

Policy recommendations for sustainable urban development of Khon Kaen Municipality, Thailand

Phramahwasan Hngokchai ¹, Chinnawat Chueasraku ^{1*}

¹ College of Politics and Governance, Mahasarakham University, Thailand

* Corresponding Author, E-mail: chinnawat.c@msu.ac.th, © Authors

Article history:

Received: May 28, 2024

Revised: July 24, 2024

Accepted: August 9, 2024

Keywords:

Policy Recommendations,
Sustainable Urban Development,
Khon Kaen Municipality

Abstract

The aim of this research is to provide policy recommendations for the sustainable urban development of Khon Kaen Municipality. The research methodology employs a qualitative approach utilizing a selective sampling method, which includes interviewees from four diverse sectors: government agencies, civil society, educational institutions, and the industry/ private sector. A total of eight informants participated in the study. The research focuses on three key components; smart city initiatives, network partnerships, and administration—as variables contributing to sustainable urbanization. The result from a study identified three key dimensions crucial for the sustainability of cities: firstly, building Sustainable Urbanization by Becoming a Smart City. Leveraging smart technologies is essential for improving residents' quality of life. This involves enhancing public services and urban infrastructure through digital solutions, such as optimizing transportation systems, energy consumption, and waste management. Secondly, building Sustainable Urbanization with Network Partnership. Fostering community engagement is vital for social cohesion and economic resilience. This includes supporting local businesses, creating innovation hubs, and organizing activities that bring residents together. Building strong community networks enhances social ties and economic opportunities. Lastly, Building a Sustainable City through Administration. Effective management of natural and economic resources is crucial for long—term sustainability. Administrative strategies should promote awareness about environmental conservation, optimize resource usage, and implement policies that ensure sustainable urban development. While, Administrations should focus on the optimal allocation and utilization of resources to create a harmonious and responsible urban society. Furthermore, organizing educational activities to raise awareness about natural resource management and promoting social and community events to strengthen relationships are key for preparing the urban population for future challenges. This structured approach aligns with existing research on sustainable urban development, emphasizing the integration of smart city technologies, community engagement through network partnerships, and efficient administration as pillars for building sustainable cities.

Introduction

Building smart cities improves the quality of life of the population, with better public services, improved health care and increased transport routes. It contributes to the vitalization of the local economy and promotes economic growth as well. The growth of smart city-related businesses also boosts local economic vitality. Today's urban development tends to focus on creating new political and cultural spaces, such as creative cities, democratic cities, smart cities, green cities, and walkable cities. And it has a direct impact on the public, both positively and negatively. The development of smart cities encounters several problems and challenges, such as high investment in infrastructure. Technological gaps, environmental impact Non-discrimination and public participation Khon Kaen City is an example of smart city development with the link between technology, people, city and environment.

As a result, Khon Kaen City has realized that the city is growing by leaps and bounds, causing the city to face various problems. It's no different from a large city. Pollution problems and environmental pollution. In addition, the growth of the city may be directionless and may eventually not be able to control the growth of the city. Therefore, the local administration has joined hands with the private sector on behalf of Khon Kaen Urban Development Company Limited or KKTT, which is a gathering of young businessmen of Khon Kaen who have inherited their businesses from their predecessors. Together with the public sector and universities in Khon Kaen province, we have established guidelines for urban development with a common approach to develop Khon Kaen as a smart city. However, even though smart cities, which cooperate with network partners and administration can meet the needs of citizens in the economic, social and environmental field. But it will affect sustainable

urbanization by contributing to improving the quality of life. How to balance technology, cities, humans, society and the environment? The researcher therefore studied the relationship structure of smart cities, decentralized management networks, and sustainable urbanization of Khon Kaen Municipality. For this reason, the researcher is interested in studying the factors that correlate and positively influence the sustainable urbanization of Khon Kaen Municipality. This is to use the results of the study as academic information and make policy recommendations.

Research objective

To provide policy recommendations for sustainable urban development of Khon Kaen Municipality.

Literature Review

Research on Policy recommendations for sustainable urban development of Khon Kaen Municipality, Thailand. Researchers conducted various literature reviews and researched relevant research papers. To be a conceptual framework and to be used as a guide for education. Theories and related research on the following topics:

1. Smart City concept

The concept of a smart city has been explored and defined by various scholars, each highlighting different aspects of technology integration, urban planning, and the goal of improving quality of life. Below is a synthesis of key definitions:

Sameua Nimngern (2020) Defines a smart city as the application of technology or information and communication systems to enhance the efficiency and quality of community services. This approach aims to reduce costs and resource consumption while improving the quality of life for residents.

Ekachai Sumali and Chaiwut Tanchai (2019) Describe smart cities as those emerging from the combination of information and communication technology (ICT) with urban planning and design. Their goal is to enhance bureaucratic efficiency and foster innovation in solving complex urban problems, ultimately creating livable and sustainable cities.

Atchaphon Dusitnanon (2019) Emphasizes the creation of urban innovations aimed at improving residents' quality of life. This involves applying technology alongside designing residential structures to meet the specific needs of different areas, acknowledging the unique occupations and lifestyles of each community. For effective smart city development, cities must have unique characteristics and clear, locally aligned directions.

Ahvenniemi et al. (2017) Explain the smart city concept through two main perspectives: which are Physical and Social Factors. A former dimension includes infrastructure such as public transportation systems, internet connectivity, public utilities, and spatial allocation for urban use. A latter aspect encompasses the social aspects and human elements that contribute to the city's overall functioning.

From these definitions, it can be concluded that a smart city integrates data and digital technology into its infrastructure and services to address collective problems, making the urban environment more livable, sustainable, and productive.

2. Cooperation and Network Partnership concept

The concept of cooperation encompasses various terms such as cooperation, coordination, and collaboration. This research focuses on the concept of organizational cooperation to achieve collaborative goals, solve problems, and develop tasks in response to policies, politics, or societal

expectations. In a dynamic and global environment, both developed and developing countries encourage private sector investment in public projects, particularly large-scale infrastructure and public service projects. Therefore, cooperation networks extend beyond public-private partnerships to include other stakeholder groups. The following definitions from various studies illustrate the concept of network partnerships:

Mitchell (1968) Defined a network as a direct or indirect relationship between an individual and the people around them.

Kanjana Kaewthep (1995) Described a network as a form of coordination among several individuals, groups, or organizations, each with their own resources, goals, working methods, and target audiences. Even without regular joint activities, these organizations can seek assistance or cooperation from other groups through network connections. Networking allows these organizations to remain independent while participating in collaborative efforts.

Seri Pongpit (2005) Discussed the rise of the network concept since the 1970s, attributing its popularity to three main factors: New Competition, Advances in Information Technology and Academic Advances.

Based on these definitions, the researchers define the concept of network partnerships for sustainable urbanization in Khon Kaen province as involving cooperation among the private sector, civil society, government sector, and other stakeholders, such as educational institutions.

3. Concept of the Administration

Understanding the concept of administration is essential for grasping its role in managing urban sustainability. Several foundational definitions provide a comprehensive view:

Thompson (1967) Defined administration as managing uncertainty and coordinating activities, emphasizing the importance of adaptability and organization.

Barnard (1938) Viewed administration as the function of an executive to maintain a system of cooperative effort, highlighting the roles of communication and informal organization.

Simon (1947) Described administration as the activities of groups cooperating to accomplish common goals, focusing on decision-making processes within administrative organizations.

Building on these foundational ideas, Duangjai Panichcherienkit (2019) explained that administration involves principles of management such as leadership, participation, policies/plans, and work integration, all formulated in accordance with government policies and adapted to the local

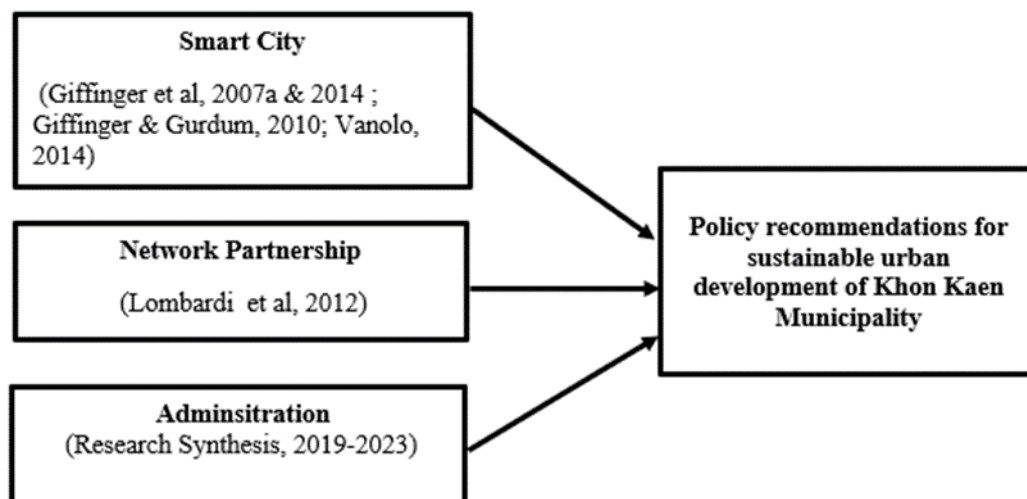
context. These principles are critical for achieving local success.

Beyond these definitions, administration can be summarized as a set of continuous processes and goals aligned with policies and missions. Effective administration enables networks to adapt appropriately to their environments, leveraging decentralized management processes to achieve success.

An extensive review of relevant research demonstrates a significant relationship between effective administration practices and sustainable urbanization. The synthesis of pertinent literature indicates that sound administrative strategies positively influence the achievement of sustainable urbanization goals (Malandrino et al., 2019; Patrose, 2023; Pongsak et al., 2021; Duangjai, 2019; Voraprot, 2016; Athit, 2023).

Figure 1

Conceptual Framework of the study



Research Methods

The research on Policy recommendations for sustainable urban development of Khon Kaen Municipality, Thailand is a qualitative research in which the researcher uses a nonprobability sampling method. The sample consisted of 3 groups of key informants representing the

government agencies, educational institutions, civil society and industry/private sectors, with 4 representatives from the government, 2 civil society and 2 industry sectors, totaling 8 persons. They have knowledge and experience as stakeholders in the implementation of smart cities of Khon Kaen Municipality by working and living in Khon Kaen Municipality which has seen

changes in Khon Kaen City. The key informants using the purposive sampling method, who have knowledge and experience, are stakeholders involved in the smart city implementation

of Khon Kaen Municipality by working and living in Khon Kaen Municipality who have seen changes in Khon Kaen including:

Table 1

The number of key informants

Partners	Interviewees	Informants (person)
Government Agencies	- Local executive representative, Khon Kaen Province - Representative of the civil servant under Public Works and Town Planning, Khon Kaen Province	2
Educational Institutions	- Representative of the lecturer of the College of Local Administration (COLA), Khon Kaen University - Representative lecturer at Faculty of Architecture, Khon Kaen University	2
Civil Society	- Community Chairman Representative - Representatives of the general public	2
Industry/ Private Sector	- Representative of the President of Khon Kaen Industry - Representative of Khon Kaen Tourism Association	2
Total	8	

Qualitative data analysis is applied content analysis by analyzing content based on a given topic as an interview theme. With regard to smart cities, network partnership, administration and recommendations that will be useful for providing policy recommendations to guide the city in a sustainable urbanization and livable future. Then, take questionnaire data, data from the target demographic. and interview data from informants from data collection. Perform analysis, synthesis, and organization of data and organize data content, as well as data classification to link data together both quantitative and qualitative data, and then present the data as an essay.

Results

Results from the use of interviews on driving towards sustainable cities: An analysis of the role of smart cities, network partners, and management of Khon Kaen Municipality is presented in 3 parts: Smart City, Network Partnership and Administration as follows:

1. The study identifies key aspects of the smart city dimension that are essential for creating sustainable urbanization in Khon Kaen Municipality. The findings emphasize the following elements: efficiency of people participation in city management and policies Emphasized for people's benefit that are as follows:

"I think that if we want to develop something in Khon Kaen area, we have to have people at the heart of our cooperation. People must participate in helping development, cooperate as one, and our city will develop quickly and clearly. Then cooperation between states must be obtained. Private or non-profit organizations to effectively implement sustainable initiatives and achieve sustainability goals." (1st Interviewee: Male, 45 years old, informant from Government sector)

"I see smart cities as an opportunity for us to better address the challenges that arise in cities, such as managing tourism, tackling pollution, traffic congestion and lack of decent housing, by using data and technology to help solve urban problems and create new opportunities for the city's economic development to become a more sustainable city." (8th Interviewee: Female, 40 years old, informant from industry/private sector)

"I think that urban development is the people, no matter how well the government comes up with policies. If the public disagrees, it will be of no use. This is before the government issues a policy. Public hearings are one of the key factors in building smart cities that contribute to the sustainability of the public sector. Khon Kaen will be a truly smart city that can lead to sustainability." (3rd interviewee: Male, 34 years old, informant from EDU. sector)

"As I've been working in the community, I've always been a community worker. I think that sustainable urban development must start with government policies that encourage people to eat well and receive equal welfare from the government." (4th interviewee: Male, 70 years old, informant from civil society sector)

The study highlights some key aspects of network partnerships that are essential for fostering sustainable urbanization in Khon Kaen Municipality. The findings emphasize that support for

local government and promoting a culture of collaboration and shared responsibility are key to successful urban development. Purposive samplings are as follows:

"It's the main thing. The government will be responsible for formulating policies and laws that support the sustainable development of cities. Then the network partners must be aware and come to help create shared value to strengthen the community. To build this foundation too." (2nd Interviewee: Male, 64 years old, informant from Government sector)

"I think unity is at the heart of the network, and the network partners, whether it is people in the community, the state, the private sector, shopping malls, shops, if they cooperate with the community, can greatly strengthen the sustainable city of our community because everyone has a different role to play in helping to build trust and good relationships in the community. It also stimulates economic, social and environmental development." (5th interviewee: male, 70 years old, informant from civil society sector)

"I, whom represented the education sector perceive that our organization is being another organization that plays a role in educating and understanding the importance of natural resource conservation, environmental management, and sustainable development to enhance knowledge and create engagement with the community. (4th interviewee: Male, 48 years old, informant from government sector)

"I think that having a strong network of partners and a good vision leads to a good life, well-being, reducing inequality, access to fast services, to develop and support projects related to sustainable development of the city." (7th interviewee: Male, 53 years old, informant from industry/ private sector)

The study identifies key administrative strategies that are crucial for creating sustainable cities in Khon Kaen Municipality. The findings emphasize the following elements: strengthening local ideas and building strong communities re vital for the sustainable administration of Khon Kaen Municipality. By emphasizing these elements, policies can help create a resilient and sustainable urban environment that meets the long-term needs of its residents. Purposive samplings are as follows:

"Actually, building a strong base for sustainable development of communities and people in the long term comes from the government. If you talk about the administration of results, let's talk about it closely. In the municipality, leaders of all organizations must be good role models for their subordinates to set an example for the development of their own organizations. It will gradually grow and contribute to sustainable development." (2nd interviewee: Male, 64 years old, informant from government sector)

"Before any activities in the community can take place, there must be a referendum on everyone's opinion first, because every citizen in the community is important to participate in decision-making on policies and projects that affect the community, and leaders of all organizations must be good role models for their subordinates to set an example for further development." (5th interviewee: Male, 70 years old, informant from civil society sector)

"I think we need to build community partnerships by supporting projects related to sustainable development so that people in the community can be aware of the development together and act together by collaborating with local organizations, businesses or those who share the same interests to have sustainable results and long-term success." (6th interviewee: Male, 50 years old, informant from EDU. sector)

"If we collaborate with the government and the public sector to develop policies that promote sustainable urbanization, sustainable use of resources and production, and long-term impact on the local economy. Create understanding with all sectors of society to affect urban development in a sustainable direction." (7th interviewee: Male, 53 years old, informant from industry/ private sector)

Conclusion and Discussion

In term of the smart city that will create sustainable urbanization, it was concluded that smart cities can be sustainable. It must increase the efficiency of city management and create the future sustainability of the city effectively. Focus on the use of technology for the benefit of the people and increase the quality of life of residents. Provide people with comprehensive, fast and equitable access to health information, as well as provide comprehensive health services for people of all ages. The city plan is designed to develop a modern environment and provide people with electricity and water supply systems to provide services thoroughly in accordance with the times and have better results. Government agencies must be involved in formulating smart city development policies with cooperation from the civil society and private sectors. This is to determine the approach that affects the physical transformation model to achieve different operational objectives. This includes the success of smart city development and is a fundamental factor that supports the growth of smart cities internationally in the future. The results of the study are consistent with the research of Samita et al. (2020) and Phanupong Muadkhunthod. (2022).

Within the network partnership, it emphasizes links between communities and opportunities for information exchange and cooperation to help build trust and relationships in the community. Supporting local businesses to grow and connect

with global markets Create an environment that fosters innovation and learning. Promote the strength of growing communities and create urbanizations that can adapt to the situation and meet the needs of the people in the long term to create sustainable cities, that is, harmonious, brainstorming ideas and creating shared responsibility with the goal of urban development, taking the common good as the location to prevent development failure. Try to create dialogue, create dialogue, work together, and build trust with collaborators. Strengthening society and strengthening relationships between communities is also important to build social strength and strengthen confidence in sustainable living. Good and sustainable management should focus on building a sustainable society. By supporting innovation and positive changes to society and the economy, as well as setting strategies as role models for organizational development. Efficient use of resources leads to sustainability. The results of the study are consistent with the research of Han & Kim (2021).

Enclosed by the administration to build a sustainable urbanization, it should focus on sustainable development by focusing on the efficient use of available resources. This includes water management for sustainable sustainability of energy systems, as well as environmental protection. Sustainable good management also requires strengthening the fundamentals. The municipality aims to be citizen-centered, or it can

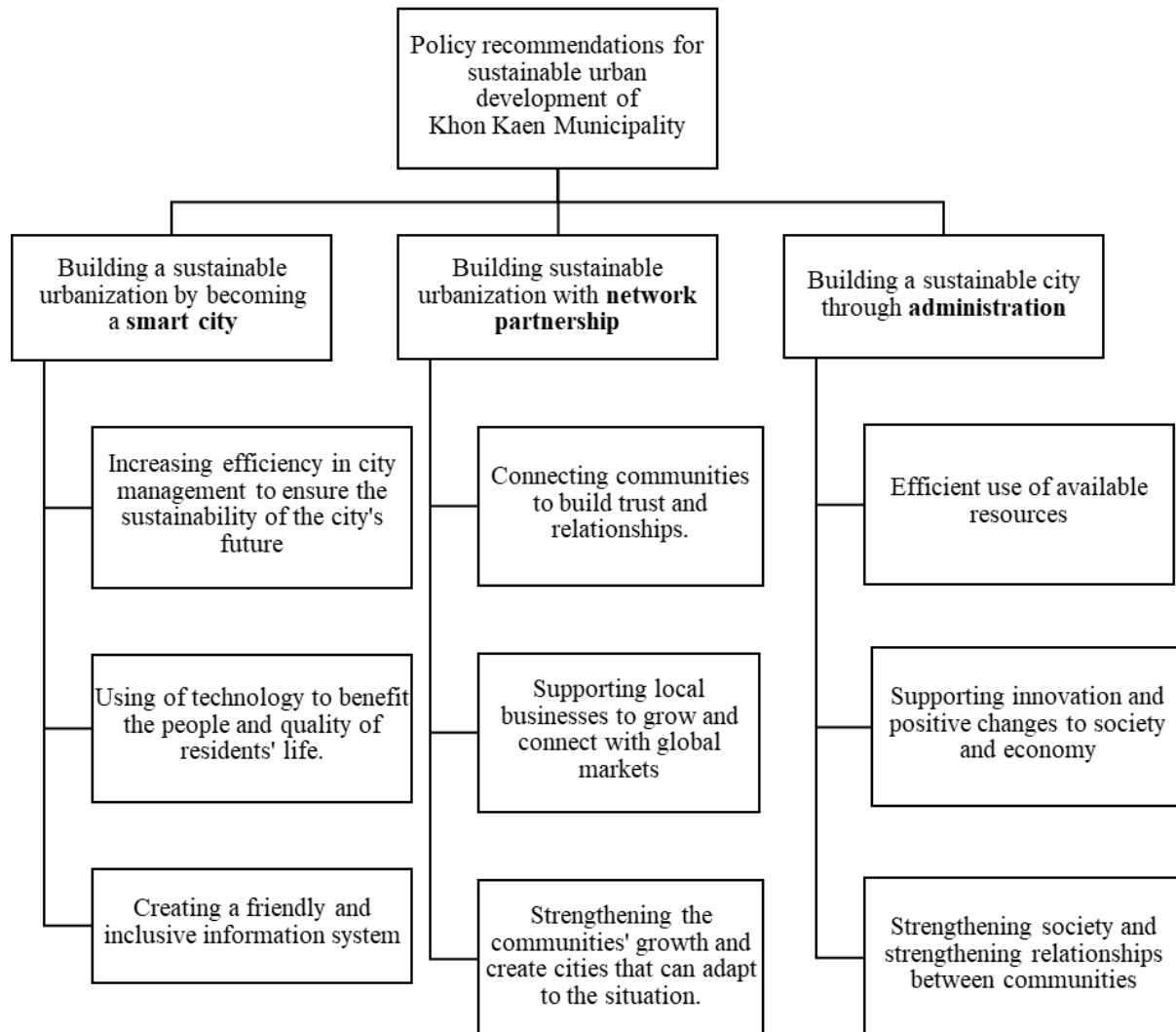
be said that a local government organization should respond to the needs of the people. The results of the study are consistent with the research of Pongsak et. al, (2021).

Practical recommendations

To create a sustainable and balanced city in terms of economy, society, and environment. The preferable environment for living and business is essential to be able to achieve sustainability in urban development. The policies created should focus on building communities and networks that connect citizens and the private sector. To have participation in the decision-making process and planning of urban development. Creating connecting spaces and public facilities to promote citizen walking and create a healthy and sustainable society. It should also support local businesses and innovations that create jobs and income for communities, while promoting environmentally friendly projects such as waste management, tree planting, and the use of renewable energy. Creating policies to promote local linkages and collaboration between the public and private sectors in developing local projects that create sustainable impacts on communities and creating a transparent management system. This is to ensure that the development of the city is sustainable and in the right direction. The researcher had synthesized the results of a study that showed three (3) elements that contribute to sustainable urbanization as shown below.

Figure 2

Policy recommendations for sustainable urban development of Khon Kaen Municipality



Suggestion for Future research

1. Future Research Directions: Further research should explore the relationships among smart cities, network partnerships, administration, and sustainable urbanization. This research should also involve a comparative analysis of current findings with historical data to assess changes and trends over time.

2. Business Promotion and Development: Future studies should investigate strategies for promoting and developing businesses in sustainable urban areas. This includes supporting creative industries and small enterprises, as well as

encouraging the integration of technology in business practices to enhance community benefits.

3. Educational Initiatives: Educational programs should be developed to foster the creation of a connected and cohesive society. This involves supporting social and community activities that strengthen relationships and promote a sense of unity within the city.

4. Additional Research Factors: Further research should examine other factors, such as the role of network partnerships in contributing to the development of livable cities. Additionally, identifying success factors that facilitate the establishment of learning cities should be explored.

References

- Ahvenniemi, H.-S. (2017). What are the differences between sustainable and smart cities?
- Athit, P. (2023). Administration and sustainable development affecting the quality of life of people in Nakhon Ratchasima Province. *Journal of Nakhon Ratchasima College of Humanities and Social Sciences*, 17(1), 316-316.
- Barnard, C. I. (1938). *The functions of the executive*. Harvard University Press.
- Dusitnanon, A. (2019). Architects Association turning Thailand into a smart city leader. Bangkok. Retrieved September 3, 2023, from <https://www.bangkokbiznews.com/news/detail/85385>
- Gammelgard, M., Kramar, H., & Strohmayer, F. (2007). An IT management assessment framework: Evaluating enterprise architecture scenarios. *Information Systems and Business Management*.
- Giffinger, R., Kramar, H., Haindlmaier, G., & Strohmayer, F. (2014). Smart cities – European smart cities 3.0. Vienna. Retrieved September 3, 2023, from <http://www.smart-cities.eu/?cid=2&ver=3>
- Giffinger, R., & Gurdum, H. (2010). Smart cities ranking: An effective instrument for the positioning of cities. *AEC: Architecture, City and Environment*, 4(12), 7-25.
- Kaewthep, K. (1995). *Community cultural approach work tools*. Mind Publishing.
- Lombardi, P., Giordano, S., Farouh, H., & Yousef, W. (2012). Modelling the smart city performance. *Innovation: The European Journal of Social Science Research*, 25(2), 137-149.
- Malandrino, O., Sica, D., & Supino, S. (2019). The role of public administration in sustainable urban development: Evidence from Italy. *Smart Cities*, 2(1), 82-95. <https://doi.org/10.3390/smartcities2010006>
- Mitchell, J. C. (Ed.). (1969). *Social networks in urban situations: Analyses of personal relationships in Central African towns*. Manchester University Press.
- Nimngern, S. (2020). What is a smart city and how will it come about? Bangkok. Retrieved September 3, 2023, from <https://www.engineeringtoday.net>
- Panichcherienkit, D. (2019). Sustainable municipality management in Phuket Province. *Surathani Rajabhat Journal*, 6(1), 143-162.
- Patrose, L. (2023). Role of public-private partnerships in developing sustainable cities: Framework, opportunities, mechanisms. *International Journal of Innovations and Interdisciplinary Research*, 1(1), 1-15.
- Phanupong, M. (2022). Smart city development: A case study of Kashiwa-no-ha City, Japan. Faculty of Arts, Silpakorn University.
- Pongpit, S. (2005). *Tactical networks for strong congregations, strong communities*. Institute Promote Business.
- Pongsak, S., Sunthorn, A., & Natthanicha, W. (2021). Principles of management and sustainable development of Thai society. *Journal of Mahachula Tani Mahachulalongkornrajavidyalaya University*, 3(6), 33-41.
- Simon, H. A. (1947). *Administrative behavior: A study of decision-making processes in administrative organizations*. Macmillan.
- Sumalee, E., & Tanchai, C. (2019). Smart city: Basic concepts and operating systems for cities in the digital age. King Prajadhipok's Institute.
- Tempermupun, S., et al. (2020). Success factors affecting smart city development in the People's Republic of China: A case study of Shanghai. Ayutthaya: Valaya Alongkorn Rajabhat University under the Royal Patronage.
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. McGraw-Hill.
- Vanolo, A. (2014). Smartmentality: The smart city as disciplinary strategy. *Urban Studies*, 51(5), 883-898.
- Voraprot, K. (2016). The relationship between community management and sustainable development and the implementation of the concept of sufficiency economy in people's daily lives: A case study of Bo Thong Subdistrict, Bo Thong District, Chonburi Province. College of Commerce, Burapha University.