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Conference Paper

Readiness Analysis of Structure Smart City in Wonogiri Regency

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ABSTRACT

Digital transformation is happening at a rapid pace. Local governments are forced to adapt to the fast-changing technology. however, not all local governments are able to adapt to the changing digital environment. then there needs to be preparation for the implementation of digital-based local governance or often called a smart city.This paper focuses on analyzing the readiness of Wonogiri Regency in implementing a smart city, especially structural readiness. Researchers collected data by interviewing informants and secondary data. The results of the study show based on the structure, Wonogiri Regency is quite ready to organize a smart city.

Keywords: Readiness, structure, smart city, local government

Introduction

The development of global technology is forcing national conditions to change in terms of social, economic, cultural, and governance life. At this time the government is faced with the "forced" migration of all public services using technology. Indonesia has realized the need for digital governance since 2013. The central government and local governments are competing to create digital services for the community. Until 2017, many applications overlap and are not interoperable with one another. There is no good cooperation, nor collaboration between services. In 2018, the idea of one data, one door application, and the like were started to reduce the rate of similar applications.

Every year starting in 2018 an evaluation of the Electronic-Based Government System (SPBE) is determined. This evaluation was conducted to evaluate the implementation of e-government at the local government level. Of course, it is also literate for local governments about special applications for local governments. In Java, the average SPBE evaluation results showed good results.

Based on the 2019 SPBE evaluation, Central Java Province received an SPBE index of 3.85 and was included in the very good category (Kementerian Pendayagunaan Aparatur dan Reformasi Birokrasi, 2020). Central Java is the only province that gets a very good predicate. One of these predicates is the SPBE index from the regional government in Central Java. However, not all local governments in Central Java have a good SPBE index. One of the districts that has not had a good SPBE index is Wonogiri Regency (Kementerian Pendayagunaan Aparatur dan Reformasi Birokrasi, 2020).

Wonogiri Regency in 2019 only entered the predicate enough with an SPBE index value of 2.51 (Kementerian Pendayagunaan Aparatur dan Reformasi Birokrasi, 2020). The achievement of the Wonogiri SPBE index is still included in the low predicate. It is necessary to improve the implementation of SPBE at the government level of Wonogiri Regency. Since the results of the 2019 SPBE index came out, the Wonogiri Regency government has been determined to focus on

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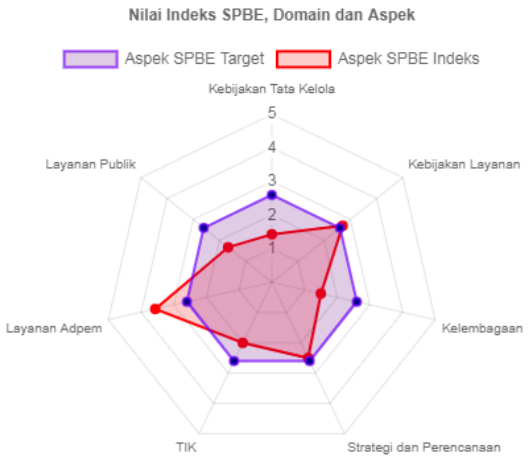
digital development. Wonogiri Regency seeks improvements in sectors that implement SPBE elements.

In the 2020 Regional Competitiveness Index, the Regency's final score is assessed to cover 4 main aspects, namely the reinforcing environment, human resources, markets, and innovation ecosystems, generally having the "MEDIUM" category. Of the 216 districts above, 1 district has a score in the "Very High" category (3.76 - 5), 66 districts have a score in the "High" category (2.51 - 3.75), 71 districts have a score in the " Medium" (1.26 - 2.5) and a total of 78 districts with the category of "Low" (0 - 1.25) The ten districts with the best score sequence are Wonogiri District (3.9179), Kendal District (3.7486), Badung Regency (3.6945), Bogor Regency (3.6715), Semarang Regency (3.6468), Pekalongan Regency (3.6125), Pati Regency (3.6118), Temanggung Regency (3.5529), Banyumas Regency (3.5333), Karanganyar Regency (3.4271) (Kemenristek & Brin, 2020). For the Regional Government at the Regency level, only 1 Regency has a score in the "Very High" category, namely Wonogiri Regency, Furthermore, as many as 16% have a score in the "High" category, 17% have a score in the "Medium" category, 19% have a score in the "Medium" category. Low". There are 200 (two hundred) District Governments that have not mapped the Regional Competitiveness Index (Kemenristek & Brin, 2020).



Nama Instansi	
Pemerintah Kabupaten Wonogiri	
K/L/D	: Kabupaten
Daerah	: Jawa Tengah
Indeks SPBE	: **2.51**
Predikat SPBE	: Cukup
Domain Kebijakan SPBE	: **2.18**
➥ Kebijakan Tata Kelola SPBE	: 1.43
➥ Kebijakan Layanan SPBE	: 2.7
Domain Tata Kelola	: **2.00**
➥ Kelembagaan	: 1.5
➥ Strategi dan Perencanaan	: 2.5
➥ TIK	: 2.00
Domain Layanan SPBE	: **2.88**
➥ Administrasi Pemerintahan	: 3.57
➥ Pelayanan Publik	: 1.67

Source: (Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi, 2020)

Figure 1. Wonogiri Regency SPBE Value in 2019

If one looks at the references sourced from research on the same topic on SPBE, researchers have not found any research results that discuss the challenges of implementing SPBE. The existing research is on the relationship between the SPBE index value and local revenue/PAD (Hanum, 2020); Evaluation of SPBE implementation (Choucri, 2003); readiness of actors in e-government (Nugroho & Purbokusumo, 2020); assessing readiness for the public sector (Adjei-Bamfo et al., 2020); more about digital transformation in organizations (G.C et al., 2016; Mazzone, 2014) both public and private (Surname, 2018); leadership in digital transformation (Vickers et al., 2016). This paper focuses on analyzing the readiness of Wonogiri Regency in implementing a smart city, especially structural readiness.

Electronic-based government system

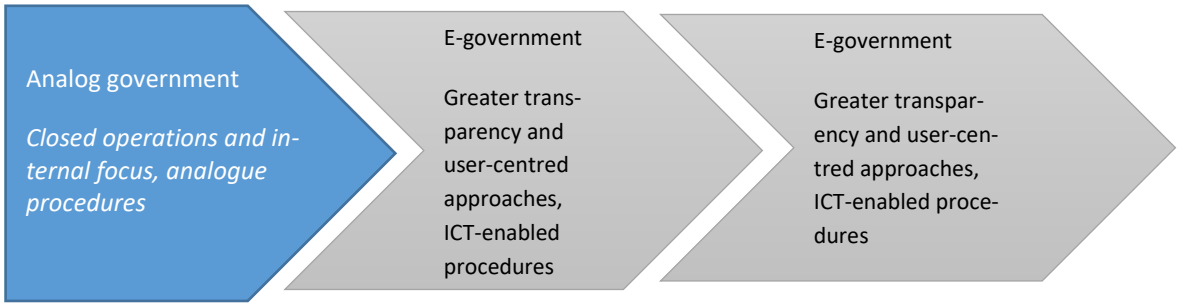
Electronic-Based Government System or SPBE as an enabler of digital transformation (Kementerian Pendayagunaan Aparatur Negara dan Reformasi Birokrasi, 2021). The Electronic-

Based Government System (SPBE) is a government administration that utilizes information and communication technology to provide services to SPBE users. The aim is to realize clean, effective, transparent, and accountable governance; realize the quality and reliable public services; improve the integration and efficiency of SPBE implementation. The SPBE is led by a national SPBE coordination team which has the task of coordinating and implementing SPBE policies at central and local government agencies.

Digital governance

The world bank defines Digital governance or e-Governance can be defined as the use of information and communication technology by the government to provide the quality information and services to citizens, businesses, voluntary organizations, and other government agencies in an efficient, cost-effective, and convenient manner and to bring transparency, accountability in government functioning to strengthen democracy (Microsave Consulting, 2020). Digital governance includes services and processes between Government to government (G2G), Government to Person (G2P), and Government to Business (G2B).

The greatest challenge for governments is to meet these new expectations. Governments are adopting public service delivery, policy-making, engagement, and a collaborative approach to the digital age (OECD, 2018). New digitally-enabled approaches, supported by the necessary changes in the public sector culture, need to be implemented if governments are to successfully meet citizens' and businesses' needs and demands. Ultimately, transformed public governance should produce outcomes that best meet user needs.



Source: Based on OECD (2014)

Figure 1. Progression towards the digital transformation of governments

In Indonesia, digital transformation is marked by the shift of public services to digital services. Every year, the central government has audited the Electronic-Based Government System (SPBE) since 2016. Previously, to assess the e-readiness of digitalization of local governments, there were many models developed. The readiness model provides measurement results that can be taken into consideration by decision-makers to choose what policies are appropriate and improvements that must be made to increase e-readiness (Musa, 2010). In Indonesia, a similar assessment has also been carried out through the Indonesian eGovernment Rating (PeGI), but since 2016 this assessment has not been carried out anymore and has been replaced with an Electronic-Based Government System (SPBE) index, but the SPBE index focuses more on assessing maturity levels.

Nugroho (2020) adopted and modified the STOPE concept (strategy, technology, organization, people environment plus budgeting to analyze the readiness for e-government implementation. Researchers adopted the elements of structure, infrastructure (Erkut, 2020) superstructure, and environment (Kuldosheva, 2021) to identify the challenges when implementing e-government.

Material and Methods

This study uses a qualitative method because this study aims to analyze the readiness of Wonogiri Regency in implementing a smart city, especially structural readiness. The author determines the exact location of the research, namely the entire Wonogiri regency. Researchers interviewed 3 (three) informants (Creswell, 2010). Data collection techniques used in-depth interviews and literature studies. The data analysis technique used qualitative analysis techniques

Analysis of the quality of human resources in the regions

Analysis of the quality of regional human resources is carried out to measure the level of community capacity in the region in accepting the smart city concept. Some of the information that needs to be known in this analysis is the level of community literacy towards smart cities which will need active and positive participation from local communities. Therefore, in this analysis, it is hoped that the Regional Government can measure the condition of the community in the area facing the smart city era in the future. The results of the analysis of the quality of human resources in Wonogiri Regency are as follows.

Table 1. Analysis of the quality of human resources in Wonogiri Kabupaten

No.	Component	Value/Condition	Interpretation			OPD
			good	moderate	bad	
1	Number of talent/hobbies/creative interest communities in the district	Yes (1 government agency; 5 private institutions; 4 BLK; 17 communities asking for talent)	✓			
2	The existence of a community of ICT software developers/developers in the region	MGMP Community, KKG, Education and Learning Content Development Team, Regional Coordinator Creative Team, Sub-Rayon Creative Team, Digital School Piloting		✓		Diskominfo
3	The existence of digital startups in the district	2 startup: Go Sukses dan Regar Sport	✓			Diskominfo
4	There are universities in the district	5 university	✓			Disdikbud
5	Number of recipients of higher education scholarships from local governments	600 students who received scholarships @ 12 million per year for 4 years	✓			Disdikbud
6	Number of acts of violation of public order in one year	217	✓			Satpol PP
7	Number of crime rates in one year	147		✓		Polres
8	Number of acts of destruction of public facilities in one year	0	✓			Satpol PP

To be continued…

No.	Component	Value/Condition	Interpretation			OPD
			good	mod-erate	bad	
9	Number of brawls between groups of residents in one year	0	✓			Kes-bang-pol

Dimensional analysis of the structure. The sub-dimensions analyzed are the analysis of the quality of human resources in the region, the analysis of the quality of human resources in the Wonogiri district government, and the analysis of regional financial capacity. Human resources in the area related to the number of ICT communities are in good condition, where there are MGMP Community, KKG, Education and Learning Content Development Team, Regional Coordinator Creative Team, Sub District Creative Team, and Digital School Piloting. There are two digital startups in the area, namely Go Sukses and Regar Sport. There are also 5 (five) universities. Wonogiri Regency encourages 600 students to get scholarships and then they can contribute to the Wonogiri area.

Based on the table above, Wonogiri Regency has good quality human resources supported by data on the availability of a talent interest community; the existence of digital startups; there are 5 universities as further education facilities; and the availability of college scholarships. The achievement of a good condition of human resources in Wonogiri Regency is supported by the condition of the number of violations of public order; crime rate; the number of acts of vandalism and public facilities; and the number of brawls between groups of citizens is minimal. This shows that the condition of Wonogiri Regency is conducive to improving the quality of human resources.

Analysis of the quality of government human resources

Analysis of government resources is carried out to measure the level of readiness of local governments to implement smart city programs in which integration and interoperability are demanded in local government business processes. In addition, as an element that drives smart cities, the readiness of local governments to implement smart cities is a key factor in the success of smart cities. The results of the analysis of the quality of government human resources in Wonogiri Regency are as follows.

Table 2. Analysis of the quality of human resources government of the Wonogiri Regency

No.	Component	Value/Condition	Interpretation			OPD
			good	mod-erate	bad	
1	Percentage of employees with S2 education level and above	9,47%		✓		BKD
2	Number of employees with an educational background in Computer Science/Informatics Engineering	1,28%			✓	BKD
3	Number of ICT volunteers in the Wonogiri	16 members		✓		Diskom-info

To be continued…

No.	Component	Value/Condition	Interpretation			OPD
			good	mod-erate	bad	
4	Percentage of the number of computer units (PC & Laptop) to the number of employees	100% / PC = 5696 Laptops = 5661 (11.357) Number of PCs & Laptops/ Number of Employees (11,357/9,485) Exceeding the number of employees because schools have computer labs	✓			Diskominfo/BPKD
5	Percentage of employees aged 50 years and over to the number of employees	48,60%		✓		BKD
6	Percentage of employees aged 40 -50 years of total employees	25,78%		✓		BKD
7	Percentage of employees aged 25 -40 years of total employees	24,22%		✓		BKD
8	Number of information systems used in local government	134 System Information / 53 Website OPD 81 Standalone Apps and Apps from the Centre	✓			Diskominfo
9	Percentage of broadband access network availability to the number of government offices	**100% / 68 network** 25 District 15 Public health center 28 OPD dari 68 OPD+Kecamatan+Puskesmas	✓			Diskominfo
10	Percentage of LAN/WAN network availability in government offices	**100% /** LAN/WAN network has been installed in all government offices	✓			Diskominfo
11	Number of wireless internet (hotspot) locations in government office areas	**100% 75 location/** 53 OPD+ district 15 Public health center 6 Diskominfo **818 School** (SD 701, SMP 117)	✓			Diskominfo
	To be continued…					

No.	Component	Value/Condition	Interpretation			OPD
			good	mod-erate	bad	
12	Availability of data centers (both self-managed and managed services) for government purposes	Availability of Tier 1 data center and use of the Ministry of Communication and Information's national data center	✓			Diskominfo
13	Availability of disaster mitigation plans and SOPs for government data	Not yet			✓	Diskominfo
14	Availability of an interoperable regional development planning information system	Yes (SIPD)		✓		Bappeda
15	Availability of an interoperable regional financial management information system	Yes (SIPKD)		✓		BPKD
16	Availability of an interoperable local government virtual office information system	Not yet			✓	Diskominfo
17	Availability of an interoperable regional development monitoring and evaluation information system	yes (Simonev)		✓		Bappeda
18	Availability of an interoperable regional personnel management information system	SIMPEG is not yet accessible to all civil servants but can be accessed by each OPD admin, so it is not fully interoperable.		✓		BKD
19	Availability of an interoperable regional legislation management information system	Yes, JDIH is already connected with National JDIH	✓			Setda Bag Hukum
20	Availability of an interoperable public service information system	Yes, all OPDs that have public service tasks already use Information Systems/Applications but are not yet interoperable. Dispecduk interoperable PPB	✓			Diskominfo/Disdukcapil

To be continued...

However, in terms of employee human resources, there are still limited human resources with an ICT education background, only 1.28%. For the ownership of a laptop/computer for work, the majority use a personal laptop. There is no available SOP on government data protection yet. Even

though this SOP is important in today's digital era. A lot of digital data is misused. Meanwhile, in digital applications, there are still many applications that are not yet interoperable, so many applications stand alone.

Regional financial capacity

Wonogiri district's financial capacity is still limited. The percentage of Regional Original Income Value to Total Regional Revenue still reaches 12.06%. Wonogiri Regency is still very dependent on funding from the central government. The limited PAD makes the SPBE budget also limited. The allocation for SPBE awaits from the central finance. To increase the 2020 SPBE index, the budget for SPBE increased with details of internet spending of IDR 1,305,114,000, application program spending of IDR 367,745,000, and computer capital expenditure of IDR 7,461,054,500 for a total of IDR 9,420,802,000.

Alternative funding for e-governance programs can be through CSR. However, in Wonogiri, the CSR track record has not been recorded in the system. Wonogiri Regency can collaborate with CSR in Wonogiri to implement SPBE. In 2021, there will be 133 CSR programs from Bank Jateng worth Rp. 8,455,000,000.

Conclusion

Based on the structure, Wonogiri Regency is quite ready to organize a smart city. The quality of human resources in Wonogiri is good, as evidenced by the presence of an ICT community, local startups, universities, college scholarships, and security. When viewed from the quality of government human resources, although the composition of human resources is almost half the age of 50 years and over, 90% of government human resources have worked using laptops/computers. This condition is supported by internet network facilities, both wifi networks, and LAN/WAN networks, and the information system used by the Wonogiri government has been digitized and interoperable. But on the other hand, there is still no disaster mitigation SOP and there is no interoperable local government virtual office information system. If we look at the regional financial capacity, Wonogiri Regency relies on transfer funds because the amount of Original Regional Revenue is low, which is only 12.06% of the total revenue.

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