Smart city development strategy and it’s challenges for city

A A Nasution¹, F N Nasution¹ and Risanty¹

¹ Universitas Sumatera Utara, Medan - 20155, Indonesia

Email: badinst@usu.ac.id

Abstract. Their technology provides easy information for the public. Through application, various information about the city can be accessed quickly by community and government through this program called smart city. Smart city is has been proven to be able to complete problem quickly too. This information can also be used by the government for creating comfort, security and order and a better life. The purpose of writing this article is to get an overview of the concept of smart cities and their implementation. Therefore finally, there must be an appropriate and appropriate smart city implementation strategy with the condition of the city. However, of course there are several challenges faced by city people and need to be resolved so that the city development is smart to run smoothly.

1. Introduction

Technological development information is currently carrying very significant change. Humans create technology with motivation and encouragement life gets better. Human compelled to make a technology that can help in finish the job. In fact technology is known to the public since time immemorial. Start human know handwriting, then developing writing with help machine. History records, the discovery of typewriters became the beginning of technological development make documents and ways send messages to other people. The existence of increasingly electric discoveries make human work more easily resolved. With touch technology, typewriter replace by that computer sourced from electrical energy with more complex function. Computers that function as tools document creator developing become a data and media processing tool concomitant interactive communication with the internet. Impact the existence of the internet has an effect which is very powerful in life humans in all aspects of life.

The aim of building smart cities is to improve the quality of life by using information and urban technology to improve service efficiency and meet the needs of citizens. Information and communication technology allows city officials to interact directly with the community and urban infrastructure and monitor what is happening in the city, how the city is developing, and how to enable a better quality of life. Through the use of sensors integrated with real-time monitoring systems, data collected from residents and devices are then processed and analyzed. Information and knowledge collected is the key to overcoming efficiency.

Human resources, public management, government, international reach and mobility and transportation. However, it still performs poorly in terms of social cohesion, where it ranks 161 out of 181. This dimension is also one of the biggest weaknesses of London (129) and Paris (91). Among other things social action cohesion inequality, unemployment rates, property prices and the ratio of women workers. This is an area where our world cities need to do better. Round out 10 three other American cities (San Francisco 4, Boston 5 and Chicago 7), two other European cities (Amsterdam
and 9 Geneva), and Seoul (8) and Sydney (10). The two lowest ranked cities are Lagos (Nigeria) and Karachi (Pakistan). Both showed poor performance in almost every ranking dimension (IESE, 2016).

Smart city implementation in several cities in Indonesia it turns out that it has various weaknesses and strengths. This needs to be studied further remember the big cities in Indonesia certainly has a lot similarity, but it turns out that the application the concept of smart city in every major city different. Smart city implementation at Jakarta and implementation in Surabaya apparently not the same. So is smart city developed in Bandung with smart city in the city of Makassar too there are differences at the level of focus smart city. Differences in regional potential both from natural resources and human resources have an impact on starting from where is a smart city it will be built. By hence, a smart city concept and the potential of the area must be researched and conducted assessment in depth. How smart city can be applied to a city by looking at all potential owned by area or city so that it will be implemented later can run smoothly and success. The purpose of writing the work this scientific is to obtain a smart city concept and implementation and for explore various challenges smart city development for city community.

2. Literature Review

2.1. Definition Smart City

Smart definition or definition the city is very diverse. Concept it is already popularly known, but in practice it is used in various countries with that term different and different situations also. There are uses of various types the concept of replacing smart with terms other adjectives.City smart as the one utilize ICT to fulfill market demands (city residents), and that community involvement in this process is needed for a smart city (Deakin, 2013). So that smart City will become a city that is not only have ICT technology in the area certain, but also has implemented this technology in a positive way impact on the local community (IEEE, 2016)

2.2. Characteristics

Characteristics of a smart cities (also society, business clusters, urban or regional agglomeration) using information technology for:

- Make more efficiency use infrastructure of physical (road, built of environment and physical assets others) through intelligence and data artificial analysis to support, development of a strong culture and healthy social economy.
- Get involved effective with local residents inside government and decisions by using the process open of innovation and electronic participation, increase collective intelligence from city institutions through governance, with emphasis on citizen participation and co desain.
- Learn, adapt and innovate and thus respond more effective and immediate for change things with improve city intelligence.

According to IEEE Smart Cities.org (IEEE, 2016), a smart city unites technology, government and society to allow characteristics as follows:

- Smart economy
- Smart environment
- Smart mobility
- Smart people
- Smart living
- Smart governance
2.3. Platform and Technology

New Internet technology promote service based cloud, Internet of Things (IoT), between face of real world users, use of smart and smart phones meters, sensor networks and RFID, and more accurate communication based on semantic webs, ways only open for collect action and problem solving collaboration.

Sensor data management platform collaborative online database service on-line that allows the owner sensor to register and connect their device to provide data into on-line database for storage and allows developers to connect to the database and build their own application based on existing data.

In London, the management system traffic known as SCOOT maximizes lamp time green at a traffic junction by feeding again magnetometer and circle data inductive for a supercomputer, who can set up traffic lights in the whole city to improve traffic throughput. A smart city roadmap consists of 4 (four) components main:

- Define precisely community needs: maybe definition can condition what you are do in steps next; associated with geography, connecting between city and countryside and the flow of people among them; even the one on several countries definition of City / community that was declared not what works effectively what really happened in real life.
- Learning Society: Before deciding to build a smart city, we first need to know why. This can be done by determining the benefits of the initiative. Learn about the community to know citizens, the business needs of citizens and the unique attributes of the community, such as the age of citizens, education, hobbies, and attractions of the city.
- Built a Smart Policy Cities: developing policies to encourage initiatives, where role, responsibility, objective, and purpose, can be defined. Make plans and strategies about how goals will be achieved.
- Citizen Engagement: This can be done by involving citizens through the use of initiatives e-government, open data, sports events, etc.

3. Result and Discussions

3.1. How to become a smart city?

There are several factors that can pursued in building the City Smart, namely:

- Push and develop new patterns leadership and governance structure manage.
- Cooperate with involving all parties.
• Build and use smart infrastructure.
• Prepare the model capable financing answer the challenge and opportunities a head

3.2. Smart city implementation in Indonesia
According to Ridwal Kamil as Mayor of Bandung, to build City of Bandung, he has triangle strategy, namely innovation, decentralization, and collaboration. In support that, the command was built center in Bandung City Hall with budget of Rp. 30 billion. Command center it is connected to CCTV installed in 80 City strategic points Bandung. From that room, officer the municipal government can monitor the traffic jam cross to street vendors. Earlier this year the command center was ready operate.

As a city that has tourist attraction, Emil calls familiar from Bandung's top officials that, trying to give an impression positive to tourists. Wrong one breakthrough is to operate it city tour bus named Bandung Tour on the Bus (Bandros). The bus the level is similar to the one at Singapore and London. 2nd floor bus made open so tourists can enjoy city tour freely. The bus will stand on a number of hotels.

Ridwan Kamil said, as a first step to make Indonesia as a developed country, must begin to change cities Indonesia, especially the city Bandung became a city of Smart agar these problems can resolved and resolved. Therefore as a city government and the community should be mutually support and cooperate with each other so that Bandung Smart City can materialized as expected

3.3. Smart city development strategy
Some experts (Happold, 2016) say that creates Smart cities are complex, processes long term, and success depends on commitment continuous for clear action, among others:
• Integrated leadership.
• Clear inspirational vision.
• One-way strategy and goals clear.
• Creation of governance models appropriate and acceptable.
• Developments in business cases and economic assessment to assess the impact of development.
• A clear understanding about urban development, transportation and infrastructure regeneration strategies and models.
• An understanding thorough about how technology can be integrated all city functions and department to create new synergy and insight.
• Current appreciation and emergence best practices in use intelligent system in service, infrastructure, and buildings.
• Appreciation of context and understanding about the interests of stakeholders, local culture and customs can have a big influence on what is acceptable.
• Understanding of 'ownership, safety, security and data usage and models funding for infrastructure new.

3.4. Smart city challenge
Some things that are important and a big challenge for Smart City's development is as explained below (Nam, 2011):
• Availability and Management Information Data.
• Security Challenge on Smart City.
• Smart Development Investment City is very big.
• Technology Infrastructure Information.
• Social Adaption
• Application Development
4. Conclusions

Thorough concept smart city has 6 (six) characteristics, namely smart governance, smart economy, smart mobility, smart environment, smart people, and smart living (which is supported by progress information Technology). Each cities also focus differently in building the city into smart city.

Smart city taken adjusts with all the potential possessed and conditions and conditions in the area each. The challenge of implementing smart city in an area include: availability of data and information, security and privacy, that investment very large, IT infrastructure, adaptation social and application development.

5. References

[1.] Deakin, Mark, “From Intelligent to smart cities” in deakin, Mark. Smart cities: Governing, Modelling and analysing the transition, Taylor and Francis, 2013, PP: 15
[2.] Happold, B. 2016. Designing smart cities. [online]
[3.] IEEE. 2016. Smart Cities [Online]
[4.] IESE Business School, 2016. Ranking the World’s Smartest Cities. [Online]
[5.] Nam, T. 2011. Conceptualizing Smart City with Dimensions of Technology, People, and Institutions. The Proceedings of the 12th Annual International Conference on Digital Government Research, College Park, MD, USA PP. 182-191.

Acknowledgements

Authors thank to Allah, lord of the universe who always bestows his grace along with guidance, so that the authors can finish the research.