

## Developing The Concepts & Strategy of Smart Regional: How to Increase Tourism & Investors (Smart city 4.0)

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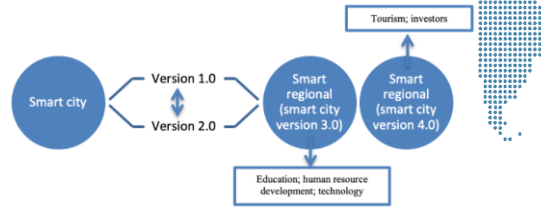
### Abstract

Smart city 4.0 is a development of the three previously published articles, namely smart city 1.0, 2.0 and 3.0. The smart city article that we created is a long process in research, so we have to make it gradually and make it into several parts. Smart city 1.0 and 2.0 we designed a big picture of a smart city and how the maturity level understood. Next, in smart city 3.0, our focus is on how smart education can be applied in collaboration between each educational institution so that a high-quality level of education achieved in the area. In smart city 4.0, we focus on designing a concept that focuses on developing tourists and how to get investors interested in investing. Factors such as culture, infrastructure/facilities, human resource development in the community, safety and comfort, profit sharing, development of tourist attractions, innovation in improving people's lives and many other factors are our main concern in this article. The methods used in smart city 4.0 are PDCA & USEPDASA, which are both appropriate methods for developing a special framework for tourists and investors. The stages in smart city 4.0 are mapping in terms of culture, human resources, facilities, information technology, security and comfort. These divided into two parts: on the side of increasing tourists and the side of increasing investors. The result of smart city 4.0 is a framework to be able to connect all activities in a smart city to generate profits for the area.

**Keywords:** smart regional, tourism, investors, strategy, development, concept

### 1. Introduction

The significant population growth from year to year has resulted in city management becoming a complex one. It requires us to make changes that are faster and more sophisticated, especially in infrastructure and services. The development of infrastructure and services will have an impact on people's lives and give changes to our readiness to face globalization[1],[2]. A smart city is one of the important things that must develop very seriously because it will have an impact on the life and progress of a city[3]. Therefore, a city needs flexible innovation in the face of globalization[4]. The previous article has created a general framework in the smart city 1.0 and developed later in smart city 2.0. Then the framework is further developed to be better in smart city 3.0. In smart city 4.0, we focus on developing in terms of tourists and investors by looking at several important factors: mapping a tourist spot, culture, habits, services to tourists, and education. Investors can become interested in investing and collaborating with the area to develop these tourist attractions. We call this process the gradual process of developing a smart city to identify each process's strengths and weaknesses. This article will produce a framework for a smart city perfectly. This research process can explain below:

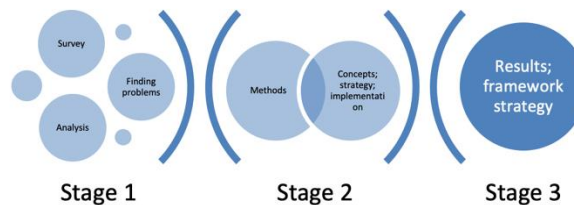


**Figure 1.** Smart Regional V 4.0 Research Process

In Figure 1, V 1.0 & 2.0 (Smart city 1.0 & 2.0) is an overview of the smart city framework. V 3.0 (Smart city 3.0) focuses on education, human resource development, technology. V 4.0 (Smart city 4.0) focuses on how we develop the tourism business and invite investors. The main problems in tourism are the absence of detailed mapping for each region, limited human resources, facilities/infrastructure, and investors' discomfort. These problems must solve by developing a concept to build and develop tourism and attract investors more effectively and efficiently.

Furthermore, the data obtained for this article is by using a survey of 33 people. This survey took a sample: 120 participants (10 lecturers in the university, ten students in the university, 100 people such as 20 general employees; 20 traders in our city; 10 laborer's; 10 mid-level business; 10 government employees; 30 randomly to the people we meet in our area. Time: March-May'2020. there was a lockdown because of Covid 19, so the results only 33 people answer our survey, and from the survey results, there are several problems that are the basis of this article. The methods used to provide solutions to these problems are PDCA & USEPDSA. This article's results are a concept and strategy in developing tourism and how investors can be willing to invest by paying attention to several essential things discussed in the big picture.

## 2. Research Methodology



**Figure 2.** Smart Regional Research Process (Smart City 4.0)

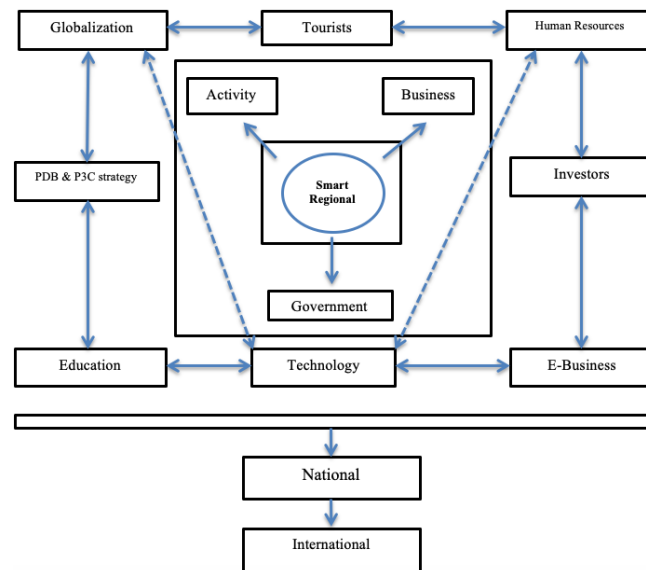
Figure 2 shows that the first stage is to conduct a survey and analysis to find the main problem. The second stage, PDCA, consists of Plan (P) - Planning for change (statement of goals and targets; identifying significant processes). Do (D) - Implementing changes (If possible, on a small scale first; identifying causes possible performance issues; developing a data collection strategy). Check (C) - Observe the impact of changes (collect data; evaluate; analyze processes). Act (A) - Act on what is learned (determine effectiveness; establish process changes). USEPDSA consists of Understand (U) - represents improvement needs (understands the need for improvement). State (S) - the problems (states the existing problem). Evaluate (E) - the root causes (evaluates the root of the problem). Plan (P) - doing or implement the solutions (implementing or implementing a plan solution). Study (S) - Study (S) - study the solutions to the problem. Act (A) - standardize the solutions (act to standardize the solution to the problem)[5],[6]. Stage 3, a framework to be able to develop tourism in the regions in collaboration with investors.



### 3. Results and Discussion

#### 3.1. Proposed Framework

The framework used in the results and discussion is the previous article's framework, namely, smart regional 2019-2025:

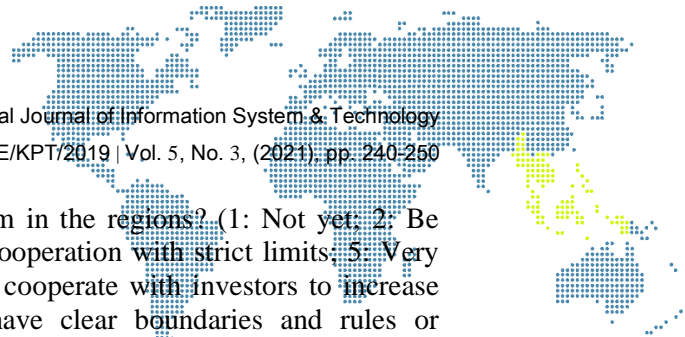


**Figure 3.** Smart Regional Framework 2019-2025

Figure 3, is a description of the framework that we designed, wherein the framework there is a close relationship between the parts which are important factors contained in a smart city. In smart city 4.0, the stages we are doing are (1) survey; (2) how to increase the number of tourists; (3) how to increase investors. It is part of the framework, in the middle position, namely smart regional, which are the three core activities and globalisation-tourist-human resource-investors.

#### a) Stage 1: Survey and Result

- 1) Is the tourism information in your area complete, and can provide the information you need about the tourist spot? (1: Not yet; 2: A Few complete; 3: Don't want to answer; 4: Quite complete; 5: Complete). Thirty-three respondents explain that 33.3% answered that these tourist attractions' information was still incomplete. 27.3% get some information about these tourist spots; 15.2% do not want to answer this; 12.1% said the tourist spot was complete and quite satisfied in obtaining information; 12.1% answered completely and were very satisfied.
- 2) Do the tourism facilities in your area meet international standards? (1: Not yet; 2: In general, it meets the standards; 3: Do not want to answer; 4: Meet national standards; 5: Meet international standards). It explains that 48.5% said these tourist attractions did not meet international standards. 24.2% said they met national standards and were quite satisfied. 15.2% said they met the standard in general, which means there are still many incomplete facilities. 12.1% do not want to answer.
- 3) Can you easily reach these tourist attractions and feel comfortable? (1: Not yet; 2: Quite easy; 3: Depending on the tourism area; 4: Easy enough; 5: Convenient). Thirty-two respondents, one person, did not answer question 3), 43.8% did not find it easy and comfortable to go to these tourist attractions, most likely because of roads, access to tourist attractions, and other facilities. 18.8% said it depends on the location of the tourist spot. 15.6% said it was quite easy and comfortable. 12.5% is quite easy, but there is still discomfort; 9.4% said it was easy and very satisfying



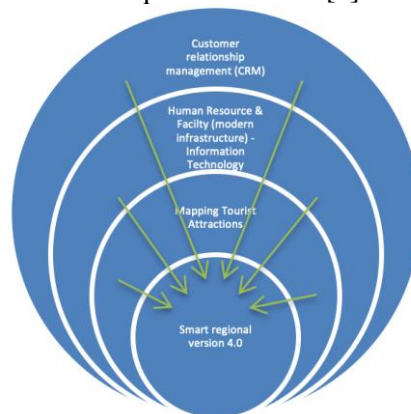
- 4) Is the investor a strategy to develop tourism in the regions? (1: Not yet; 2: Be considered; 3: Do not want to answer; 4: Cooperation with strict limits; 5: Very good strategy). It explains, 63.6% agree to cooperate with investors to increase tourism; 18.2% agree to cooperate but have clear boundaries and rules or contracts that can benefit the regional; 12.1% do not want to answer. Asset and investment guarantee

From the results of this survey, problems find in questions 1-3, but they almost balance with others. In question 4, the majority wanted cooperation with the private sector to increase competitive advantage and profits.

b) Stage 2: PDCA & USEPDSA – Tourism

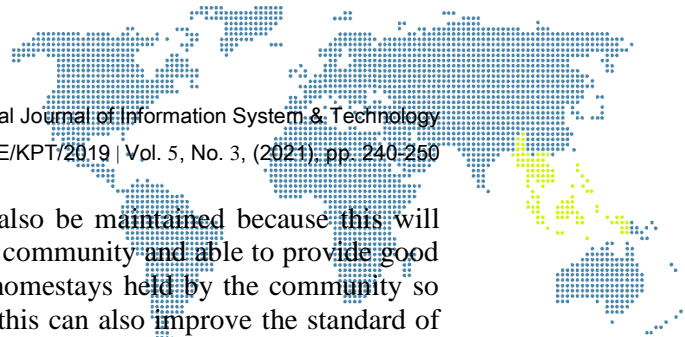
The results of the analysis of the existing problems resulted in several ways to overcome the problems above, including: 1) Mapping tourist attractions in each region; 2) Human resources and infrastructure; 3) Information technology. The following concepts can describe these three things in Figure 4. Figure 4 explains, Local government-website-information, these three things are essential in achieving smart regional version 4.0, especially in the tourism sector. To be able to provide excellent and high-quality service, the first things are:

- 1) Mapping tourist attractions in each area and providing detailed information about these tourist attractions[7]. The website has complete information so that tourists can get accurate information. It is one of the services that must do so that people at national and / international levels can have information and determine what tourist attractions they want to visit[8]. For example, one area has four tourist attractions, and the website must include photos. Complete information on tourist attractions such as restaurants, discount prices, very beautiful areas to be visited by tourists, are very important things to inform tourists. The basis of increasing tourism is mapping the details of tourist attractions and information. It is the basic strength of building good relations with tourists at the national or international level. Furthermore, this map must be very informative to tourists, so tourists know which places to go to and what facilities are available in those places. Another important thing is which tourists should not enter places and why because certain beliefs are unique in each area[9].



**Figure 4.** Smart Regional Concept & Strategy - Tourism

- 2) The readiness of human resources is also a very important point, the ability to provide accurate information if there are tourists who ask about these tourist attractions, such services must be done, competence in English (minimum) must be done - and also the community around the tour which has a lot of tourist presence from abroad, the tourist information centre must be able to use technology to be able to help improve tourism, facilities and infrastructure must be improved, especially the water closet is also very important because this can



also be a major obstacle, cleanliness must also be maintained because this will affect the level of tourist comfort, a friendly community and able to provide good service to tourists - if necessary, there are homestays held by the community so that tourists can easily get accommodation, this can also improve the standard of living of the community, technologies such as internet connection are also very important and this must also be applied to every homestay in the community[10],[11]. Human resources are one of the most fundamental and important things because this will change the community's condition, starting from the economic, knowledge, and habits side. These three things cannot be separated if they only focus on only two built things. Then there will be problems that have no solution. The three of them must walk together. For example, suppose we focus only on improving economic levels. In that case, we will usually put aside knowledge enhancement and character-building because the focus is on the money going into the area. If we focus only on knowledge and put habits aside, that will create problems too, because knowledge must build together with new habits. Here, we can draw an analysis, that first what must form and built is knowledge. In other words, education in society must receive immediate improvement and development, then new positive habits are formed, and the final stage is an increasing economy.

- 3) Customer relationship management (CRM). In this context, to maintain good relations with tourists. There is a follow-up that can be done by the tourist centre for tourists who have come to the place; of course, this should not do progress because it will cause disturbance to tourists. Tourist attractions must already have a useful application to provide information to these tourists and must always update so that national and international tourists can still obtain the latest information[12]. The essence of the strength in maintaining good relationships is the level of courtesy and friendliness by the community and the comfort that tourists get when they first arrive at the place. Local governments can conduct training that focuses on providing services to tourists and how to talk to tourists. More importantly, training in English and other languages needs tourists from which countries benefit the most. It will be very useful for improving relationships. Training that includes culture is also needed so that people can understand and be able to communicate more effectively.

These are three essential stages in increasing tourism at regional smart, which is the basis for building good relations with tourists at the national and international levels.

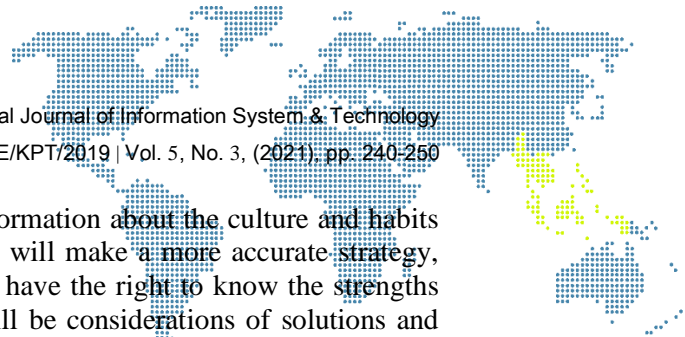
c) Stage 3: Investor – Concepts & Strategy

The analysis of the problems, especially on the part of investors, produces several ways to solve them, including: 1) Mapping culture and habits; 2) Level of security; 3) Human resources. These three things can describe as follows:



**Figure 5.** Smart Regional Concept & Strategy - Investors

Figure 5 explains that cultural mapping is necessary to invest in the area, especially tourist attractions. This stage can describe as follows:

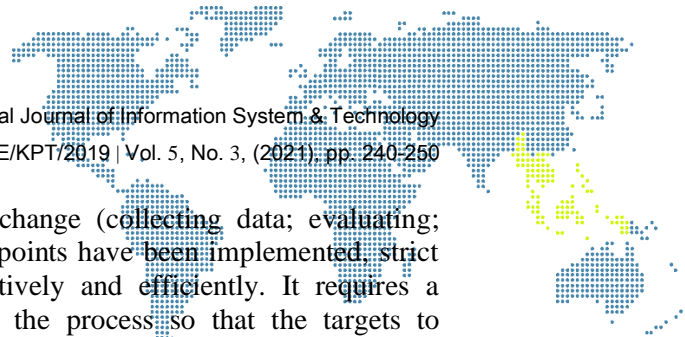


- 1) Cultural mapping is so that investors get information about the culture and habits in the area. With this information, investors will make a more accurate strategy, and the area will also benefit[13]. Investors have the right to know the strengths and weaknesses of the area so that there will be considerations of solutions and proper execution and open cooperation so that a middle way can find to build good things in the area[14]. This mapping is essential and is one of the most important things that must be paid attention to because investors must get certainty and little information[15]. The function of mapping the area's culture and customs will significantly help investors invest comfortably and adapt to the area's culture flexibly.
- 2) The security and comfort level is also essential for investors because it will impact long-term relationships with investors. Investors have the right to know how safe it is to invest in the area and what things investors need to know to be safe and feel comfortable running their business or working together. Openness to investors must be the standard of a region to attract more investors if people who are competent in maintaining security can assist investors in the form of special assistance when investors first come to the area[16]. The level of comfort and security also needs attention from the local government. It will significantly help investors to get collateral for the assets they have invested in the area. Asset and profits are two essential things for investors. Therefore, the local government's security guarantee must increase to invite more investors to invest in the area[17].
- 3) Human resources, HR competency in the area need to be prepared and must be ready. One of the biggest obstacles, when investors come and want to invest, is that if there are no human resources in that area. It will not increase living standards. Moreover, we need to understand that we cannot see a problem on one side but ignore. On the other hand, there must be a principle of fairness and balance if investors do not find human resources in the area to be able to help run their business. Investors certainly have people who have the competence to help them run a business in the area[18],[19]. Moreover, if the area has the human resources needed, then this will provide benefits to the surrounding community, the key is that one needs the other. The other must be ready for this if one needs. The other is not ready; then this will result in an imbalance. It is one of the reasons why is there an area that cannot t is developing, and there are areas that can develop rapidly, its main strength is the competence of human resources owned by the region.

#### d) Stage 4: PDCA & USEPDASA

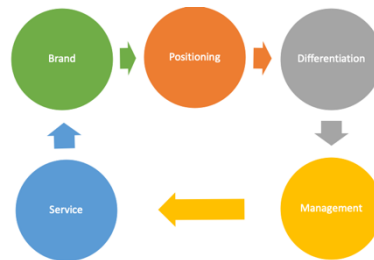
This stage is the implementation of the big picture. Things explain above to make it easier to understand the application of the concepts and strategies of this smart regional version 4.0:

- 1) Plan (P) - Plan for change (statement of goals and targets; identify significant processes). At this stage, the local government must be able to plan in detail a list of tourist attractions in the area so that they will be able to obtain what tourist attractions are needed, such as in terms of human resources-facilities-infrastructure and readiness in implementing technology. A cultural mapping and information level of security and comfort are also required to invite investors' cooperation.
- 2) Do (D) - Implement changes (If possible, on a small scale first; identify possible causes of performance problems; develop data collection strategies). This change can be started from simple things first, from increasing the competence of human resources, cleanliness, and complete facilities, to help the tourist spot's progress



- 3) Check (C) - Observing the impact of change (collecting data; evaluating; analysing processes). If the plan and do points have been implemented, strict supervision must continue to run effectively and efficiently. It requires a quality control management strategy in the process so that the targets to achieve.
- 4) Act (A) - Acts on what learn (determines effectiveness; establishes process changes). This section improves the processes that run. If there are deficiencies in running the process, these weaknesses corrected immediately. They should not be allowed to continue; this will greatly help in improving the service quality.

At this stage, the GDP strategy will implement to increase profits for tourism. It can combine with the USEPDSA method:

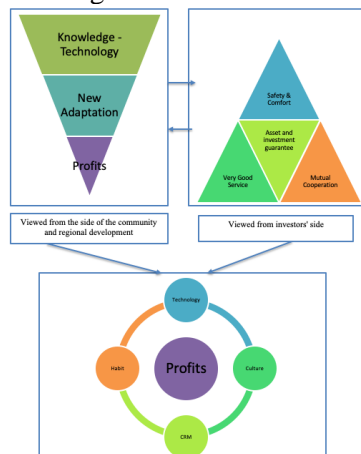


**Figure 6.** Circle of Strategy

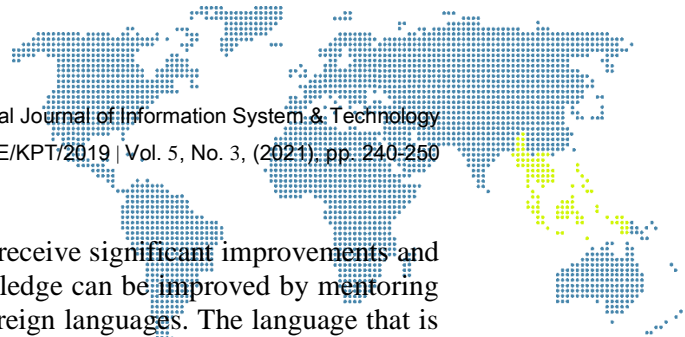
Figure 6 explains that each region must position itself so that its tourist attractions already have human resources and high-quality infrastructure. It is also part of the U (Understand) in the USEPDSA method, offering strong differentiation and uniqueness. By finding problems that need to resolve immediately and this is part of the S (State) & E (Evaluate) after these problems resolve, and the tourist site's management is going well, these tourist attractions' uniqueness and strength can highlight. When the management of such tourist attractions has standard operating procedures that are certain and can run well, this is part of the P (Plan) -S (Study) -Act (Act). Next, do superexcellence service to tourists, which will strengthen the tourist spot's brand. The impact of these things will make investors comfortable investing. To make a tourist spot provide benefits to the region, the core problem that must develop immediately is human resources and facilities-infrastructure-security-convenience and technology[20].

### 3.2. Discussions

The Implementation of Smart Regional framework 2019-2025. This results in a framework, which can describe in Figure. 7 as follows:



**Figure 7.** Framework smart city in public and investors



a) Community side:

First, knowledge, in other words, education must receive significant improvements and improvements and be assisted by technology. Knowledge can be improved by mentoring and training that can improve the ability to speak foreign languages. The language that is absolute and required to master is English. Then it can be followed by other languages, such as Mandarin, Japanese, Korean, and others. But in this case, once again, it needs to be considered. It must first see how tourists from the most dominant country come to the area so that the language is a priority to learn. Still, English is necessary to be mastered well enough, at least to communicate. Knowledge also includes understanding the tourist culture and their habits; the minimum community understands the culture in general, not necessarily in detail, but must still know to communicate well.

Furthermore, technology can use to update information about these places. If necessary, a unique information service centre is established about tourist attractions' locations, inviting local people to update the information. For example, area A has a tourist spot such as a lake. It establishes, and not far from the location or in the area, a location information centre can help tourists communicate and get valid information to improve the level of tourist satisfaction and foster good relations with tourists. Security cameras must also install correctly to keep the tourists safe and comfortable. Furthermore, technology can also create social media accounts or WhatsApp groups to communicate better with tourists. The information centre invites tourists who have come to join existing social media accounts and WhatsApp groups to get up to date information about these tourist attractions.

Second, new habits are one form of increasing excellent communication with tourists who come to the area. New habits can only form if there are training and understanding of the culture of the area. When new habits form, flexible adjustments are needed not to contradict the culture of the area. Habits can be formed from two important things: (1) increasing the ability to understand culture; (2) training on how to communicate empathetic and positive and informative. Once again, these two things not separated from one another if you want to form new social habits.

b) Investors side:

First, guarantee security, comfort; and asset security is the main thing that must receive attention and certainty first because this is very important in increasing investment in the area.

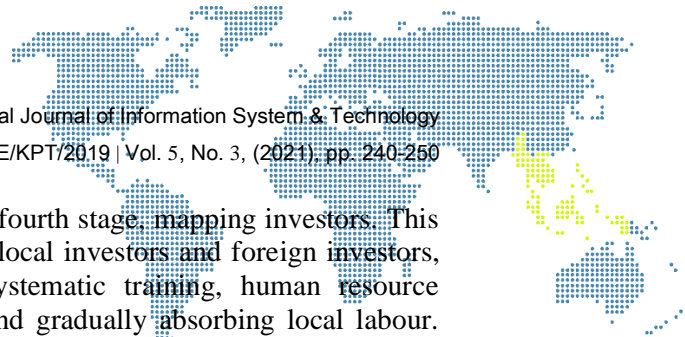
Second, excellent service and mutually beneficial cooperation are essential things that must also get attention, where there is an ease in investing and mutually beneficial cooperation between the two parties.

c) The Circle of profits

In the circle of profits: Four things are the center of continuous development, starting from the technology side, habits (which include knowledge and education), and CRM (customer relationship management). Four important things cannot separate from one another. It has been explained above before in more detail.

Case study (an overview) - A simple illustration: An area has special characteristic foods such as rice and spicy lamb. The first stage that must be carried out by the area is mapping natural resources, is the location possible to build a large enough sheep farm and build several places to develop plant seeds that are useful to support this special food. The second stage, community mapping means who are influential people in the area and can assist in the management of the business development that carried out. The third stage is mapping education, where some residents' residences are used as tourist attractions if tourists come and tourists can enjoy the food in the residents' residences so they can enjoy these foods by directly experiencing the hospitality of local culture. The selected community gave training in English (minimum), the language of future tourists and how





to communicate so that CRM created properly. The fourth stage, mapping investors. This section is a very important part because it includes local investors and foreign investors, where there is the application of technology, systematic training, human resource development and starting to establish a business and gradually absorbing local labour. Improve the quality of the ability. This stage is also a determining stage, where the security level of an area must be well maintained to provide comfort to investors. The fifth stage, supervision, if the first to fourth points carried out, well-structured supervision is needed because in carrying out this process, there must be stability in the business process. The sixth stage, improvement of infrastructure or facilities in the area to support this process sustainably. The seventh stage is the final stage, where this method can be used in other areas to be developed and requires a targeted strategy with limited time. It means there is the short term (1-2 years) must be able to reach the first stage to the fourth stage with local investors, if within that time it can reach a broader stage of investor adoption, so much the better. The medium-term (3-5 years) represents the fifth and sixth stages. The long term (6-10 years) is the implementation of the seventh stage, and this process repeated like a simple system process: input-process-output and feedback. This explanation is a big picture and is not detailed. The next article is about implementation and will provide an example of a more detailed case study, which we call smart city mapping and implementation.

#### **4. Conclusion**

After conducting the analysis, the following conclusions can draw:

- a) Smart regional 4.0 (Smart city 4.0) requires a secure integration of human resource competencies; infrastructure-facility development; comfort and safety level; cooperation with sustainable investors; detailed information about tourist attractions, and customer relationship management.
- b) Information on tourist attractions provided by local governments must have a high level of detail and high quality to enable national and international tourists to obtain information on tourist attractions and make the right choices.
- c) Human resources in each region must have competence in English (minimum), both the general public and the people in particular engaged in tourism. It will help the area experience an increase in the economy.

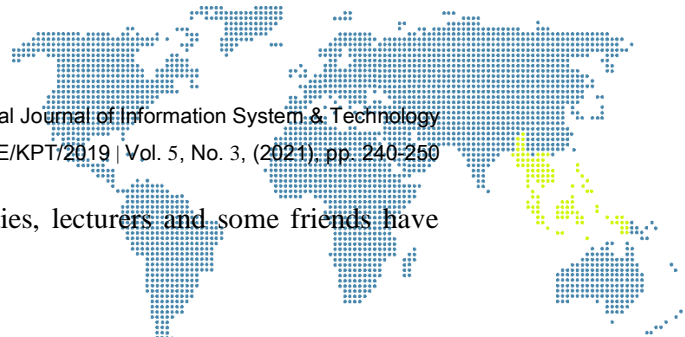
#### **Recommendation**

Smart city 4.0 focuses on two important things, namely mapping tourist attractions and CRM and how to improve relationships with investors on an ongoing basis. This research will continue on smart city 5.0 (Profiling in smart city & case study analysis), which focuses on concepts and strategies that will produce special formulas for developing human resources, technology, and other developments useful for improving the people's economy.

Important notes: This article is still under development and will be continued at the next stage, namely smart city profiling which is more detailed case study examples will accompany an application of the smart city 4.0 framework. The next stage is an article on how to implement and develop innovations in each region so that these regions can maximise the resources available in their respective regions. The final stage of this concept is the maturity level and profiling and mapping, which will produce the final framework. After the last three concepts completed, an application will develop to measure the overall performance of a smart city by referring to the concepts that published.

#### **Acknowledgement**

The author would like to thank Henry CH, who has provided financial support for this research and the information needed in developing this article and is one of the



wholesalers who helped in the survey. Several parties, lecturers and some friends have helped in providing information and surveys.

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