

GUIDELINES FOR SUSTAINABLE SMART GOVERNANCE DATA SERVICE DEVELOPMENT IN LOCAL GOVERNMENT ORGANIZATIONS

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Abstract. Sustainable smart governance uses technology within an organization to develop service potential, develop management capabilities, and facilitate citizens and stakeholders in accessing government information to emphasize transparency, and participation through the application of innovative services. This is highlighted in guidelines for sustainable smart governance data services aiming to bring about the local government organizations including the development of processing infrastructure, development and building of organizational capacity, governance data catalog, creating smart citizenship change and adaptation processes, making the public participation processes to implementation on the process of creating awareness with an emphasis on communicating knowledge and information, presenting information on operating results and activities through the use of technology to drive the smart governance data services of local government organizations efficiently.

Keywords: Sustainable smart governance, data services, local government organizations.

1. Introduction

In the current situation, there have been rapid and complex changes, including, digital technology and many innovations, as well as the movement into the Industrial Revolution era 4.0 which influences human life and has brought changes in every dimension including economics, society, politics, investment, lifestyle, education, and organizational management [1]. Especially, the government organizations' management there must be adjustments to provide service information to the public and raise the level of competitiveness to compete with a knowledge base and the introduction of innovations that enable the distribution of development opportunities evenly in moving towards being of smart governance. The Electronic Government Operations Act (2022 A.D.) has been enacted to promote the work and provision of government services, whereby electronic means can be used as the main means of providing services efficiently and effectively [2]. Thailand's government has pushed the smart city development policy to be an important national agenda to create an equal distribution of prosperity to various areas, reduce problems and inequality, and improve the quality of life of people. Thus, the policies and plans set the direction for driving sustainable development from the use of digital technology for benefits that are consistent with the National Strategy, and National Economic and Social Development Plan. [3] Currently, various cities in Thailand are paying attention and starting to develop their cities into smart cities by bringing innovation and modern technology to increase the efficiency of city public services for citizens in aspects.

Meanwhile, the smart city is a concept and approach to increase the efficiency of city management that takes advantage of modern technology and innovation to increase the efficiency of services and management, reducing costs, using city resources and target populations, emphasizing a good design, and participation of the public sector in development [4], and providing the people in the city with a good quality of life and sustainable happiness [5]. Smart city is the use of information and communications technology to create critical urban infrastructure, where infrastructure components and public services are delivered more efficiently, making citizens aware of the importance of the use of information and communication technology [6]. Sustainable smart government as a meaning of government agencies or local government organizations use technology within their organizations to develop service potential, developing management capabilities to the organizations [7]. A creating of channel for the citizens to access government information, and listen to opinions on citizens, private organizations, and those involved have about their organizations [8]. Smart governance is the use of technology within organizations to develop service potential and management capabilities, facilitating the citizens and stakeholders in accessing government information to emphasize transparency and participation throughout the application of innovative services. However, public problems related to the quality of life of citizens with local government organizations being the agencies that play an important role in problem-solving, e.g., providing public services to the people in the dimension of smart governance to facilitate citizens and stakeholders in accessing the government information [9], that emphasizes transparency and participation, including the application of service innovation [10]. An important part of improving the quality of life of the citizens has been raised as driving the policy regarding government data services.

Therefore, the solution is to move towards the smart government in providing government data services that lead to smart, wherein the local government organizations will be an important base for upgrading development, this matter is because it is a government organization that is close to the public sector in terms of space. Which, is the local government organization that has prepared and developed smart governance according to the policy that aims to operate concerning the provision of government data services. The operation in the past has encountered many obstacles and problems, e.g., the fragmentation of information, updating the modern information situation, participation from the public sector in the area, etc. In doing this aim to analyze the guidelines for sustainable smart governance data services development in local government organizations that can be applied in the implementation of efficient policies on sustainable smart governance organizations.

2. Literature Reviews

Smart city towards smart governance data services, also, a smart city is a concept or guideline for increasing efficiency in city management, with an emphasis on good design and the participation of the public sector resulting in a good quality of life and sustainable happiness for the people of the city [11]. Smart city development at “Key” dimensions include; i) smart environment, ii) smart mobility, iii) smart living, iv) smart people, v) smart energy, vi) smart economy, and vii) smart governance [3]. A channel for listening to opinions that citizens and those involved have about their organizations [8]. Smart governance is building the capacity of government organizations. In the application of digital technology to help manage organizations and data services, using data such as complaint data, request data, and opinions on the work of officials through online channels, data on organizational engagement, and take that information

and analyze it to find the in-depth needs of all stakeholders [12]. To help create and implement policies that are most appropriate to the needs of the people and stakeholders, including resulting in all stakeholders having to share the feeling of being a part of managing work within local government organizations. It can be seen that to develop smart governance, there must be the application of digital technology in local government organizations, it is necessary to transform itself into an organization that is ready to use digital technology for both the people and the organization itself to be able to use information in the form of the opinions, the problems, and complaints [13]. For helping to analyze the actual needs of stakeholders in all sectors and leading to more efficient organizational management. The technology to develop smart governance in public services to the public via electronic systems both via web portal and mobile application [14]. Advances in technology and innovation, especially using AI increase the quality of life for citizens and create a safe and livable society, creating opportunities and promoting economic strength, including data connectivity from all sectors [15]. Which will be recorded and processed on the big data platform, by the results of these data analyses will be used as an aid in the management of local government organizations throughout creating a smart citizenship change and adaptation processes. Social change is the system of relations between members of society and a change in the structure of relations between groups and between the components of society [16]. The changes in the social organization include changes in the size of the social organization, whether larger or smaller, and the type of social organization, e.g., from a group of friends to a family, a family to a community, etc. However, trends in the current situation where society and culture have changed have processes related to important changes [17] including, 1) the process of urbanization, 2) the process of change to modernity, 3) the change to industrialization, 4) the change to bureaucratic administrative regulations. By changing to bureaucratic administrative regulations on the process of continuous and regulated public administration due to the development of the economy, and industry [18]. The necessary to reasonable form of administration and dealings with rules or laws.

Thus, smart government into government agencies have used technology within their organizations to develop service potential and management capabilities within organizations, creating channels for citizens to access government information and creating participation between local government organizations and the public sector by leveraging digital technology as a medium to connect all sectors. This is highlighted in guidelines for sustainable smart governance data services aiming to bring about local government organizations in balance to the development of smart governance that combines economic, social, and environmental balance. To achieve spatial development with high flexibility, services using technology as a channel of connection for flexibility, and being able to cope with various changes that will occur in the future, creating a good environment to promote good health for the people and stakeholders, promoting learning and developing people's potential to effectively achieve goals.

3. The Methodology

A qualitative research design was adopted for this research to combine participatory action learning with multi-contextual and cultural perspectives for the research to complete and provide explanations and conclusions based on the results of guidelines for sustainable smart governance data services aiming to bring about local government organizations. The spatial studies took place in Maha Sarakham Municipality, Maha Sarakham Province, Thailand, concerning the research participants and tools, the study involved 30 key informants from Maha Sarakham Municipality

holding the positions of project administrators, business people, community leaders, civil society sector, public sector, and sociology academics were selected through purposive sampling and focus groups. The tools used for data collection structured interviews addressed, 1) the development of processing infrastructure, 2) the development and building of organizational capacity, 3) the governance data catalog, 4) creating a smart citizenship change and adaptation processes, and 5) creating public participation processes, it consisted of 5 interview topics all concerned with the guidelines for smart governance data services, of the structure, it contained questions like - How can the guidelines for sustainable smart governance data services lead the local government organizations efficiently?

Data collection and equerry methods included document analysis which consisted of synthesizing information from relevant documents and related research for the integration and development of conceptual framework pertaining the participatory action learning, individual in-depth interviews to multi-contextual and cultural perspectives of 30 key informants to take the results for analysis of guidelines to smart governance data services aiming to bring about the local government organizations efficiently. Data analysis, qualitative data of elements and indicators were analyzed by using three main stages as follows; 1) word grouping, 2) explanation by rephrasing words from the information provided, 3) interpretation, in which some sentences or words given by the group conversation need to be interpreted or interpret the hidden meaning the words will be interpreted by relying on the context of the conversation to support the interpretation, 4) description is the arrangement of words by organizing the occurrence before and after the contents of the analysis, along with the description that connects each contents and events are related in each other to conclusion.

4. The Results

Significance of the guidelines for sustainable smart governance data services in local government organizations.

The guidelines for sustainable smart governance data services aim to bring about the local government organizations on 5 elements such as 1) the development of processing infrastructure, 2) the development and building of organizational capacity, 3) the governance data catalog, 4) creating a smart citizenship change and adaptation processes, and 5) creating public participation processes to indicators shown in Table 1.

Table 1.

The elements and indicators of guidelines for sustainable smart governance data services in local government organizations.

The elements.	The indicators.
1. The development of processing infrastructure.	Developing appropriate government processing infrastructure and effective in the use of the continuous dimension of security services, and the systematic exchange of information links of the municipality has used the line OA application system called “Rak Mueang Maha Sarakham” is the principle of providing public services related to smart

	government data that results in citizens participating in building a smart city.
2. The development and building of organizational capacity.	• The municipality can supervise their data to be accurate, complete, and updated, including, ready for use, by supervising the security of the data to meet standards according to the level of secrecy to make use of it, and services data can concretely take place.
3. Governance data catalog.	• The Collecting the details of metadata from all government agencies to create a list of information for sending information to the public, and develop a mechanism for searching information in various dimensions to provide information on directory service with a data entry system and user-friendly search screen as yellow pages for government personnel. Able to conveniently search for data sources for analysis and service provision, as well as, design various tools that government agencies must use to supervise, and provide agency information services in a systematic way, which this government information system is consistent with the policy of the municipality, which is to be a learning and happiness city and smart governance to important policies for a providing smart government data services: i) Listening to opinions together to build a city through line OA that allows citizens to participate in building a city by sharing and disclosing information in the development of a smart city that relies on important factors that can be considered the center of various elements to necessary, and open data can be a starting point for keeping various elements moving forward, and the benefits of using open data such as (1) transparency that will reveal government information to citizens and civil society to access information, as well as being able to monitor the government's operations according to policies that meet the needs of the people, (2) releasing social and commercial value in data sources is considered an important resource for creating innovation and the disclosure of government data is a resource that helps drive the creation of innovations and new services for dissemination to society and commerce, (3) participation and engagement of participation in expressing opinions on government operations that affect lives and livelihoods, considering opinions in

setting policies, government decisions to create more interaction with citizens and openness in technical, and legal matters. The information must be readily available using digital technology.

ii) One-stop service in line OA of facilitating those who come to contact government agencies to be able to receive services from various government agencies in one place, which will make people comfortable in dealing with the government sector to save time, and money for people, reducing the cost burden of the government sector, by being able to use services together in terms of locations, personnel, as well as various tools, in addition, to creating a virtual service office to provide services to the public via the Internet system to be able to provide certain services, where citizens can contact to request service at any time that relies on the method of integrating the agency's registration system and creating a database system in registering oneself in a computer system that can link one's information system with the information of other agencies using national identification numbers.

iii) The tracking system of municipal agencies was transparent and created participation from the public which is important for modern marketing, determining periods and important conditions for dividing segments or collecting data to achieve good operational results, reduce communication problems within the organization, reduce complex work processes, can be used to analyze or predict trends in the interests of service recipients to promote good governance in the form of a public network as the public sector joining in driving public governance to reflect the problems, and presenting the real needs from the people.

4. Creating smart citizenship change and adaptation processes.

• Transformation in smart municipalities such as;

i) The personal aspects of people's lives are more convenient, which is a result of using technology to help facilities raise the level of living, resulting in a better quality of life for people who are more comfortable providing services in various areas, and transportation.

ii) The economic aspect of making the economy better, there is a plan to expand on the matter of the

economy, causing the city to progress economically to become a central city that developed the urban system has a positive effect on the municipality by creating income, creating a career, building confidence, and continuing industrialization.

iii) The social aspect of attitudes has changed in a better direction, people think more positively, making people understand each other more, able to problems quickly be transparent data collected systematically, and accessible to everyone.

iv) The environmental aspect has developed in a good direction, making the livable, saving energy, reducing costs and pollution.

5. Creating public participation processes.

• Public participation processes such as;

i) Participation in decision-making by allowing citizens to express their opinions and give suggestions on smart municipalities, participation in proposing problems of local needs, proposing solutions to problems on smart municipality, and participation in decision-making in various operations to drive smart municipality.

ii) Participation in operations and activities related to driving smart municipalities.

iii) Participation in receiving benefits from smart governance data services.

iv) Participation in monitoring and evaluating information on smart municipalities through the use of technology and innovation, e.g., websites and line OA, public relations announcements, and participating in observing and evaluating the results of carrying out work to drive smart municipalities.

5. Discussion

The guidelines for sustainable smart governance data services in local government organizations include the development of processing infrastructure, development and building of organizational capacity, governance data catalog, creating smart citizenship change and adaptation processes, and creating the public participation processes. These elements are cornerstones for local government organizations efficiently to implement the process of creating awareness with emphasis on communicating knowledge and information, presenting information on operating results and activities through the use of technology to drive the smart governance data services of

local government organizations efficiently. Is important to develop the appropriate government computing infrastructure, organizational capabilities in the smart municipality, and ability to supervise the information, including a government data catalog system by collecting details of metadata from all government agencies to create a list of information news for the public about all development approaches focus on serving the people by providing access to all the public services and according to the the important role of the municipality, in a promoting one-stop service system by using the line OA application system. Also, the complaints are notified through the system and reflect the cooperation in driving the municipality and the use of services from the public sector to the private sector involved in technology [19]. An important condition for the development of the smart city is the cooperation between government agencies, the private sector, and civil society [20, 21]. Academy and other sectors in the area.

While creating a smart citizenship change and adaptation processes to transformation in smart municipalities such as the personal aspect of people's lives are more convenient. Using technology to help facilities raise the level of living, resulting in a better quality of life for people who are more comfortable from providing services in various areas to transportation [22]. The economics of making the economy better, there is a plan to expand on the matter of the economy, causing the city to progress economically to become a central city that developed the urban system has a positive effect on the municipality by creating income, creating a career, building confidence, and continued industrialization, social attitudes have changed in a better direction, people think more positively, a making people understand each other more, able to problems quickly be transparent data is collected systematically and accessible to everyone, and environmental for making the livable, saving energy, reducing costs and pollution [23]. In creating the public participation processes in decision-making by allowing citizens to express their opinions and give suggestions on smart municipalities, proposing problems of local needs, and solutions to problems in smart municipalities, and decision-making in various operations to drive smart municipalities, including the participation in operations and activities related to driving smart municipality, participation in receiving benefits from smart governance data services, and participation in monitoring and evaluating information on smart municipality through the use of technology and innovation, e.g., websites and line OA, public relations announcements, etc., participating in observing and evaluating the results of carry out work to driving smart municipality. Therefore, creating a participatory process in decentralizing power, creating transparency and value, managing and listening to public opinions, creating knowledge and understanding for the people to be aware of the guidelines, and driving the operations on sustainable smart governance data services of local government organizations efficiently to effectively achieve the future vision goals.

6. Conclusion and Implementation

The significance of the guidelines for sustainable smart governance data services in local government organizations include 1) the development of processing infrastructure on developing appropriate government processing infrastructure and effective use of the continuous dimension of security services, and the systematic exchange of information links as the principle of providing public services related to smart government data that results in citizens participating in building a smart city, 2) development and building of organizational capacity can supervise their data to be accurate, complete, and updated, ready for use, by supervising the security of the data to meet standards according to the level of secrecy to make use of it, and services data can concretely take place, 3) governance data catalog from collecting the details of metadata from all government

agencies to create a list of information for sending information to the public, and developing a mechanism for searching for information in various dimensions to provide information on directory service with a data entry system of listening to opinions together to build a city through line OA, a one-stop service in line OA, and a tracking system of municipal agencies, 4) creating a smart citizenship change and adaptation processes to transformation on smart municipality such as personal, economic, social, and environmental aspects, and 5) creating the public participation processes in decision-making, operations, and activities, monitoring and evaluating information of the local government organizations efficiently.

Implementation.

Sustainable smart governance data services for driving local government organizations efficiently in the municipality in the short term offer a focus on working towards being a push approach by which the municipality, including the government sector, must be able to provide, remember, and deliver necessary the public services to people in a complete and timely manner, such as providing the use of the line OA system together with the development of knowledge use of government information for the public can be said that an aggressive drive to invite people to use the service, e.g., the courses for teaching how to use applications, regularly listen to service problems with people in the municipality, and the long-term proposal is to collect data from the trial of the smart governance system to advantages and disadvantages for developing, and upgrading the usage of the platform that the municipality will use in the future and strategizing in the strategic map by integrating convenience for people in both living systems. So, that will develop intelligent government information to link the other online services via mobile phones, such as tax maps, and important municipal news notifications categorically through applications mass transit on the municipality to the smart city together with smart government data. And create a participatory process for decentralization, and transparency in management through innovation and technology that is modern meets the needs of all groups of people can be accessed effectively.

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