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Smart City and Shifting Meaning of Public Space

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Abstract. A smart city is an IT-based city concept that carries the mission of good government and expected to bring city efficiency and create more orderly city due to reduced congestion, rapid information processing, and direct problem handling. But sometimes cities those interact quickly in cyberspace may not always be right in the real world. Some scholars worried about improving using of information technology in public space. It can change a social life, then turn the social sustainability here. Whereas, the principle of public space is an eye to eye and the presence of social communication. When community interaction is lost in public space, and people only focus on information technology held, then there is a spatial shifting meaning of public space.

In order to know about the spatial shifting meaning in Indonesian public space, this research will do several steps as below: 1) Tracing the role of technology information in Indonesian public space; 2) Identifying the existence of social interaction here; 3) Analysing the spatial meaning in public space has IT, and then 4) Figure out the spatial and its shifting meaning.

This research attempts to conduct qualitative methods, to capture the phenomena in a distinct location. This research needs to understand the existing conditions in facing IT forces into real practice of Indonesian public space. The expected result is a particular spatial meaning in public space. Finally, based on the outcome, we could know about the bringing precise concept together between the government and the communities facing the IT forces.

Keywords: smart city, shifting meaning, spatial meaning, public space

1. Background

Nowadays, cities in the world and Indonesia are stepping up to make their cities more efficient in providing information for citizens, serving their complaints, identifying city problems, and making IT as basic infrastructure. The smart city paradigm is being global and becomes the reason for digital transformation for all cities in the world. Indeed, this concept is essential and needed due to the presence of the 4.0 industrial revolution today. Nevertheless, the implementation of this concept, the level of importance and its effect on Indonesian cities must be studied due to Indonesian cities were built based on deeply rooted history and community culture. The entry of a new paradigm inevitably affects the lifestyle and daily habits of the society. In general, the Indonesian society is a population that is responsive to change. IT and digital technology is a familiar item to this community.

Based on the data, the total number of new internet users is the older generation (40-59 years old) which is 28.3% of the population. The rest, 69.3%, are young people between 20-39 years old. Compared to internet users who are 'only' 83 million, the active mobile users have reached 281.9 million people. This number illustrates that every person in Indonesia holds 1.13 units cell phone. Then, cellphones are dominate gadget used to access the internet with 85% of users. Followed with netbooks by 32%, tablets 14% and desktops as much as 13% (Ramadhan, 2016). From this explanation, it can be well-thought-out that the Indonesian people are ready to succeed the smart city program from the government.

The effect which must be measured is behaviours-lifestyle-culture transformation due to the digital technology. Because it may affect the difference meaning of our spaces including public space. Hampton et al. (2014) worried about improving using of information technology in public space. It can change a social life, then turn the social sustainability here. Whereas, the principle of public space is an eye to eye and the presence of social communication (Whyte, 2009 [1988] as cited in Hampton et al., 2014 in Kurniawati, 2018). The public space is a place for community socialisation, a place to chat and doing activities. The successful public space depends on the community interaction created. Interaction in public areas should supports eye contact between users, conversation opportunity, and socialisation (Whyte,1980 and Hampton, 2014 in Kurniawati, 2018). Besides, Javanese people have a hanging out culture in public spaces, as well as asking questions about directions, and other information needed by fellow visitors of public spaces. If, this tradition is lost (asking people, eye contact, etc.), because of smart city implementation, we must think about the appropriate smart city concept, which does not eliminate the upright habits of the community or change the meaning of public space. Then, this paper will discuss the bid of smart city and its implications for shifting meaning of public space.

2. Literature Review

2.1 Smart City Concept
The smart city concept arises as a result of the use of the computer network and the internet throughout the world. This concept is expected to establish good and transparance governance, better social life, well transportation, improved quality of life, healthy competition in all fields, by utilising information and communication technology.

The Smart City concept was initially implemented in the United States and the European Union. In the beginning, this concept aimed to create regional independence and improve public services. The concept and its implementation are also growing. Here and now, Smart City has been implemented in many countries and various parts of the world. Such as in Asia (Singapore), America, Australia and Europe (Copenhagen and Paris) [1]. The Smart City application covers multiple fields including education, health, tourism, government and others. It can be said that a smart city is a futuristic concept for a better quality of life based on computer and communication technology [2].

In Indonesia, smart city concept has been implemented in several cities such as: Bandung, Balikpapan, Makassar and Surabaya [3]. In Bandung, there are 5000 Wi-Fi connections in public spaces, public services through social media networks such as Twitter; each government agency has its digital data, paid parking cards in some places, and smart governance system from paper to paperless with user- friendly information systems. Besides, Bandung will have Bandung Technopolis in Gedebage covering 400 hectares area which will later become a prototype of smart city implementation in Indonesia [3].
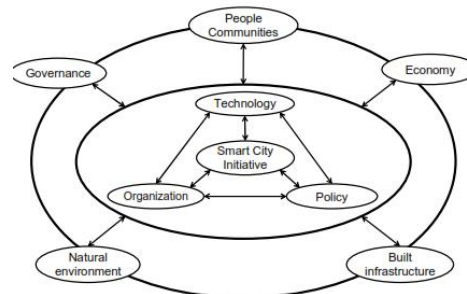
Figure 1. smart city initiative framework [4]

Technology may be considered as a meta-factor in smart city initiatives, since it could heavily influence each of the other factors, like management and organization, governance, policy context, people and communities, infrastructure, and natural resources [4]. All factors must be support for creating smart cities that not only smart but can accommodate other factors to still balance, in another word smart city can organize many factors to be nicer. Its important because of assessment smart cities by reviewing the definition, components, and measures of performances of cities, both hard and soft [5].

2.2 Public Space Concept
Public space is a people place for gathering, doing interaction and activities, and expressing their lifestyle and culture [6], [7]. European public space begins with democratisation and the needs of the community in activities [8]. While the Indonesian public space originates from the power and kindness of the authorities to its people [9] [10]. Through a long evolutionary process in Indonesian public space from traditional into modern public space (See Fig.2) , there are a lot of successful public spaces in Indonesia. *Alun-alun* in Yogyakarta, Bandung and Malang, Simpang Lima Semarang, and Bungkul Park Surabaya are representative examples of active public open spaces in Indonesia. These spaces are not only intensively visited by the community with diversity of activities, but also become cultural expressions of the existing community. *Sekaten, dugderan*, and several other cultural activities are always in the public space [11]. *Angkringan, nglaras*, taking breaks, hanging out, exercising, spending time with family are carried out in public spaces and become community activities there. People sit, chat, discuss specific themes, ask directions, and so on. Everything is done in this space.

Nowadays, public spaces face many changes payable to several policies, forces, and urban paradigms. Economical- political-technological effects enforce the face of open space. When the government cares about child-friendly cities, playground appears in every city space [12]. When the government promotes a green town, new parks give the idea to replace the functions of buildings that are considered to be transferable. When the government is concerned with the smart city, hotspots and Wi-Fi look as if everywhere. Of course, the expectation is the overlapping policies can support the function of optimal public space.
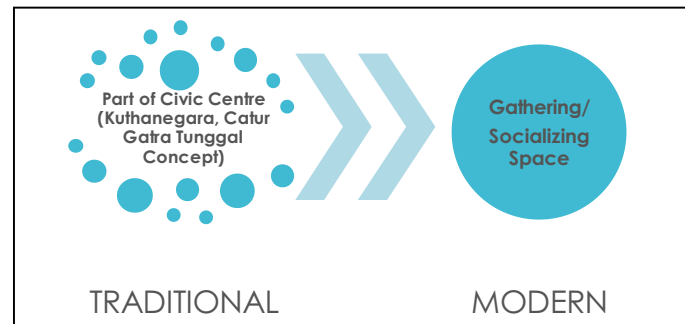
Figure 2. Public Space Evolution in Indonesia [10]

Table 1. The Difference of Western, Indonesian, and Smart-city Public Space

	Western Public Space	**Indonesian Public Space**	**Smart-city Public Space**
History	Public space is an attribute of European cities and was built since the era of Greece, Rome, medieval times, until now.	In the first time, public space was part of *kuthanegara* and *caturgatra tunggal* concept. Now, public space is a place to meet people and rendezvous.	Public space as a container or tool for supporting smart city mission for city's communities
Form	Agora, Forum, Plaza, Piazza, street, square, market	Alun-alun, field, park	Park, street, square with supporting technology
Equipment	Conventional street furniture which is developed as the city's evolvement	Street furniture, stage, street vendor	IT infrastructure, free wifi, ect
Activities	Active and passive activities, such as gathering, socialising, shopping, etc.	Active and passive activities in public space	Effective activities with supporting information from public space's equipment technology.

Reference: [8], [10], [13]

2.3.Methodology

This research attempts to conduct qualitative methods, to capture the phenomena in a distinct location, in this case, is Simpang Lima Semarang. This research needs to understand the existing conditions in facing IT forces into real practice of Indonesian public space. The direct observation was conducted between 2014 until 2016, after the announcement of Semarang as a smart city in 2013.

3. Analysis: Smart city and Public Space in Semarang, Indonesia

3.1. Tracing the role of technology information in Indonesian public space

Currently, Semarang is designing a smart city program. Located at Semarang City Hall, on Friday (05/04/2013), Semarang City launched "Semarang Smart City" [14]. This program is a collaboration between the city and *Telkom* to make a smart city by providing information technology (IT)-based services holistically. Several activities have been held to support the realisation of the intelligent city. Semarang wants to have smart governance, smart branding, smart economy, smart living, smart society, and smart environment. All information on the website tries to provide information about a lot of things in Semarang. Hopefully, the public will know the information and able to participate in daily activities and easier to understand the goals and achievements of the Semarang city government [15]

Moreover, Simpang Lima Semarang as the city icon of Semarang and positioned in the center of Semarang city has a vital function to support the implementation of the smart city. The socialisation about smart city is always done through cyberspace (Semarang city government website) as well as in the real public spaces of Semarang. In the initial stage, the Semarang City Government and Telkom built 1,200 Wi-Fi points in Semarang. The plan is to install 20,000 Wi-Fi points in Semarang City [16]. Some of the public places with free Wi-Fi installed are: Tugu Muda Park, Sampangan Park, Gajahmungkur Park, Plered Park, Singosari Park, Pandanaran Park, and Minister Supeno Park (now Taman Indonesia Kaya). Also, Tabanas Park, Simpang Lima Field, promenade of Banjir Kanal Barat, Srigunting Park in the front of Blenduk Church, Wi-Fi corner on Pahlawan Street, etc.

Figure 3. Free Wifi di Taman Kota Semarang [16]

3.2. Identifying the existence of social interaction here

The smart city concept of Semarang was declared in 2013. In public space, information technology has colored social interaction activities in public spaces. Free wifi, videotron, cellphone usage, and searching 'Pokemon' activity have been running together with the existence of daily activities in public spaces. Even so, up to the present time, based on observations made (at Simpang Lima Semarang, between 2014-2016), users still do the natural thing in the parks mentioned above. Very individual activities, such as opening a notebook, working on the tasks in public space, never seem to be done. Occasionally, users open the cell phone, but still, talk and look each other, eat food, and observe the activities of other users. So, the activities in the public space are still reasonable, and it's not accurate to conclude that there is a shifting spatial meaning of public space.

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**Table 2.** Activities in Public Space (Simpang Lima Semarang)

	Aktivities	**Location**
Active activities	Enjoying car free day event, Talking to other users or each other, doing sport, eating with family, Leisuring (bike the tandem bike), Playing and using private fasilities fasilities on the stage area and playground for children, ect.	Field of Simpang Lima, pedestrian around the field, sometime in the street (on Sunday), pedestrian in the outer part of the Simpang Lima field and street.
Passive activities	Watching each other, attending the events, contemplation, sleeping	Pancasila Field, Simpang Lima

Source: Kurniawati, 2018 [10]

3.3. Analysing the spatial meaning in public space has IT
Due to there is no significant changing pattern of activities in Simpang Lima Semarang, so it can be concluded that there is a shifting meaning of public space in recent time. It is true that information innovation is the immaterial power that affects open space design and meaning. Innovation enters the general population space in a few sorts, for example, cellphone use in Indonesian open zone, Videotron, Wi-Fi Hotspots can influence the different individual's behaviours in public space. But, the result is different. So, it can be reconsidered for the next users and generation.

3.4. Figure out the spatial and its shifting meaning
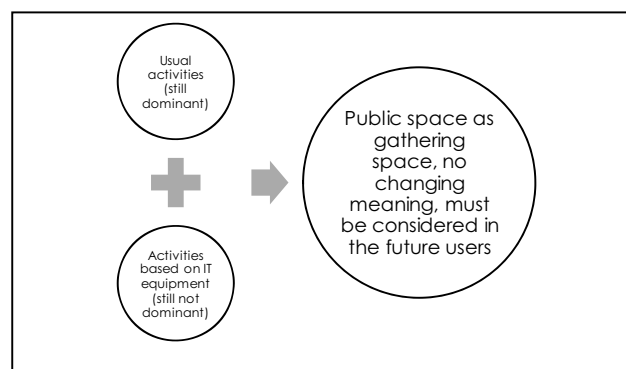
Figure 4. Spatial and no shifting meaning in Indonesian public space
Diagram by the author, 2018

The evolution of Indonesian public space and the big forces of IT still maintain the basic meaning of public space as gathering and socializing space for recent time. It can be happened here because of the transition time, and the smart city was not applied totally in all aspect, just in free wifi utilisation. So, for this time, it is not enough evidence yet to show the shifting meaning in Indonesian public space.

4. Conclusion and Recommendation

4.1. Conclusion
From the previous discussion, it can be determined that, smart city is a new urban concept to city efficiency and creates smart governance and smart people. At present, the smart city implementation is still in its early and transition stages. Efficiency impacts can already be seen, but the impact on people's behavior in public spaces is not yet visible. Indonesian society is a technology responsive society.

But on the other hand, people still need to do socialisation and interact with other people directly. The created virtual public space is not yet seen replacing the role of real public space in the city of Semarang, Indonesia. Even though the community has been able to submit complaints, information etc. via Twitter and Facebook, but that information, until now also support the splendor of real activities that will be held, helping the community to convey city problems, and avoiding places that may experience disasters, traffic jam, etc. So, at present, there is no shifting meaning of public space yet in Semarang related to the smart city concept in Semarang City.

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