PAPER • OPEN ACCESS

Smart City on Public Perception

To cite this article: D Novita and E Suryani 2019 IOP Conf. Ser.: Earth Environ. Sci. 248 012081

View the article online for updates and enhancements.

You may also like

- <u>Analysis of Bekasi watershed erosion and</u> sedimentation problem Kadri Trihono
- <u>Watershed based model for water</u> <u>allocation</u> DAP Baskoro, MYJ Purwanto and M Solahudin
- Flood Exposure of Settlement Areas in Bekasi City

A Damayanti and N A Dwiputra

Free the Science Week 2023 Accelerating discovery through open access! Discover more!

This content was downloaded from IP address 103.178.86.46 on 31/03/2023 at 08:46

IOP Conf. Series: Earth and Environmental Science 248 (2019) 012081

Smart City on Public Perception

D Novita and E Suryani

Universitas Islam '45, Jl. Cut Meutia No. 83 Bekasi City, West Java - Indonesia

dilanovitapasca@gmail.com virasurva@gmail.com

Abstract. Smart City is a concept of a government program to managing existing resources effectively and efficiently to improve the quality of public life in urban areas. The success of a government program cannot be separated into public understanding and impact on how the community responds to the program. This paper aims to understand the extent of public perception of Bekasi Smart City and to analyze Bekasi City government communication program through Bekasi Smart City website. Interviewing was conducted to the Head of Division of Public Information Management and content analysis was applied to bekasismartcity.com using Webqual. The public already has an awareness of the importance of implementing a smart city however, their knowledge is still very limited to all programs. The communication program runs particularly from website still unable to answer the needs of information and public communication, therefore the Bekasi City government needs to develop an effective communication strategy.

1. Introduction

Smart City is a concept for managing resources effectively and efficiently in an effort to improve the quality of life in urban areas, the initial step is through the development of infrastructure as part of overall development [1]. As is known, in recent decades, the population of the city is growing rapidly [2], hence, it requires good urban management [3].

As one of the innovation programs launched by the government, a smart city is very important to get support from the public [4]. The success of government programs cannot be separated from the support, role, and participation of the public, therefore, people's understanding of Smart City will have an impact on how people respond to this program [5].

1.1 Public Perception

Perception is the process of someone receiving something, processing the information they get, and how to interpret that information based on the experience of listening vision, and the words they get ([6]; [7]). Kootler [8] describes perception as a thought process of obtaining information, selecting, classifying and interpreting it by someone. There are some factors that influence people perception: influence from others, advertising, packaging, and convenience.

In determining choices, the influence of others is crucial moreover, people who give influence are people who have particular powers or people who have a large influence on society ([9]; [10]), such as religious leaders and public figures in the community. Anyone acts, wants to do something based on an example or an invitation from people they trust to do so. The influence of others is part of environmental factors that support someone to do or not to do.

Content from this work may be used under the terms of the Creative Commons Attribution 3.0 licence. Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI. Published under licence by IOP Publishing Ltd 1

International Conference on SMART CITY Innovation 2018	IOP Publishing
IOP Conf. Series: Earth and Environmental Science 248 (2019) 012081	doi:10.1088/1755-1315/248/1/012081

In advertising, the promotion has an important role to create an image in the consumer community. Advertising is considered successful when people who see it are able to become part of the program advertised. The attractive design and arrangement of advertisements are very important to get attention. With an attractive design, advertising becomes easy to understand and sticks to people's minds. Thus, a promotion is considered successful if there is an impact of the program advertising.

Some government programs related to Smart City can be followed properly, it cannot be separated from the packaging event, both with regard to the campaign, workshop, advertising, or training important roles in the transfer of the program to be delivered. Impressive information, a comfortable place, satisfying dishes, making them as consumers feel spoiled.

A smart city is built to create values that are useful for the community. Especially people who have been connected to the outside world. Access to information that has so quickly caused various impacts. This unstoppable condition must be resolved by building an intelligent system as well. Actually, the Smart City concept itself has not been too clear in its definition.

However, there are six characteristics to assess a city as smart, including smart economics, smart mobility, smart environment, smart people, smart living, and smart governance. In addition to these six characteristics, a smart city can be connected using Information Communication Technology (ICT). ICT integrates all things, so this program is mentioned can also provide an intelligent life for the community [11]. Another definition of a smart city is also defined as the word "smart"; intelligent city, knowledge smart, ubiquitous city, sustainable city, and digital city. From the exploration of some kinds of literature show that Smart City and State Digital started since 1993 and ended in 2012 [12].

Even the use of technology and information is not new in this smart city concept. Giving the name of a smart city is seen more in terms of how to manage the city and the people in it, one of development planning is an important factor in urban development. Therefore cities that have adequate intellectual and institutional resources can be called to be smart cities [13]. Nam and Pardo [14] suggested that the concept of a smart city can also be said to be a multidimensional framework that includes technology, institutions, and people. The three components work under the command of the existence of smart cities throughout the world.

Comfort is not just more than a sense of security. But a program can succeed if it provides convenience in understanding the program. Program information systems are made in a language that is light and easy to remember, so that the program is not only close to the community, but gives a change in realizing public awareness of the importance of the smart city program which is created by the government. Therefore, this paper aims to understand the extent of public perception of Bekasi Smart City and to analyze Bekasi City government communication program through Bekasi Smart City website.

2. Research Methods

This study applied in-depth interview techniques to the Head of Public Communication and to six informants from the community, consisting of students, academics and professionals. Content analysis is also applied to the website bekasismartcity.com using Webqual as a website quality measurement method developed by Stuart Barnes and Richard Vidgen [15]. Kotler [16] identifies three stages for a person in adopting an idea (cognition, affection, and conation) by fostering awareness, knowledge, and judgment until behavior changes.

3. Result and Discussion

3.1 Implementation of Bekasi Smart City

The Smart City program in Bekasi has been rolled out since the end of 2015 and continues to be developed to date (see figure 1). From concept formulation, policy making, to the formation of intelligent city councils. The policy for the Bekasi Smart City was only announced in March 2017. Space The scope of the Bekasi Smart City policy consists of a smart city development plan, the

IOP Conf. Series: Earth and Environmental Science 248 (2019) 012081 doi:10.1088/1755-1315/248/1/012081

Formation of a Smart City Team which is also called the smart city deity (Bekasi City Information Committee, 2018).

Figure 1. Bekasi Smart City Integration System.



Source: Public Service Development in the Bekasi Smart City Concept, 2015

The smart city council consists of elements of the government (smart city team), academics are represented by universities and vocational schools, the public is represented by the community, professional associations, and the business sectors which are inspired by the association of the company. Optimization of Smart City communication and information, and technical guidelines for the development of information systems and services based on e-government device in Bekasi city.

In addition, public information and communication facilities with the government have provided special channels such as bekasismartcity.com, Smart Online Reporting and Observation Tools (SOROT) and Integrated Online Complaints (POT). Smartcity.com website is used as an information channel for the development of smart cities. SOROT is the information and communications media that facilitate the easiness reporting and management reporting by providing mobile applications for the public and the government. SOROT can also conduct city analysis based on public complaints.

POT is an integrated online complaint, its function is almost the same as SOROT. Both POT and SOROT are public interactive channels with the government. Bekasi residents can send complaints from various social media, mobile apps and the website they have. SOROT will integrate various reporting channels into the data center.

Meanwhile, in the health services, to find out the outbreak of malaria spreading in Bekasi city. the Bekasi city health office already has titikjumantik.com. This website is useful for conveying at which points are prone to mosquito larvae. All applications that have been made have been revealed in the smart city action plan. The action plan for a smart city can be seen in the following picture (see figure 2):

IOP Conf. Series: Earth and Environmental Science 248 (2019) 012081 doi:10.1088/1755-1315/248/1/012081



Figure 2. Bekasi Smart City Action Plan.

Source: The Office of Communication, Information, Statistics and Coding of Bekasi City, 2018

From Figure 1, it can be seen clearly that data integration both related to Bekasi Health, Bekasi Care, and Bekasi Smart. Electronic systems in governance also support the creation of Bekasi Smart City.

3.2 Public Perception of Bekasi Smart City Program

In this study, there are six informants interviewed to obtain information on public perceptions of the Bekasi smart city program. 1. Academics, 2. Students and 3. Head of Bekasi City Communication and Information Services. Perception assessment is seen from several indicators: the influence of others, socialization or promotion or advertising, packaging and convenience.

From the results of an interview with the Head of Division of Public Communication from Bekasi City Communication and Information Services showed that the Bekasi smart city implementation was still spread various places, the movement of the programs is not massive. However, governance is good, the rules are sufficient, infrastructure support already exists even though needs to be an improvement. The weakness of this smart city program is that the existing system has not been integrated. According to the informant, actually, the public is already well-informed about the smart city program, even though the public is not fully aware of it. Moreover, smart city program is already done through socialization in various form of activities, such as campaigns, workshops, seminars, exhibitions in city level, and insert smart city programs in Real Work Lectures for students universities in Bekasi city.

The results of interviews with several academics show that smart city programs are well known, but only on certain groups, access to applications made by the government has not been improved yet, especially information channels for the community have not functioned optimally. The achievement of the smart city includes community involvement in the process of city activities. If there is still a gap, it is not integrated into one system in the implementation of a smart city, then the goal of the smart city could not achieve yet. In other words, the government runs the smart city program that has not been accessed by the whole community.

In addition, the applications that were created were not friendly to the elderly, because the new application was socialized for lowest level government reports only from certain people. Although the application displayed is interesting, but it has not been able to be an attraction for people to use it. As evident from the complaints published not so much compared to the reality of a growing problem in the community. It can be seen from the public awareness in the use of information technology that has

not been maximized. From the explanation of the interview, it can be concluded that intelligent information technology cannot be utilized, if the community as the user is not smart, besides the system created by the government nor has it helped to integrate the smart city program.

The community already has an awareness of the importance of implementing a smart city, but their knowledge is still very limited for all programs run by the city government, from public perception, this program is still considered ineffective and not at the stage can change public awareness to be smart as one target to be achieved in this program. The communication program run by the Bekasi City Government is still unable to answer public information and communication needs. This can be seen from the circulation of information that is not updated and the lack of creative attitudes from the website bekasismartcity.com.

4. Conclusion

The Bekasi Smart City communication program still needs to be improved, especially by intensifying socialization to the public. For this reason, the Bekasi City government needs to develop an effective communication strategy so that the program launched has a broad impact on improving the quality of life of the people. It could be done by face to face communication such creating interesting programs and build more attracting website of bekasisamartcity.com

5. References

- Al-Hader M, Rodzi A. The smart city infrastructure development & monitoring. *Theoretical and Empirical Researches in Urban Management*.[Preprint] 2009;42(11): 87-94. Available from: https://www.jstor.org/stable/24872423?seq=1#metadata_info_tab_contents [Accessed 1st September 2018].
- [2] Noonan DS, Zhou S, Kirkman R. *Making Smart and Sustainable Infrastructure Projects Viable: Private Choices, Public Support, and Systems Constraints.*[Preprint] 2017. Available from: <u>https://scholarworks.iupui.edu/handle/1805/14884</u> [Accessed 3rd September 2018].
- [3] Fu JY, Jing CF, Du MY, Fu YL, Dai PP. Study on Adaptive Parameter Determination of Cluster Analysis in Urban Management Cases. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*. [Preprint] 2017;42. Available from: <u>https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLII-2-W7/1143/2017/isprs-archives-XLII-2-W7-1143-2017.pdf</u>. [Accessed 5th September 2018].
- [4] Athey G, Nathan M, Webber C, Mahroum S. Innovation and the city. *Innovation*. 2008;10(2-3): 156-169. Available from: <u>https://www.tandfonline.com/doi/abs/10.5172/impp.453.10.2-3.156</u>. [Accessed 6th September 2018].
- [5] Altshuler AA, Zegans MD. Innovation and public management. Innovation in american government: challenges, opportunities, and dilemmas. Washington DC: Brookings Institution Press; 2010.
- [6] Lindsay PH, Norman DA. *Human information processing: An introduction to psychology*. Newyork: Academic Press; 2013.
- [7] Schank RC, Abelson RP. *Scripts, plans, goals, and understanding: an inquiry into human knowledge structures.* New Jersey: Laurence Erlbaum Associates; 1977.
- [8] Kotler P. Atmospherics as a marketing tool. Journal of retailing. [Preprint] 1973;49(4): 48-64. Available from: <u>http://belzludovic.free.fr/nolwenn/Kotler%20-%20Atmospherics%20as%20a%20marketing%20tool%20%20(cit%C3%A9%20171)%20-%201973.pdf</u>. [Accessed 10th September 2018].
- [9] Abrams D, Hogg MA. Social identifications: A social psychology of intergroup relations and group processes. London: Routledge; 2006.
- [10] Blau P. Exchange And Power In Social Life. New York: Routledge; 2017.
- [11] Dameri RP. Comparing Smart and Digital City: initiatives and strategies in Amsterdam and Genoa. Are they Digital and/or Smart?. *In a Smart city.* [Preprint] 2014. pp. 45-88. Springer:

IOP Conf. Series: Earth and Environmental Science 248 (2019) 012081 doi:10.1088/1755-1315/248/1/012081

Cham. Available from: <u>https://link.springer.com/chapter/10.1007/978-3-319-06160-3_3</u> [Accessed 11th September 2018].

- [12] Cocchia A. Smart and digital city: A systematic literature review. In a Smart city. [Preprint] 2014. pp. 13-43. Springer: Cham; Available from: <u>https://link.springer.com/chapter/10.1007%2F978-3-319-06160-3_2</u> [Accessed 11th September 2018].
- [13] Hajduk S. The concept of a smart city in urban management. Business, Management, and Education. [Preprint] 2016 (1) pp. 34-49. Available from: <u>https://www.ceeol.com/search/articledetail?id=412984</u> [Accessed 11th September 2018].
- [14] Nam T, Pardo TA, Conceptualizing smart city with dimensions of technology, people, and institutions. *In Proceedings of the 12th annual international digital government research conference: digital government innovation in challenging times.* College Park, Maryland, USA. 2011. pp. 282-291.
- [15] Barnes S, Vidgen R. WebQual: an exploration of website quality. *European Conference on Information System 2000 Proceedings*. Association for Information System. 2000. pp.74.
- [16] Kotler P. The role played by the broadening of marketing movement in the history of marketing thought. *Journal of Public Policy and Marketing*. [Preprint] 2005. Available from: <u>http://journals.ama.org/doi/abs/10.1509/jppm.24.1.114.63903?journalCode=jppm</u>. [Accessed 11th September 2018].

Acknowledgements

This research was supported by United States Agency for International Development (USAID) through the program of Sustainable Higher Education Research Alliance (SHERA), Grant number: AID-497-A-00004, to Universitas Indonesia (UI) entitled: *Scientific Modeling, Application, Research, and Training for City-Centered Innovation and Technology* (SMART CITY), Sub-grant number: IIE00000078-UI-1.

This article is presented at the International Conference on Smart City Innovation 2018 that supported by the United States Agency for International Development (USAID) through the Sustainable Higher Education Research Alliance (SHERA) Program for Universitas Indonesia's Scientific Modeling, Application, Research and Training for City-centered Innovation and Technology (SMART CITY) Project, Grant #AID-497-A-1600004, Sub Grant #IIE-00000078-UI-.