilities ● Tourist/recreational attractiveness
Smart Digital Infrastructure	To improve the efficiency, productivity and security of the organisation	<ul style="list-style-type: none"> ● Network coverage ● High-speed internet ● Personal data protection ● Data security ● Crowdsourcing and data sharing

Source: Adapted from Malaysia Smart City Framework (2019)

Previously, 'Smart Cities' traditionally focused too much on developing new technology, provisional technology that are infrastructure-related, big data and computing, and less on whether any of these developments would improve problems faced by urban dwellers daily. Shawn Tan (2000) proposed good public transport networking, efficient waste management, safe and clean public spaces, more affordable housing, energy-efficient building initiatives and environmental sustainability in Malaysia's Smart City implementation. At any level of implementation, every city planning to adopt Smart City initiatives should improve its service governance first. A clear, strong vision and comprehensive strategies or action could help provide a better ecosystem to implement the Smart City. 'Smart Governance' involves political engagement, citizen welfare, and administration operations (Giffinger, *et al.*, 2007).

There is a wide agreement that government policies have a critical role in fostering Smart Cities (Yigitcanlar, *et al.*, 2008). This situation fits well within the public management perspective, highlighting that solving societal problems is not merely a question of developing good policies but much more of a managerial question of organising a strong collaboration between government and other stakeholders (Torfing, *et al.*, 2012).

Currently, PLANMalaysia initiated the Malaysia Urban Observatory (MUO), which collects urban data across agencies nationwide to ease access to governance-related knowledge and solutions. MUO expected it would play an important role in providing more comprehensive solutions through urban analytics. IRDA also established their own Urban Observatory Center, known as Iskandar Malaysia Urban Observatory (IMUO), to manage, monitor and disseminate data or information on Iskandar Malaysia Development Region. Such initiatives help decisions and policymakers to make better decisions in development planning.

Secondly, 'Smart Mobility' initiatives have also been seen as important as governance. It focuses on increasing the efficiency and service quality of urban transportation to enhance the use and adoption of new mobility solutions and increase people's mobility through efficient mobility management and targeted infrastructure investments. Achieving cheaper, faster, and environmentally-friendly mobility and integrated multi-modal transportation is an important challenge for cities and communities. Supporting the combination of multiple public and private transport modes and adopting new forms of transportation (e.g., electric vehicles, hydrogen-powered vehicles, autonomous vehicles, bike-sharing, carpooling/ car-sharing) is an important aspect of a future-oriented strategic approach to fostering 'Smart Mobility'. A customer-centric and inclusive approach for all citizens, businesses, and visitors is needed to achieve a high-quality mobility service and ultimately improve the flow of people and goods within a city or community while at the same time reducing the environmental impact. Increasing the mobility level of dwellers smartly will enhance other dimensions of Smart City.

PUTRAJAYA & ISKANDAR PUTERI

This paper explores two (2) blueprints or frameworks of Smart City initiatives in Putrajaya Smart City Blueprint (Putrajaya) and Smart City Iskandar Malaysia Framework (Iskandar Puteri) (Figure 1). Firstly, Putrajaya was developed in 1995 as the new administration centre of Malaysia. Managed and governed by the Perbadanan Putrajaya (PPj) or Putrajaya Holdings under the Perbadanan Putrajaya 1995 (Act 536), the Federal Territory of Putrajaya now has become a well-planned, modern township and matured city as well as a national symbol. Under Act 536, the PJj plays an important role as the local and planning authority for Putrajaya.

Norhisham et al. (2013) reported that Putrajaya Holdings, a government-listed company, was established to be the master developer of the city, translating philosophy between building form and landscape under the man-God-nature relationship. This green city is home to elegant and unique architecture, located in West-Central of Peninsular Malaysia, 25km South of

Kuala Lumpur City Center. Nowadays, this city houses various government offices that were relocated from Kuala Lumpur previously. 37% of Putrajaya is dedicated to parks and open spaces. There are 200 hectares of man-made wetland and a 400-hectare man-made lake, allowing for the creation of 38 kilometres of waterfront within 5,000 hectares of total land area (Figure 2).



Figure 1: Putrajaya Smart City Blueprint (Left) and Smart City Iskandar Malaysia Framework (Right)
Source Author (2022)

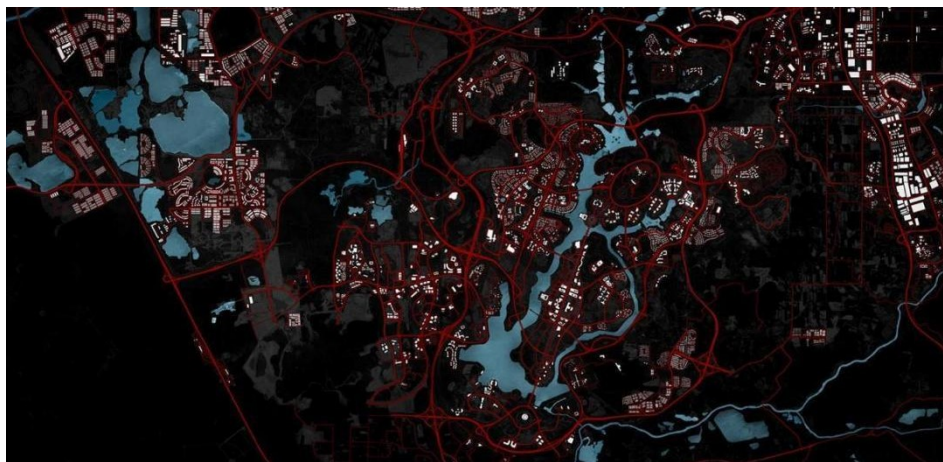


Figure 2: Road networking, water body and building distribution map of Putrajaya
Source: www.fmetropoli.org

The city was named after the first Malaysian first Prime Minister, Tunku Abdul Rahman Putra, who gradually expanded and sprawled into nearby areas such as Cyberjaya, Sepang, Serdang, and Kajang, and were declared Putrajaya Federal Territory in 2001. It consists of several national iconic

buildings, a significant man-made lake, parks, botanical gardens, wetland, government complexes, infrastructure, remarkable monuments, and well-connected public transportation within 17 Precincts. Putrajaya is also known as a 'Garden City' since it dedicated and reserved more than 38% of its total size for green spaces.

Since its establishment, Putrajaya is also promoted as an 'Intelligent City', and it has progressed remarkably with the latest communication technologies and progressive infrastructure provision within the city. To propel the city into becoming a Global City, the PJj implemented several initiatives related to the Internet of Things (IoT) and Information and Communication Technology (ICT). To transform Putrajaya into a Smart City, PPj emphasises at least three elements in this blueprint, namely (1) Smart Building, (2) Safety, and (3) Security. For example, 70 buildings in Putrajaya are now being monitored for their carbon emissions, while future developed buildings are required to incorporate energy-saving elements or green concepts (The Sun Daily, 2020).

Business Today (2021) reported that to be the first municipal-operated IoT infrastructure in this country, PJj collaborated with higher institutions and IoT-based companies to initiate several physical projects, including installing the Smart Street Lighting system within Presint 15 in Putrajaya. As one of the main aspects of making this city attractive for people, investments and the ecosystem of businesses, efficient transport connectivity, mobility, and a sustainable green environment becomes essential. By 2025, this city will be expected to house a population of 350,000. Saibal Chowdhury (2021) believed that the future green, smart and connected development model for Putrajaya would be achieved locally by implementing Smart City initiatives. For example, the Putrajaya City Blueprint highlights the need for Putrajaya City to achieve a smart urban living environment and a more sustainable and higher quality of life as their vision statement. The Sun Daily (2020) reported that PJj claimed thirty-two per cent of the guidelines in this blueprint had been successfully achieved, and the balance is expected to be completed by 2025. There are seven (7) Smart City Domains in these blueprints, consisting the several main strategies that have been divided into 32 Applications and 93 Initiatives, such as below:

- Smart Transportation and Mobility (7 Applications & 25 Initiatives)
- Smart Home and Environment (5 Applications & 12 Initiatives)
- Smart Government Services (4 Applications & 11 Initiatives)
- Smart Infrastructure and Utilities (4 Applications & 13 Initiatives)
- Smart Safety and Security (4 Applications & 10 Initiatives)
- Smart Economy (Competitive Economy) (4 Applications & 9 Initiatives)
- Smart Community (4 Applications & 13 Initiatives)

While Iskandar Puteri city is located in Iskandar Malaysia Regions, a centre for investment, financial and business opportunities, it is supported by a comprehensive masterplan and state-of-the-art infrastructure, comprising 525,000 in population residing in the area of 24,000 acres situated along the Straits of Johor. Located next to the Johor Bahru Metropolitan area and adjacent to Singapore, the Iskandar Puteri area covers several townships such as Skudai, Lima Kedai, Gelang Patah, Kangkar Pulai, Ulu Choh and Nusajaya (later known as Kota Iskandar), the new administration centre of the Johor State government. Since its launch, it has become one of the country's foremost emerging economic zone within the Five Flagship Zones of Iskandar Malaysia.

The total size of Iskandar Puteri is only 4% of Iskandar Malaysia's regional development area, but now it is one of the nation's most-recognised developments. Since Smart City Iskandar Malaysia Framework was introduced in 2012, it has become an added-value-enabler initiative to provide ease of doing business and improve the quality of community living in Iskandar Malaysia. There are six (6) Dimensions listed under three (3) focus areas (Economy, Environment and Social) with 28 Characteristics introduced (Figure 3):



Figure 3: Smart City Iskandar Malaysia Framework
Source: iskandarmalaysia.com.my (2016)

Smart mobility relates to the accessibility of advanced, sustainable, and safe transportation systems, community and supralocal accessibility, and the provision of ICT. To create a prosperous and integrated city, a Smart City should

properly use existing information and communication technology (ICT) installations (Tahir et al., 2016).

The Comprehensive Development Plan (CDP) by Iskandar Development Region Authority (IRDA) envisions Iskandar Malaysia as becoming a resilient and successful megacity with international prominence by focusing on three main pillars: wealth generation, resource and low carbon optimisation, and wealth sharing and inclusiveness. For example, under the Smart Mobility initiative, Iskandar Puteri promoted several strategies and programmes, including a Non-Motorised Transport (NMT) and Bus Rapid Transit (BRT). NMT in Iskandar Malaysia aims to set targets, objectives and standards for enhancing safety, broadening mobility alternatives and increasing the number of journeys taken by walking and cycling in Iskandar Malaysia.

According to the study conducted in Iskandar, Malaysia, a community's infrastructure and policies must be developed to make walking and cycling feasible transit options for residents. An in-depth inventory and analysis of current bicycle and pedestrian facilities in Iskandar Malaysia were completed with a prioritised list that included the master plan, guidelines, and a pilot project as part of the Iskandar Malaysia NMT research. The Cohesive Mobility Solution (COMOS) is a smart, practical, and environmentally friendly urban mobility alternative. A Public-Private Partnership (PPP) including a handful of various stakeholders, including the Ministry of Energy, Green Technology, and Water, is driving this effort (KeTTHa). Electric Vehicle (EV) Car Sharing, EV EcoRide, and EV Corporate Branding and Leasing are the three main commercial activities of COMOS.

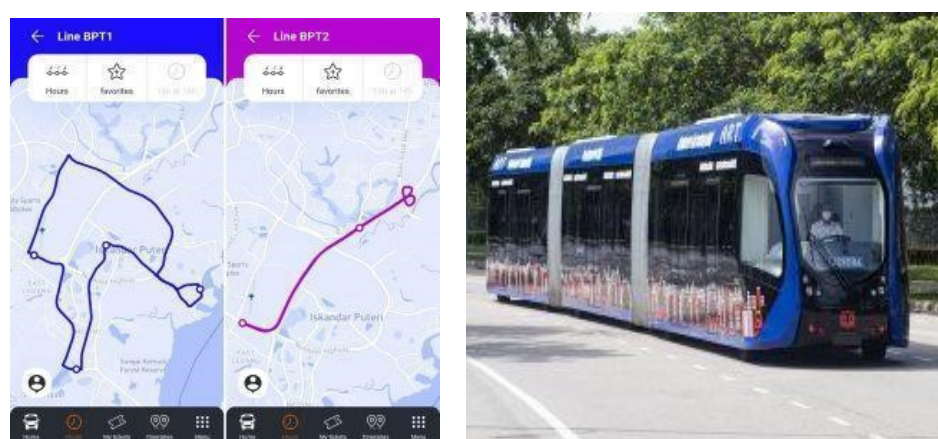


Figure 4: Smart Mobility initiatives in Iskandar Puteri. Over 750 buses servicing IMBRT routes will be monitored by the control centre

Source: Iskandar Malaysia Urban Observatory

This endeavour is not only pollutant-free but also user-friendly. Electric charging stations have been installed in Iskandar Malaysia as part of the region's efforts to promote sustainable mobility. GreenTech Malaysia has created the 'ChargEV' network, a unified corporate image for electric vehicle charging stations in Malaysia. GreenTech Malaysia met its goal of installing 300 electric vehicle charging stations in Malaysia in 2016. As of December 2016, charging points had been built in at least 12 locations in Iskandar, Malaysia.

Next, three (3) dedicated BRT corridors from JB Sentral-Skudai, Tebrau and Iskandar Puteri will be introduced in 2023. According to landtransportguru.net (2021), Iskandar Malaysia Bus Rapid Transit (IMBRT) is complemented by 55 feeders and 44 direct services, bringing the total network coverage to 2,051km, approximately 90% of the populated area of Iskandar Malaysia. Although the more environmentally-friendly buses will be used in Iskandar Puteri. A new app known as the MyBus app will also be used. So far, two routes and seven stations in Iskandar Puteri are visible on the MyBus app for the road testing of these buses (Figure 4).

COMPARATIVE STUDY

This qualitative research used a comparative study. The comparative study analysed and compared more than two objects, ideas, situations, or phenomena to demonstrate similarities or differences. The comparative study is on simple designs. Objects (policy/ strategy/ initiatives) are similar cases in some respects but differ in some contexts. These differences become the focus (Syed Aftab Hassan, B., 2011). Based on both case studies discussed above, this paper concluded the similarity and differences dimensions of Smart City initiatives from respective blueprints and frameworks in Table 2.

CONCLUSION

The term "Smart Cities" has become so overused that it risks losing its significance and distinguishing itself from other city development concepts. In every Smart City, the three components of technology, connectivity, and engagement must all be present. Interconnectedness, i.e. user-provider and user-user connections and infrastructure integration, are required by technology, preferably in conjunction with a shared platform to streamline all accessible services.

Finally, the smart projects' viability is determined by stakeholder participation. Based on Putrajaya and Iskandar Puteri's City experience, one of the biggest challenges is tailoring Smart City programmes for existing cities to the local environment rather than randomly investing in and deploying accessible technologies

Building a Smart City from the ground up is expensive. Still, it had also been considered cosmetic and limited in utility compared to enhancing existing cities with Smart City technology. When considering future Smart Cities for Malaysian cities, the approach should begin with determining the city's primary goal, followed by the population's actual cognizant and technical capabilities. Simultaneously, rigorous considerations of linked infrastructure development should be conducted to avoid repeating historical mistakes of indiscriminate technological infrastructure expenditure. To put it another way, Smart City isn't about sensors and real-time data but rather a more intelligent, well-thought-out use of data that may already be available. After the policies of a Smart City have been introduced for almost five years, such blueprint and framework should be revisited. An assessment of achievement for each programme or activity should be evaluated meticulously. Malaysia Smart City initiatives at any level of implementation in the future should be a national agenda to enhance urban dwellers' quality of life and community in rural areas.

Table 2: Comparison of Smart City initiatives in Putrajaya and Iskandar Puteri

Details	Putrajaya	Iskandar Puteri
Name of policy	Putrajaya Smart City Blueprint	Smart City Iskandar Malaysia Framework
Level	Local Authority/ City	Local Authority/ Regional
Local authority	Putrajaya Holding/ Perbadanan Putrajaya	Iskandar Puteri City Council/ Majlis Bandaraya Iskandar Puteri (MBIP)
Start	2018	2012
End	2025	-
Dimensions	<ol style="list-style-type: none"> 1. Smart Transportation and Mobility 2. Smart Home and Environment 3. Smart Government Services 4. Smart Infrastructure and Utilities 5. Smart Safety and Security 6. Smart Economy 7. Smart Community 	<ol style="list-style-type: none"> 1. Smart Economy 2. Smart Governance 3. Smart Environment 4. Smart Mobility 5. Smart People 6. Smart Living
Applications/ Focus Areas	32	3
Initiatives/ Strategy/ Programmes	93	28
Description	Strategies designed more focus on city-level implementation (micro).	The very brief and wider context of regional level (macro).

Source: Author (2022)

Today, there are still no clear measurement methods or indicators that can assess the achievement of the Smart City initiative's implementation nationwide. In conclusion, for a Smart City to work requires combined effort and support from the public, private and government. Currently, both Putrajaya and Iskandar Puteri have targeted to deliver seven (7) Dimensions of Smart City, namely (1) Smart Governance, (2) Smart Mobility, (3) Smart People, (4) Smart Environment, (5) Smart Economy, (6) Smart Living and (7) Smart Digital Infrastructure to implement their own Smart City initiatives within the city.

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