Smart City Framework Reconcile

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Abstract

Cities are now home to the majority of the world's population, the epicentre of technology and communication, and the driving force behind a country's economic growth. With the quick advancement of technology, the Smart city is a paradigm for cities to stay competitive and relevant.Develop a framework that could be used to describe how to envision a smart city and develop initiatives that would help to achieve that vision by adopting shared services and overcoming theirassociated obstacles. However, the smart city concept's implementation is highly dependent on the city's operations and stakeholders requirements. Despite the multitude of smart city's conceptual frameworks, there has yet to be a practical framework that can be utilised to guide other Malaysiancities interested in pursuing and adopting the agenda of a smart city. SCFR(Smart city FrameworkReconcile) recognizes the importance of institutional issues in city development and how they mustbe included in a city development strategy from the start. This article proposes a realistic methodology for evaluating a city's"smartness" by estimating planned development initiatives to stakeholders actual requirements, based on the smart city model established by Giffinger et.al.,(2007). Smart city framework reconciles is created by aligning planned "initiatives of smart city" with real "smart city demands" from city stakeholders. SCFR may be used by city administrators to plan, implement, and monitor smart city goals since it is a practical framework.

Keywords: *Smart City, Conceptual Framework, Sustainable Development, Local Stakeholders, Reconciliation*

1. Introduction

The Smart city is defined as a city that uses ICT and innovation advances to address urban issues including, improving the quality of life, promoting economic growth, developing a sustainable, safe environment, and encouraging efficient urban management practices.

Caragliu, del Bo and Nijkamp [1] recommended that smart city growth is linked to factors such as the city's creative industries, urban environmental sustainability and understanding, public education levels, multimodal information accessibility, and government management's use of ICT, then proposed the creation of new ways to evaluate smart cities and strategic plans in Europe. Certain cities have progressed further than others in providing these services, with Asia and Europe leading the way. Smart city innovations offer mayors across the world a promising new way of engaging citizens and increasing quality of life shown in (Table1). Smart city

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Malaysia aims at addressing urban issues and challenges towards achieving then three main pillars of a competitive economy, sustainable environment, and enhanced quality of life from seven major components of smart city Malaysia are Smart Economy, Smart Living, Smart Environment, Smart People, Smart Government, Smart Mobility: and Smart Digital Infrastructure. Smart City, according to the list, is a city development idea that may be applied to both existing and new cities.

Table 1.Smart City Innovations Offer Mayors Across the World

Ranking	City	Total Score
1	Singapore	35.8
2	Seoul	34
3	London	33.1
4	Barcelona	32.1
5	Helsinki	32
6	New York City	31.9
7	Montreal	31.8
8	Shanghai	31.3
9	Vienna	31.2
10	Amsterdam	31.1
11	Columbus	31
12	Tallinn	30.2
13	San Francisco	30
14	Moscow	29.6
15	Beijing	29.3

Top 10 Growing Smart Cities [3]

Malaysia Government launched its first national Malaysia Smart City Framework (MSCF) in September 2019. Malaysia government claimed that this implementation of technician reductionism would enhance the life quality of people, which too often, has been over popularizing [2]. Giffinger et al., presented the most significant Smart City framework idea in their 2007 research, Smart Cities: Assessment of European Medium-Sized Cities, the model has since been mentioned in several other studies by academics working to improve the smart city concept [4]. A city is distinct from other cities due to its physical, demographic, and socioeconomic characteristics. According to this viewpoint, a city's smartness should be assessed in connection to the city's own needs and ambitions. This concept supports the creation of a practical smart city framework that serves as a model for "centralising" city evaluation.

The Smart City model proposed by Giffinger et al. is used in this study to offer a realistic framework for assessing a city's smartness by estimating the city's Smart Ideal to its actual smart efforts. The SCFR is a practical framework that aids in identifying key areas for attention to achieve the city's ultimate smart city goal, therefore encouraging functional and efficient decision making.

This reminder paper is divided into 2 sections, the first section about the proposed smart city framework's components, the second section about Smart City Framework Reconciled (SCFR) and Improving Malaysia smart city status.

2. Framework Components

The smart city framework is intended to serve as an initial design that establishes the project's basic principles, common language, and limits, with the specifics likely to evolve as the project progresses. Because the framework may be used to handle smart city challenges, it should include genuine city-specific criteria. Similarly, the framework must make use of information sources and sinks related to smart cities, as well as the most important requirements for smart cities in general; a framework must include the definition of a smart city, its function, smart initiatives on the ground, and actual stakeholder requirements (Figure 1). This section goes through the considerations that went into creating the practical smart city evaluation framework.

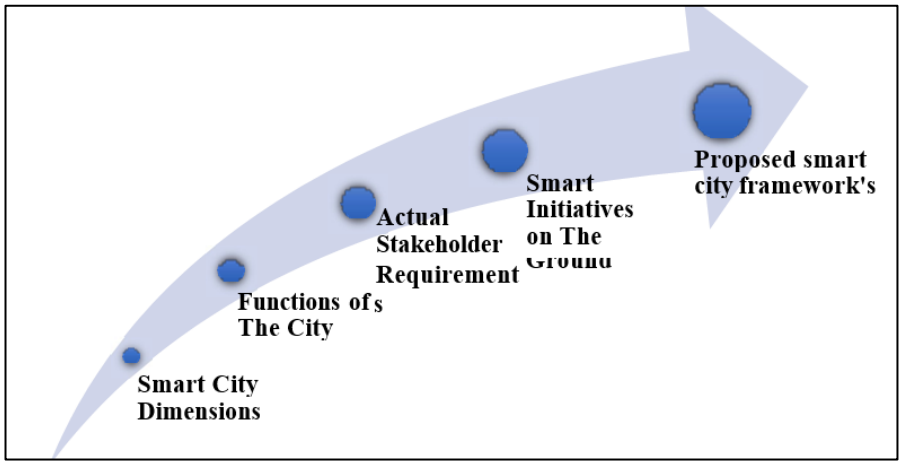

Figure 1. Proposed smart city framework's components "Author's Elaboration"

2.1. Smart City Dimensions

Smart city dimensions include smart governance, smart people, smart economy, smart health, smart learning, smart agriculture, smart weather, smart marketing, smart infrastructure, smart environment, smart technology, smart mobility, smart living, smart security, smart sanitation, and smart agriculture. Giffinger et al. presented the most significant smart city framework idea in their 2007 research, Smart Cities: Assessment of European Medium-Sized Cities. The model has since been mentioned in several other studies by academics working to improve the smart city concept [4]. Since then, the model has been referenced in many of the additional publications by researchers working to improve the Smart City concept[5]–[7]. Smart economy, smart governance, smart mobility, smart environment, smart people, and smart living are the six dimensions encompassed by Giffinger et al. In Malaysia, the Giffinger et al. model has been utilized to guide the implementation of Iskandar Malaysia's smart city. Iskandar Malaysia's Smart City framework

connects the dimensions to the three pillars of sustainable development in the following way: Smart Economy and Smart Governance with the Economy pillar, Smart Environment and Smart Mobility with the Environment pillar, and Smart People and Smart Living with the Social pillar [8], see (Table 2).

Table 2. Smart City Dimension

Smart city six Dimensions Assessment of European Medium-Sized Cities by Giffinger	Smart City Three Pillars in Iskandar Malaysia Smart City utilized Giffinger module
Smart Economy	Economic Pillars
Smart Governance	
Smart Mobility	Environment Pillars
Smart Environment	
Smart People	Social Pillar
Smart Living	

Smart city dimension by Giffinger and smart city pillars in Malaysia [3]

2.2. Functions of The City

Everyone in a crucial position within a city, whether from the public, private, or community sectors, whose actions have a major influence on how the city works and develops, is considered part of city leadership. The smartness of a city is thus not about technology in and of itself, but rather how technology is utilised as a part of a larger strategy to help the city work successfully [9]. Smart cities are thus the product of smart leadership, not just from municipal officials, but also from all people and organisations inside the city that want to influence and support their city's transformation. One of the most important prerequisites is an understanding that becoming a smarter city entails more than launching a slew of small-scale pilot projects; it also entails integrating smart solutions into the city functions.

Cities are now home to the majority of the world's population, the epicentre of technology and communication, and the driving force behind a country's economic growth[10]. As a result, a city may serve a variety of purposes, including political, economic, and social objectives and activities (Table3). However, the population, degree of technology, administrative structure, environment, geography, and socio-political conditions of a city are all influenced by the city's primary role[11].

Table 3. Table 3. City Main Function[10], [12]

City Main Function	Example of cities
Administration	Washington, Canberra, and Putrajaya
Commerce	New York, London, and Tokyo
Industry	Jubail in Saudi Arabia, Manchester and Detroit
Logistics	Los Angeles, and Cape Town
Religion	Vatican, Mecca, and Jerusalem.

2.3. Actual Stakeholder Requirements

The needs of the city's stakeholders must be met when a new city-wide management plan is implemented. Residents and workers are the city's most important stakeholders since they are the city's primary users and the people most likely to be affected by changes in development policies. The city's demographic may be linked to its major role, which includes family size, education level, level of income, and distribution cosmopolitanism. In comparison to an administrative city, the population in a commerce city is more likely to have a higher income level. An administration city's population may be more transitory than that of a commerce city. A logistics city is more likely to have a higher number of blue-collar workers than an administrative city. The questionnaire survey is the most efficient approach of generalizing the real user need for a big sample size. The citizens are the most important stakeholders. Their requirements are quite precise. "A city should be constructed to provide its resident's security and happiness", according to Aristotle.

2.4. Smart Initiatives on The Ground

Cities may already have undertaken smart initiatives that were or were not have been planned. In other words, some smart city projects may have been ad hoc policy efforts not included in the statutory development plan, according to Giffinger et al.'s smart city dimensions. It's possible that the implementation is still in progress or has already been completed. These on-the-ground smart activities should be included in any assessment of a city's smartness. Observation (site visits, photographic recording, field observations, etc.) and document examination of the smart city initiatives provisions that are currently in place can be used to evaluate on-the-ground activities.

3. Smart City Framework Reconciled

The concept of the smart city could further the cities sustainability agenda and nations. Nonetheless, each city has its own economic, social, political, geographical, political, and environmental characteristics (Figure 2).

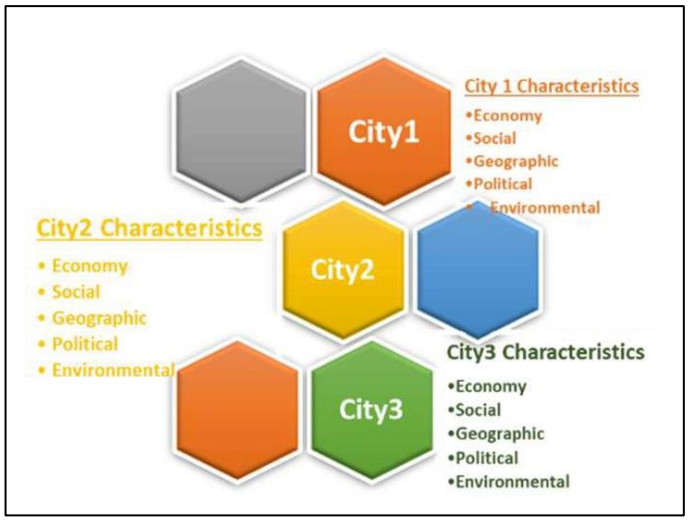

Figure 2. Different Cities Different Characteristics "Author's Elaboration"

Because the smart city's main purpose defines the operating smart model for the city, one city's smart model may not operate with another. To this purpose, a practical evaluation framework would allow a city to examine its existing smartness and compare it to its ideal smartness, all while staying within the parameters of its deep vision. SCFR allows for a systematic analysis of where a city now is concerning the smart city agenda, as well as where it should go if that goal is to be pursued. SCFR recognizes the importance of institutional issues in city development and how they must be included in a city development strategy from the start. As a result, SCFR is as precise as it is practical, making it a great tool for local governments looking to take the smart route.

From the preceding discussion, the smart city dimensions and the city's main function are the important components of the proposed framework to assess a city's smartness, the Spatial data sharing actual requirements and, on the ground, smart initiatives.

Improving Malaysia smart city status, it is critical to offer a Smart City framework for 'Putrajaya" that meets the needs of the city's users as well as the city's vision and purpose[13]. It is also stated that a city is unique due to its physical, demographic, and economical characteristics, which differ from those found in other cities. Because of this, it can be claimed that assessing a city's smartness in terms of smart city initiative sustainability level should be done considering the city's requirements and ambitions. There is a need to guarantee that the degree of Smart City execution fits user expectations while implementing Smart City projects. There are gaps in the supply of smart city projects when the actual offering falls short of user expectations see (Figure 4). The city authority would benefit from identifying these gaps so that additional resources may be directed to the areas that require attention. For determining the achievement of needed vs. actual smart city initiative provision, a gap analysis is recommended. This gap will indicate how far the city must go to become a truly smart city, (Figure 3). shows a graphical representation of the suggested framework.

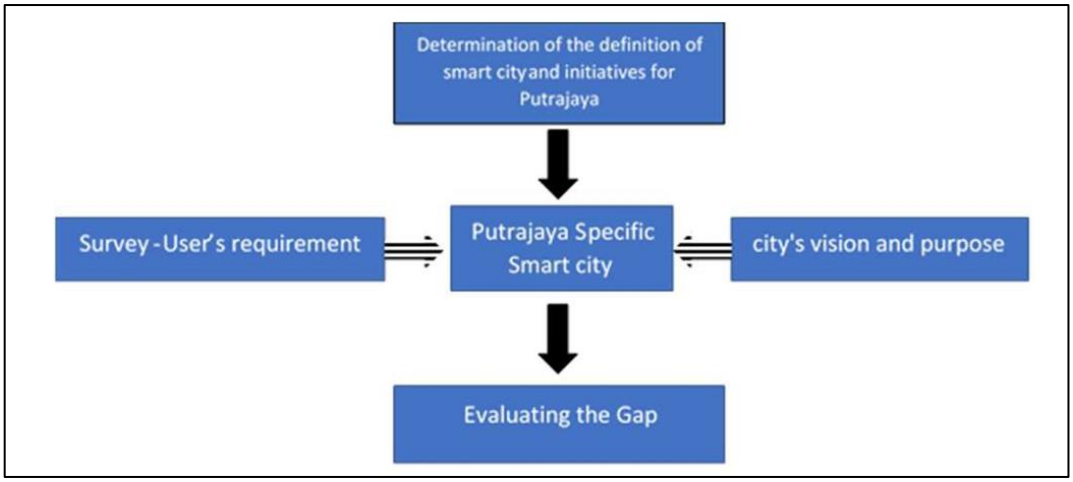

Figure 3. Smart City Gap Framework [13] Edit by Author

The proposed framework is titled the Smart City Framework Reconciled (SCFR)(Figure 4). The main principle of SCFR is to determine the gap between the city's Smartness Ideal against its Smartness Actual.

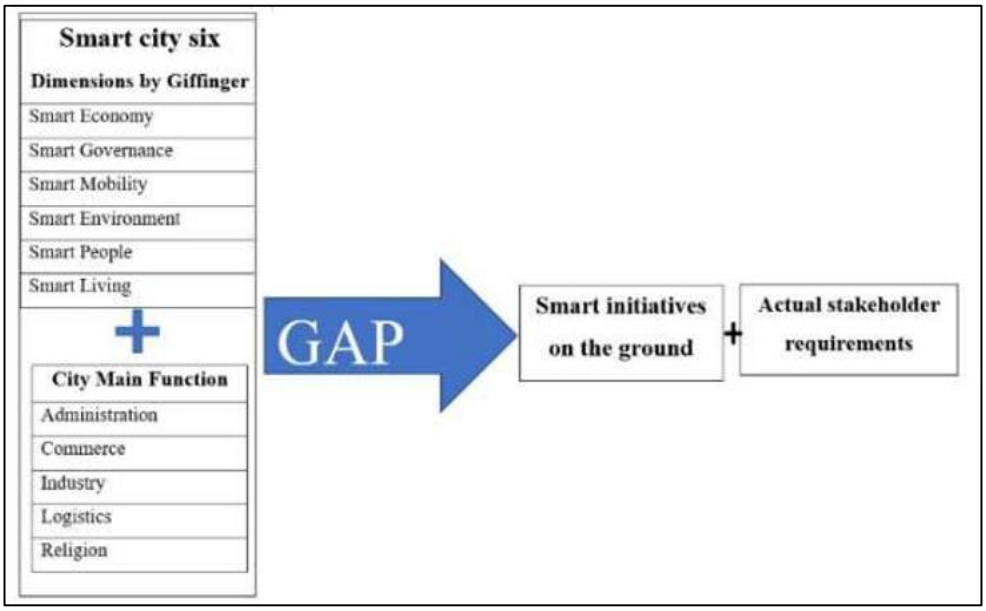

Figure 4. The Proposed Framework is Titled the Smart City Framework Reconciled (SCFR) "Author's Elaboration"

4. Conclusion

The concept of the smart city could further the cities sustainability agenda and nations. Nonetheless, each city has its own economic, social, political, geographical, political, and environmental characteristics. Because the smart city's main purpose defines the operating smart model for the city, one city's smart model may not operate with another. To this purpose, a practical evaluation framework would allow a city to examine its existing smartness and compare it to its ideal smartness, all while staying within the parameters of its deep vision. SCFR allows for a systematic analysis of where a city now is concerning the Smart City agenda, as well as where it should go if that goal is to be pursued. SCFR recognizes the importance of institutional issues in city development and how they must be included in a city development strategy from the start. As a result, SCFR is as precise as it is practical, making it a great tool for local governments looking to take the smart route.

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