A Concept - The Seven Stages Of Smart City Profiling With Case Study Analysis

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Abstract
Planning, building, and sustaining are three different things. Planning is something fundamental to producing something. The building is executing what has been planned and developing it for the better. Maintaining is evaluating, managing, and continuously improving what has been implemented. A smart city must have these three things. If we only focus on one of these three things, then a smart city can be built, but it still needs to be put on target. A smart city is perfect, not just one side and several implementation sides. This article is the final of the three concepts regarding smart city profiling. Of course, the data set was obtained from the two previous reports and developed into the final stage, namely the seven stages of intelligent city profiling (the maturity level). Problems in smart cities include finding out whether the city/region can be built as a smart city, how to implement intelligent cities in stages, and how to measure the performance of existing smart cities. These three questions are the heart of a smart city. In this article, we will discuss the stages and levels in a smart city, and the result of this article is how to apply the seven steps of smart city profiling (the maturity level) method to a city/region and how we can find out the achievements what has been accomplished.

Keywords: The seven stages, smart city profiling, the maturity level, concepts, innovation

1. INTRODUCTION

This article is the last and final concept of intelligent city profiling, previously discussed the intellectual city profiling framework and innovation profiling. This research starts with building a picture as a basis for making applications. Why did we explain this in the introduction? This is so that readers can immediately understand that the articles we produce are one unit with other pieces, so they cannot be read in just one article. To understand this article, you must first read and understand the two previous reports published, namely (1) Smart city profiling framework and (2) Innovation profiling. It can be described as follows:
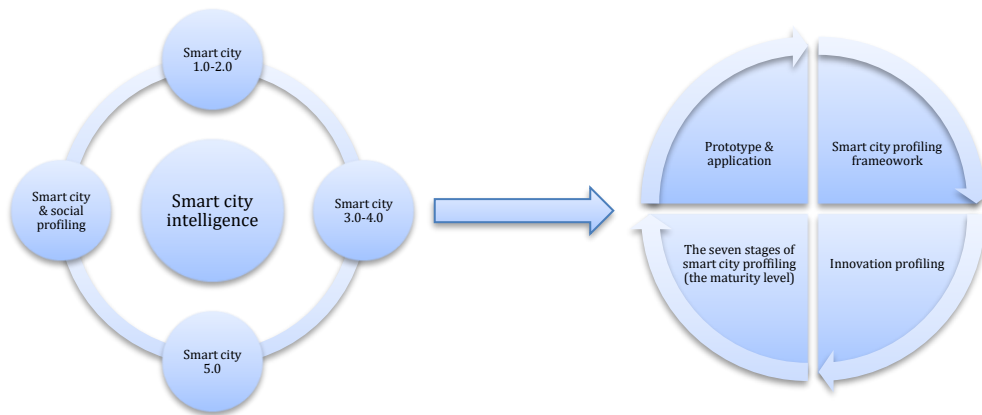
Figure 1. From intelligent city intelligence to smart city profiling

Figure 1 describes the research process we carried out to complete the basic concept of a smart city. This starts with intelligent city intelligence and ends with three smart city profiling ideas and applications. The main problem in a smart city that is most important is change, where every change must start from stages and processes that have been appropriately completed, not by rushing to finish something without looking at the situation and conditions. In previous articles, we have explained that mapping and cultural understanding are the two main things that must be done before implementing a smart city in a city or region. Therefore, it is imperative to understand that implementing a smart city is influenced by various things, not just technology elements. Because of that, we created the concept of the maturity level of intelligent city profiling. This concept is the final result of this article and the culmination of all innovative city concepts where there will be seven elements/parameters and seven stages, where each parameter and step is related to one unit that cannot be separated from one another, each city/region to be and have already implemented a smart city. You can use these indicators to determine how far the smart city has been successfully implemented and how to develop a city/region to become a smart city in stages. Before we go further into research, several things must be understood, originating from several studies on smart cities, including: (1)"The level of maturity of a smart city determines the development of a city layout; therefore, it is necessary to make policies and directions, right in determining what technology will implement in the city "[1],[2]. Technology is a determining factor in developing a smart city; therefore, it is essential to determine which technology is suitable for implementation and what kind of innovation is right for the city; (2) "Competitive development, according to significant changes concerning mindsets, products/services, processes, technology, and business models. This thinking will encourage innovation in technology, production, marketing, and innovation in business models"[3],[4]. Innovation is needed, especially in business models, to compete globally; this is the essence of the statement; (3) "Globalization makes a shift in business models." The same thing also expressed that global competition demands changes in business models and the way we live our lives[5],[6]; (4)"A region must have important facilities, including (1) data connectivity, (2)) logistics, (3) financial flow connectivity, (4) virtual world network." An area must have these four important things before applying the smart city concept[7],[8],[9];

(5)"Artificial intelligence is a system that is useful for interpreting external data and for studying that data and using this learning to achieve certain goals and tasks through flexible adaptation. AI implementation is needed to be able to apply the principles contained in a smart city[10],[11]; (6) "The level of critical variable capability must be taken into account when determining the maturity level of a smart city"[12],[13]. Several variables need to be taken into account to determine the level of a smart city;(7) "Comparison of the future between user perceptions and attitudes based on different personality characteristics and demographics needs to be taken into account properly"[14],[15].

The final result of this article is a table of the maturity level of intelligent city profiling to determine how far a city/region has been developed in stages. This table can also be used as an initial guide in building intelligent cities in specific cities/regions. And precise mapping. It should be understood that this article is the third part. Suppose the reader wants to understand in full. In that case, he must first read the first and second articles as the first and second stages because these articles are sequential and interrelated, without reading the first and second stages. This is because it will be challenging to understand this final stage.
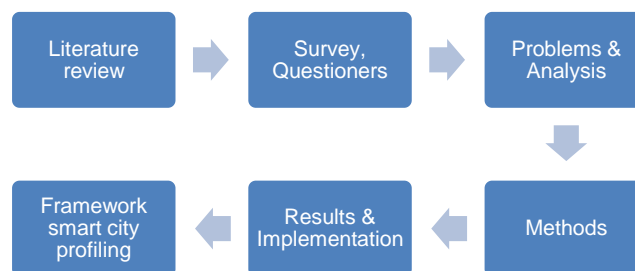
2. RESEARCH METHOD

Figure 2. The process of research

Figure 2 explains; first, we did a literature review, which came from journals, textbooks, and websites regarding smart cities. We got several articles that are data regarding smart cities (notes: in this article, we will not explain in detail these data readers can read them directly with the references we provide), including Kominfo, Profile and program implementation guide ICT Pura: Mapping movement, index calculation, and appreciation for digital cities/regencies in the Republic of Indonesia. October 2011[16]

Ifetayo Oluwafemi et al., Datasheet showing the impact of work environment on productivity in higher education institution[17]

Restu Mahesa et al., Dataset on the sustainable, innovative city development in Indonesia[18]

Tony Wijaya et al., Survey data on the antecedents of the entrepreneurial intention in Indonesia. Suhono Harso Supangkat, et.al, The implementation of Garuda intelligent city framework for intelligent city readiness mapping in Indonesia[19]

[20], et al., Smart city implementation modeling in Indonesia with an integration platform approach. In the second phase, we conducted surveys and questioners on 100 participants, with seven essential questions:

(1) What are the main characteristics of the culture in your area?
   1- no changes and activities are carried out as usual
   2- there is a slight change and are starting to accept new things
   3- quite flexible in getting new things, but has limitations in applying them to society
   4- stretchy in getting new things but there must be a combination of old and unique culture, and here a positive transformation has occurred to form a global-minded
   5- flexible and very open to new things and internationally minded
(2) What about the social level in your area?
   1- closed to everything and prefers only to do things that have been done for a long time by maintaining old habits
   2- entirely closed to new things but still willing to open up a little discussion and ready to listen to what changes they want to implement in their area
   3- quite open to new things and starting to open up
   4- open to new things but has boundaries that should not be violated, especially in the habits of local people who have been trusted for generations
   5- very open to new things and willing to develop what is unique so that people's living standards can improve for the better, have international or global-minded thinking about something
(3) What is the condition of education in your area?
   1- not good, there is still a lot of infrastructure that has not been achieved, and human resources are inadequate
   2- a little good because the infrastructure already exists but human resources and transportation are still challenging to reach education
   3- quite good, the infrastructure already exists, resources human resources are still lacking, transportation is still quite accessible but not yet appropriately integrated
   4- education in our area is good, but there are still problems with system integration, and a lack of effective and efficient management
   5- education in our site is very good and integrated, management and systems are running well
(4) What about the development of information technology in your area?
   1- there is no development in our area, and the location of our region is difficult for the implementation of information technology
   2- technology on our site is slightly developed but only communication and not other technological developments
   3- technology in our area is quite well developed but still requires increased competency in human resources and development of technical infrastructure
   4- technological product in our site is quite good, but technology integration must still be developed

   5- information technology development in our area is excellent, where management, supervision, and implementation of new technology already developed

(5) Does your region have a good business model or planning?

   1- our region does not have a business model, and many activities are still carried out traditionally

   2- our region has only a few business models, where there are no significant changes to activities

   3- our region has a business model, but it is still not well integrated

   4- business model in our area is already running well but still needs further development

   5- a business model in our site is excellent but requires more effective management and supervision so that the implementation of the business model can run on a target

(6) Does your region already have a regional marketing plan?

   1- our area does not have any marketing, many activities run traditionally

   2- our area has regional marketing, but it is still not functioning optimally, where there are still traditional marketing activities

   3- our regions have regional marketing, and some have using technology to market their territories and the characteristics of products/services

   4- our area has regional marketing and has been able to reach the national level

   5- our region has regional marketing and has reached the international level

(7) Does your region have a sustainable implementation and development system?

   1- our area does not have a sound implementation system, and there are still many problems

   2- our site has an implementation system, but it still needs to be developed. The existing system is still the old system used

   3- our site has an implementation system, but there needs to be better maintenance

   4- our site has an implementation system, but integration still needs to be developed

   5- our site has a sound implementation system, and management and supervision are excellent and integrated

3. RESULTS AND DISCUSSIONS
3.1. Survey Results

  The results of the survey from 100 participants:

Results Questions 1:

  Figure 3, Blue (23%) no changes and activities are carried out as usual; Red (20%) there is a slight change and are starting to accept new things; Yellow (17%) quite flexible in getting new things, but has limitations in applying them to society; Green (18%) adjustable in getting new things but there must be a combination of old and contemporary culture, and here a positive transformation has occurred to form a global-minded; Purple (22%) flexible and very open to new things and internationally minded.
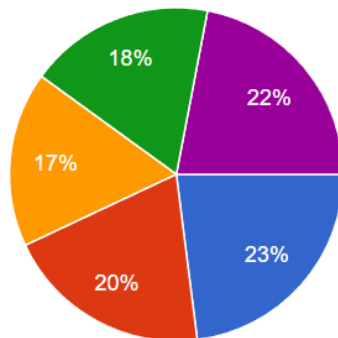
Figure 3. Results for questions 1
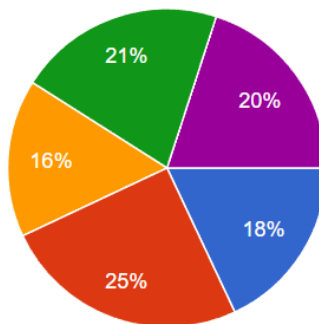
Results Questions 2:

Figure 4. Results for Question 2

Figure 4, Blue (18%) is closed to everything and prefers only to do things that have been done for a long time by maintaining old habits; Red (25%) is exceptionally closed to new things but still willing to open up a little discussion and ready to listen to what changes they want to implement in their area; Yellow (16%) quite open to new things and starting to open up to new things; Green (21%) available to new things but has boundaries that should not be violated, especially in the habits of local people who have been trusted for generations; Purple (20%) very open to new things and willing to develop what is unique so that people's living standards can improve for the better, have international or global-minded thinking about something.
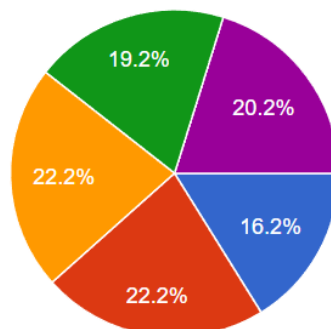
Results Questions 3:

Figure 5. Results for questions 3

Figure 5, Blue (16.2%) is not good. There is still a lot of infrastructure that has not been achieved, and human resources are inadequate; Red (22.3%) is a little good because the infrastructure already exists but human resources and transportation are still challenging to reach education; Yellow (22.2%) quite good, the infrastructure already exists, resources human resources are still lacking, transportation is still quite accessible but not yet appropriately integrated; Green (19.2%) education in our area is good, but there are still problems with system integration and a lack of effective and efficient management; Purple (20.2%) education in our site is outstanding and integrated, management and systems are running well.
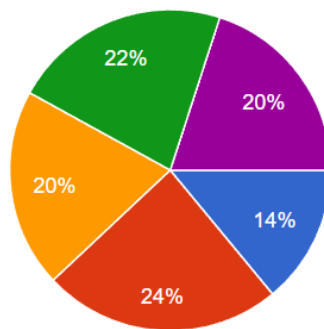
Results Questions 4:

Figure 6. Results for questions 4

Figure 6, Blue (14%) shows there is no development in our area; the location of our region is difficult the implementation of information technology; Red (24%) technology in our site is slightly developed, but only communication and no other technological developments; Yellow (20%) technology in our area is quite well developed but still requires increased competency in human resources and development of technical infrastructure; Green (22%) technological development in our site is quite good, but technology integration must still be developed; Purple (20%) information technology development in our site is perfect, where management, supervision, and implementation of new technology already developed.
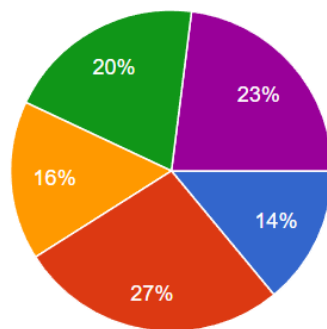
Results Questions 5:

Figure 7. Results for Question 5

Figure 7, Blue (14%) our region does not have a business model, and many activities are still carried out traditionally; Red (27%) our area has only a few business models, where there are no significant changes to activities; Yellow (16%) our part has a business model, but it is still not well integrated; Green (20%) business model in our area is already running well but still needs further development; Purple (23%) business model in our site is excellent, but requires more effective management and supervision so that the implementation of the business model can run on a target.
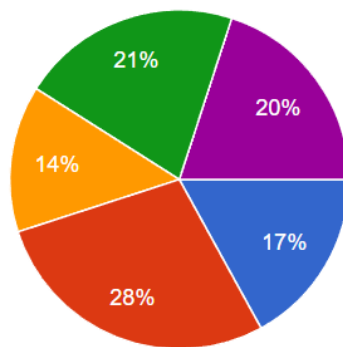
Results Questions 6:

Figure 8. Results for Question 6

Figure 8, Blue (17%) our area does not have any marketing, and many activities run traditionally; Red (28%) our area has regional marketing, but it is still not functioning optimally, where there are still traditional marketing activities; Yellow (14%) our regions have regional marketing, and some have using technology to market their regions and the characteristics of products/services; Green (21%) our area has regional marketing and has been able to reach the national level; Purple (20%) our site has regional marketing and has reached the international level.

Results Questions 7:
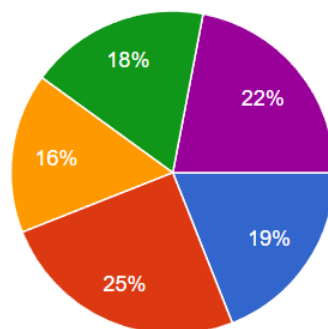
Figure 9. Results for questions 7

Figure 9, Blue (19%), our area does not have a sound implementation system, and there are still many problems in many ways; Red (25%), our area has an implementation system, but it is not developed. The existing system is still the old system used; Yellow (16%) our site has an implementation system, but there is no good maintenance; Green

(18%) our site has an implementation system, but integration still needs to be developed; Purple (22%) our site has a sound implementation system, management and supervision is very good and integrated.

3.2. Framework and Table The Maturity Level

Figure 8. From intelligent city intelligence to the seven stages of smart city profiling (The maturity level)

Figure 8 explains developing a smart city concept requires time and consistency. The concept starts from the future framework of smart city 1.0, where this is a big picture, which is then developed into smart city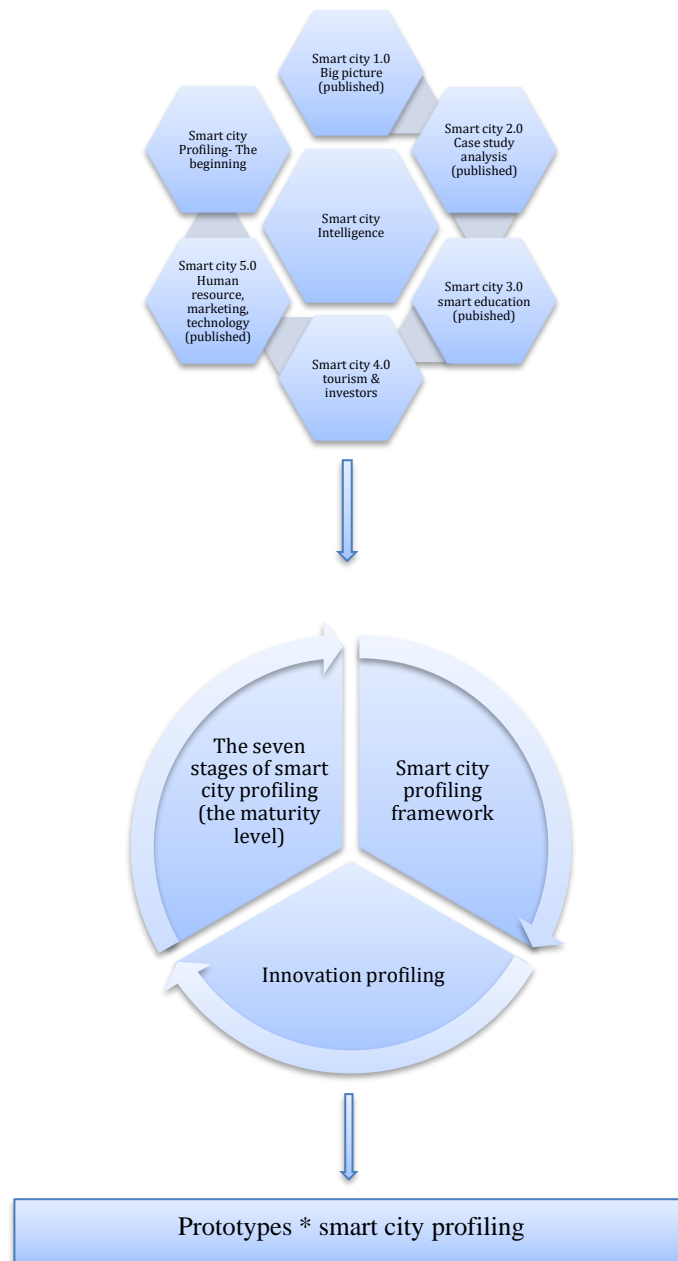 2.0, which uses the seven stages of the galleries & Sutherland method. This process continues to be developed into smart city 3.0, which focuses on how smart education can be implemented more effectively and efficiently by helping one another. Smart city 4.0 focuses on developing tourists and increasing investors. Smart city 5.0 focuses on developing human resources, regional marketing, and implementing technology. In smart cities 4.0 and 5.0, the 2020-2025 smart regional framework is produced. The resulting formula is SC= HR.M.T2, HR= MT.K.C2, M= D.P.B2, T= I.D.M2. Smart city 1.0-5.0 is a smart city intelligence group. Next, the research was developed into more details, namely smart city profiling, where profiling is a way to find out more details about what indicators/parameters should be in a smart city. Therefore, this research is included in the smart city profiling group. This group is divided into three main sections: smart city profiling framework, innovation profiling, and the seven stages of smart city profiling. These three concepts cannot be separated from one another and can be called a single unit and the final concept of the smart city we have completed. Furthermore, we are designing prototypes and applications after all these concepts have been published so that the applications created have a solid foundation.

Next, we will discuss the concept of the seven stages of intelligent city profiling (the maturity level). This discussion will cover seven parameters and seven classes. These fourteen sections are critical, and each column is an indicator to measure a smart city and implement it in stages in a city/region to become a smart city.

Table 1. The 7 S of Galliers & Sutherland to The 7 S of Smart City Profiling

Element	Stage 1 **Ad Horarcy**	Stage 2 **Foundations**	Stage 3 **Centralized**	Stage 4 **Cooperation**	Stage 5 **Entrepreneurial**	Stage 6 **Harmonious**
Strategy	Acquisition of hardware, software, etc	IT audit Find out and meet user needs (reactive)	Top-down IS planning	Integration, coordination, and control	Environmental scanning and opportunity seeking	Maintain a comparative strategic advantage Monitor futures Interactive planning
Structure	None	IS often subordinate to accounting or finance	Data processing department Centralized DP sharp	Information centers, library records, etc., in the same unit	SBU coalitioan (many but separate)	Centrally coordinated coalitions (corporate and SBU views concurrently)

			End-users running free at stage 1	Information services		
Systems	Ad hoc Unconnected Operational manual and computerized IS Uncoordinated Concentration in financial systems Little maintenance	Many applications Many gaps Overlapping systems Centralized Operational Mainly financial systems Many areas unsatisfied Large backlog Heavey maintenance load	Still mostly centralized Uncontrolled end-user computing Most major business activities covered Database systems	Decentralized approach with some controls, but mainly lack of coordination Some DSS ad hoc Integrated office technology systems	Decentralized systems but central control and coordination Added more value systems (more marketing oriented) More DSS internal, least ad hoc Some strategic plans (using external data) Lack of external and internal data integration of communications technologies with computing	Inter-organizational systems 9supplier, customer, government links) News IS-based products External-internal data integration
Staff	Programmers/contractors	Systems analysts, DP manager	IS planners IS manager Database Administrator Data administrator	Business analysts Information Resources manager (Chief information officer)	Corporate/business/IS planners (one role)	IS director/member of the board of directors

Style	Unaware	Please don't bother me (I'm too busy)	Data analysts Abrogation/delegation	Democratic-dialectic	Individualistic (product champion)	Business team
Skills	Technical (deficient level), individual expertise	Systems development methodology	IS believes it knows what the business needs Project management	Organizational Integration IS knows how the business works Users learn how IS works (for their area) Business management (for IS staff)	IS manager – a member of a senior executive team Knowledgeable users in some areas Entrepreneurial marketing skills	All senior management understands IS and its potentialities
Superordinate goals	Obfuscation	Confusion	Senior management concerned DP defensive	Cooperation	Opportunistic Entrepreneurial Intrapreunial	Interactive planning

Stage Parameter	Stage 1 None	Stage 2 Unstructured	Stage 3 Initial	Stage 4 General development	Stage 5 Fairly good development	Stage 6 Good development	Stage 7 Highest standard of development
Culture	It can't be	A habit that is still	Flexible enough	Flexible enough	Flexible, and some old	flexible Changing	Flexible

	changed	difficult to be flexible		Quite capable of turning old habits into new ones or a combination of both	habits are changed into new habits	environment The unique culture that has been combined	New environment New culture International minded
Social	Ancient practices that have become a culture	Relatively closed to new things	Just be open to new things	Just be open with the latest things with agreed boundaries	Available to new things and ready to accept what must change	Open Global minded Accept new things	Open Global minded Accept and apply new things consistently
Education	Far from standard and in dire need of infrastructure and human resources	Still lacking and requires infrastructure and human resources Education is not developing well	Education is quite good Adequate human resources are available The infrastructure is quite good	Education is quite good Sufficient human resources are available Good infrastructure Not yet integrated properly	Education has been going well Human resources have sufficient competence and are available Infrastructure requires more solid integration	Education is well built Education integration Human resources available Good infrastructure and easy-to-reach transportation	Outstanding education Human resources are available, and competence is increasing very well Very well-integrated infrastructure
Technology	Little application of	Still following quite	Technology impleme	Technology impleme	Technology impleme	The latest technol	Application of technol

	technology ogy	old technology ogy	ntation is quite good Human resources are still lacking	ntation is quite good Human resources still need competency improvement	ntation can run well but still requires human resources who have competence in carrying it out.	ogy is implemented Human resources are available to do this Good technology integration	ogy that is right on target Human resources that are already very available and ready Excellent information technology integration
Business Model	Do not have	It has a bit of a business model	Has several business models in marketing the area	Having a business model in marketing the region but integration still takes time.	It has a good business model but still requires integrated infrastructure development.	Have a good business model Good infrastructure Well integrated	Have an excellent business model Stable standard operating procedures Well integrated
Market	No clear mapping	Uneven mapping	Mapping is self-explanatory but still has a lot of flaws	Mapping is relatively straightforward, and some	Mapping is precise but still needs integration to	Clear market mapping Market integration is	Obvious market mapping Market integration

				areas already have it	work well	going well	with international
Implementation	None or even none at all	Tiny commission and is not well managed	Implementation is still unstable, and there are still many shortcomings	Implementation requires supervision so that it can run according to the process	Implementation requires good management and good supervision	Performance is good but needs more significant improvements to keep it running well	Performance is excellent and requires good development and maintenance to keep it running well

Table 1 explains that the 7S of smart city profiling has a development basis derived from the concept of The 7S of Galleries & Sutherland. The 7S Of G&S concept was later developed into The 7S Of SCP. The explanation of the table above is as follows:

Stage 1 – None.
The cultures in this area are powerful and challenging to change. It's as if they want to avoid accepting new things, and it's tough to convince them to change, so it's impossible to implement a smart city in the area. However, communication must still be carried out so that people can want to change because the changes made will be able to improve people's lives.
Social - people in the area have everyday habits and activities that are carried out daily. If you look at it, there may be the same activity tone, and things that happen don't change too much. This is stable but needs to be more dynamic and flexible.
Education- Education in the area still needs to be higher, and there has yet to progress. Transportation has difficulty reaching education; there is no integration, infrastructure needs to be improved, and the minimum availability of human resources.
The technologies in the area still need to improve, where there is minimal use of technology. Therefore, this area requires a lot of infrastructure development regarding information technology.
Business model - this area does not have any business model, where activities occur as usual, and there needs to be more development in expanding the reach.
Markets - these areas do not have a need. However, there may be natural resources that can improve people's lives, but regional marketing still needs to be stronger and cannot be reached, and there is no integration whatsoever.

The implementation process of the six parameters in this area could have improved, and overall coordination still needs improvement.

Stage 2- Unstructured.

Cultures in this area are still relatively closed, where people are open to new things; more consistent socialization and explanations are needed so that people can understand that these changes and new things can improve people's lives. Change is good if the difference focuses on community economic growth.

Social interaction in our area is still limited, where activities are running normally, but the development of these activities has yet to reach the point of global progress.

Education in our area still needs to be developed, educational infrastructure still needs improvement and development, and in terms of human resources, competency improvement is needed.

Technology-technology development in our area still requires action, where technological infrastructure is still lacking, and integration of information technology is still minimal.

Our regional business model has the old business model, where activities run as usual without significant changes. However, the business model requires development and transition to face globalization.

Market-marketing in our area needs support because the community still consumes the products/services owned on our site, but only a few are marketed outside our room.

Implementing the six points still needs to be improved and requires proper development, development, and implementation for this area.

Stage 3- Initial.

The cultures in this area are open, and there is a cultural change here. Society uses new things as daily activities and begins to form modern and global habits. The implementation at level three is gradual, where the community starts to make changes in itself to affect others, but of course, it still maintains that what is already there remains.

Social- people in this area have openness and a desire to change and try new things, where changes occur in their daily activities. Therefore, activities are generally carried out, and we have started implementing new things.

Education in this area is quite good and meets standards, and infrastructure is owned, but the availability of human resources still needs to improve in competence; this area must have specialization in several fields to be developed positively. Furthermore, infrastructure must be built and integrated.

Technology implementation in the area is quite good, with a lifestyle using technology. The infrastructure already uses technology but still needs to be fully integrated. The human resources to run the technology are good enough, but specialization is still required in specific fields.

Business model - this area has a reasonably good business model, but it is not evenly distributed, where several locations have yet to experience development, and no changes have occurred. Therefore, a more detailed mapping is needed to know the level of development, such as infrastructure, and what needs are required at each location.

Market - this area is good enough to have a product/service that is a selling point and helps attract other people to the place. However, it still requires broader development because this only focuses on local areas but has not touched the level more comprehensive national and international.

The planning implementations at each location are good enough, where some have been integrated. However, many changes and more massive development are still needed to develop this area into a smart city.

Stage 4- General development.

The culture in this area is relatively modern; this area is a city and can also be called a mid-level modern city. In this city, a culture of freedom of expression is applied, but of course, with more explicit boundaries, where these boundaries are called the middle way so that local culture is maintained, but international culture can still be applied.

The social level of the community is, on average good and meets standards in implementing smart cities. The community is accustomed to using information technology as an activity in daily life.

Education in this area is also good, and the infrastructure has been established evenly, where facilities are well available. There is some integration of education with other institutions. Human resources are available quite well, and several competencies have been fulfilled.

Technology - the implementation of information technology in this area is quite good. It has been well developed, where there is the use of technology, but in some locations, it still needs to be touched by technology. This area also has a reasonably modern lifestyle regarding communication and interaction.

This regional business model has quite good planning, where the business model created can improve people's lives. However, this business model needs to be fully integrated and can touch the whole, so consistency and innovation are still required in implementing the planned business model.

The market-marketing in this area is quite good; this area is integrated with nearby areas. Therefore, products/services from this area are well distributed to other regions. Furthermore, these regional products/services have reached the national level only in a few locations.

Implementation-supervision is needed at this stage because planning without supervision, the process will not be able to run perfectly. However, leadership with significant improvement will be able to achieve the desired result. Therefore this stage is critical; where can an area increase to the next level or remain at this level for a long time?

Stage 5- Fairly good development

This culture is at a reasonably high level, namely in the top 10 cities with a large and modern population, where culture is mixed with new things, resulting in a new culture that has begun to be consistent.

The social lifestyle of the people in it is highly social interaction, where there are new and very dynamic things in its development. Therefore, attitudes and behaviors that are open and free of expression are evident in society.

Education at this level is good, and several educational institutions have started to enter the international level. Facilities are available, and highly skilled human resources are also available here.

Technology-technology integration with transportation, facilities for daily life activities, and other things are well connected. Technology is at the heart of city life, and people use technology as their primary means of communication and other activities.

This city-business model has a good business model, where the business model that is owned is already integrated with other adjacent regions or cities so that distribution can be easily carried out.

The market marketing is good and has reached the national level and has expanded to the international level in 2-3 countries, thus providing significant benefits.

Implementation-management of the city layout is quite good. The implementation of the six points above is already above average, so this city can be categorized as a smart city and included in the intelligent city profiling group. However, this city needs monitoring and development for the better to increase the level.

Stage 6- Good development

Culture-this areas are included in the category of the five most significant cities in the country. This city is the economic and cultural heart of this city; it is evident that it is international-minded.

The social levels of society are very diverse, and freedom of expression exists in this city. A vast population and busyness in daily activities have become everyday things in this city.

Education is very advanced, where the facilities and buildings stand quite a lot. In addition, human resources are well available and have reached the international level.

Technology implementation has been excellent, and technology has become the leading center.

Business model - this city has a perfect business model but still needs a good city layout and supervision.

The market-marketing in this city is very good and has reached the international level in many countries.

Implementations in this city have been going very well, but they need even more solid supervision and integration so that standard operating procedures can run effectively and efficiently.

Stage 7- The highest standard of development

This culture includes the three most significant cities in the entire country. Culture in this city is very flexible, open, and modern cultural patterns.

The social lifestyle of the people in this area is the same as the culture they hold. Openness, flexibility, and the use of technology as a daily activity are commonplace.

Education in this city is very advanced, where facilities, human resources, and other things are filled, and there is international cooperation.

Technology-in this city, technology is very advanced and developing very fast. Implementation of technology in various sectors and the use of technology for daily activities

This city-business model already has excellent planning; the process is already running; good management is needed to execute the plan.

The markets in this city are extensive, with international connections, and every area around it is also developing nationally and internationally.

Implementation-in every area around this city, there is perfect implementation and integration. Still, continuous monitoring and improvement are needed so that it is maintained and can continue to develop for the better.

3.3. Case study & Implementation The 7S of SCP
3.3.1. Case Study A

Table 2. Case study analysis- A

Stage Parameter	Stage 1 None	Stage 2 Unstructured	Stage 3 Initial	Stage 4 General development	Stage 5 Fairly good development	Stage 6 Good development	Stage 7 Highest standard of development
Culture	▭						
Social		▭					
Education		▭					
Technology			▭				
Business Model			▭				
Market		▭					
Implementation			▭				

Table 2 describes the maturity level of an area. In the culture position, the site is in a place in the middle between levels 1 and 2, meaning that the people in the area have a solid culture and habits that they have been doing for a long time, but here people still want to listen to new things and still exist. Flexible side in listening to change. One way to build a new culture in this area is by slowly socializing and explaining with and about what you want to implement and do so that people can think and discuss. Of course, this must have a certain period to increase the level. On the social side, of course, this is related to culture; these two things cannot be separated from one another. On the one hand, the culture they hold is robust, but on the other hand, there is an openness to new things. It might be good if the community is given examples of case studies of success in implementing these new things so that people can be sure that these new things can increase their standard of living—community life. In the education position, education in the area has infrastructure that still needs to be built but needs more human resources.

Therefore it is necessary to develop infrastructure and human resources by increasing mentoring, training, and any form of education to increase competence which is very much needed in this area. Technological position, technology in this area is entirely developed but requires competent human resources. The suitable investment is a balance between technology and human resources, meaning that if there is technology to be implemented, human resources must be ready; if human resources are prepared but there is no technology, then even this will not be balanced. The position of the business model, this area may have a business model or long-term planning for developing the region, but this has not yet achieved its primary objective, which is to be in a broader market position, because solid facilities and human resources in implementation must support strong regional marketing. The conclusion is:

Culture level 1.5
Social level 2.5
Education level 2.5
Technology level 3.5
Business models 3.5
Market level 2.5
Implementation level 3.5
The maturity level of area A: 2.5

3.2.2. Case Study B

Table 3. Case Study Analysis- B

Stage Parameter	Stage 1 None	Stage 2 Unstructured	Stage 3 Initial	Stage 4 General development	Stage 5 Fairly good development	Stage 6 Good development	Stage 7 Highest standard of development
Culture			▬				
Social				▬			
Education					▬		
Technology					▬		
Business Model				▬			
Market					▬		
Implementation					▬		

Table 3 explains that this area is quite good at the maturity level. The culture position is at level 3.5, and the social part is. This illustrates that the culture and social status of the community are open to new things but still have boundaries that must be

maintained and agreed upon, where several cultures and habits may have to be carried out with these new things. In the position of education, technology, and business model, this region has reached level 4.5. This explains that this city has excellent teaching facilities, infrastructure, and human resources that meet international standards. The application of technology here has reached an advanced level, and daily activities use technology to carry out a business processes. The market position and implementation are at level 5.6, meaning that marketing of products/services in this city already covers national and international levels, performance in this case, city layout management, marketing management, and other management are operating well. However, firm control is still needed—and further development is to increase the level.

Culture level 3.5
Social level 3.5
Education level 4.5
Technology level 4.5
Business model level 4.5
Market level 5.5
Implementation level 5.5
The maturity level of area B: is 4.5

3.2.3. Case Study C

Table 4. Case Study Analysis- C

Stage Parameter	Stage 1 None	Stage 2 Unstructured	Stage 3 Initial	Stage 4 General development	Stage 5 Fairly good development	Stage 6 Good development	Stage 7 Highest standard of development
Culture					▭		
Social						▭	
Education						▭	
Technology					▭		
Business Model						▭	
Market						▭	
Implementation						▭	

Table 4 explains that the position of culture has reached level 5.5, social and education is at level 6.5, technology is level 5.5, and business model-market-implementation is at level 6.5. this explains that the culture and social life of the people in the city are very advanced, and the activity is bustling, and this is the primary urban center in the country. Infrastructure, education, and human resources are available in this

city, and the existing marketing and business models are already well-planned in international cooperation. However, this implementation certainly requires strong management and human resources to carry out the wheels of business and daily activities.

Culture level 5.5
Social level 6.5
Education level 6.5
Technology level 5.5
Business model level 6.5
Market level 6.5
Implementation level 6.5
The maturity level of area C: 6.0

Notes: this article is the final concept of three articles on smart city profiling. After this, the following article is about an intelligent city profiling prototype that is currently being made and requires quite a long time because it has to carry out the testing stages to make it perfect. We cannot display it here because it relates to copyright/patent rights.

4. CONCLUSION
1. This article is the final concept of a smart city; this concept was first built by the intelligent city intelligence group, which then developed into three concepts of intelligent city profiling.
2. The 7s of the intelligent city profiling concept is a development of several previous articles, namely the bright city intelligence group and the 7s of Galleries & Sutherland.
3. The 7s of smart city profiling consists of seven parameters, including culture, social, education, technology, business model, market, and implementation, and there are seven levels: level 1 none, level 2 unstructured, level 3 initial, level 4 general development, 5 reasonably good stories, 6 good product, 7 high quality of developmentProvide a statement that what is expected, as stated in the "Introduction" chapter can ultimately result in "Results and Discussion" chapter, so there is compatibility. Moreover, it can also be added the prospect of the development of research results and application prospects of further studies into the next (based on result and discussion).

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