Maturity analysis of E-government in West Java public service websites

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ABSTRACT: The electronics-based government system (SPBE, Sistem Pemerintahan Berbasis Elektronik)) is a new chapter of governance in Indonesia, especially in the West Java province. The West Java government has the vision to accelerate the implementation of the digital government by implementing a digitalization system to support public services. This study aims to test the E-government maturity model by using best practices in 27 public service portals implemented in West Java, Indonesia. There are 17 cities and regencies classified into stage 1 (presence) and 8 cities and regencies classified into stage 2 (interaction) of the maturity model.

1 INTRODUCTION

Transformation is mandatory for regions that are pioneering smart cities. The application of digital government requires the government to implement a digitalization system to support the administrations of public services (Pikiran Rakyat, 2019), for instance, in the forms of E-government application in government agencies' official websites and the availability of integrated services through online systems (Dhevina, 2018). The Governor of West Java, Ridwan Kamil, aims to implement digitalization in West Java to increase the region's potential and accelerate bureaucratic services (Kompas, 2019). The Governor mentioned four theories to accelerate the intended development: the Government 3.0 Theory, Pentahelix, the Eight Door Budget, and Digital Government.

From the regency to city level, the West Java government provides websites for public services. This research seeks to produce a framework using four stages of maturity stage, i.e., presence, interaction, transaction, and integration, with best practices for E-government development maturity model in 27 regencies and cities in West Java. This research aims to compose a maturity model to guide the local government of West Java in developing effective E-government, especially for its regencies and cities. The E-government model can function as the main portal for information and news search that supports the government's vision in realizing digitalization.

2 LITERATURE REVIEW

2.1 *E-government and maturity model*

According to Fath-Allah et al. (2014), the maturity model of the E-government website is a series of stages (from basic to advanced) that determine the E-government website's maturity. The stages are divided as follows:

1. The presence stage presents information and content to citizens, including news, law, publications, databases, and interactive maps. In this research, the stage will be mapped based on the web content category's best practices, as the focuses are both information and portal content.
2. The interaction stage enables interaction between the government and the public. In this research, the stage will be mapped based on the external category's best practices, since the model focuses on interaction and communication with citizens.

3. The transaction stage enables citizens to make transactions by executing some services. This stage also includes best practices from other categories (including back-end and front-end web design, web content, and external category), producing sophisticated services or transactions.
4. The integration or transformation stage is the integration between the government agencies, i.e., joining the government to exchange information between agencies from the same or different jurisdictions. The methodology was adopted from the work by Fath-Allah et al. (2016).

2.2 Best practice of maturity model E-government website

A comparative study was conducted based on the work by Fath-Allah et al. (2016) in the four categories of maturity, i.e., presence, interaction, transaction, and integration. The study is divided into four categories of best practice:

1. The back-end category includes best practices that run in the background and are usually invisible to the user: customer centricity, interoperability, use of standards, modularity, security, privacy, single sign-on, delegation, e-participation, payments, workflows, and responsiveness.
2. Front-end web design categories include best practices that users usually observe and interact with. The front-end web design also relates to portal design aspects, namely, one-stop-shop, ease of navigation, social network, personalization, user forms, industrialization, and structuration.
3. Front-end web content categories include best practices that users typically see and interact with. They are related to portal information and its contents, namely, relevancy, accessibility, search engines, periodical change, rich content, interactive games, mobile apps, statements, transactions, and understandability.
4. The external category includes best practices loosely integrated with the technical aspects of the portal. This category mostly relates to the integration of citizens in the E-government process and portal marketing aspects, which are advertising, referencing, incentives, contest, and reusability.

3 METHODOLOGY

3.1 Content analysis

This research employs a quantitative approach and Martono's (2014) content analysis framework. According to Martono (2014), the content analysis stages are divided into data coding, data entering, data output, and data analysis. In the data coding stage, the data were prepared in a coding sheet, where the data were inputted and coded. The data from 27 regency and city websites in West Java were processed by converting the data from website displays to numerical data based on the coding guidelines. Then, in the data entering stage, the numeric data were entered into a Microsoft Excel sheet before processed by SPSS version 21.

The next stage was data output, which, according to Martono (2014), is a display of data in a frequency distribution table. Lastly, in the data analysis stage, the data were collected from observation of 27 websites, which were presented in tables, graphs, or pie charts.

Table 1. Regency and city improvement.

No	Regency/City	Percentage	Stage
1	Bogor Regency	45.35%	1 (Presence)
2	Sukabumi Regency	49.2%	2 (Interaction)
3	Cianjur Regency	51.77%	2 (Interaction)
4	Bandung Regency	49.50%	2 (Interaction)
5	Garut Regency	45.50%	2 (Interaction)

(continued)

Table 1. Continued.

No	Regency/City	Percentage	Stage
6	Tasikmalaya Regency	37.50%	1 (Presence)
7	Ciamis Regency	39.25%	1 (Presence)
8	Kuningan Regency	45.50%	2 (Interaction)
9	Cirebon Regency	53.52%	2 (Interaction)
10	Majalengka Regency	35.27%	1 (Presence)
11	Sumedang Regency	33.17%	1 (Presence)
12	Indramayu Regency	43.27%	1 (Presence)
13	Subang Regency	39.42%	1 (Presence)
14	Purwakarta Regency	39.27%	1 (Presence)
15	Karawang Regency	35.27%	1 (Presence)
16	Bekasi Regency	51.92%	2 (Interaction)
17	West Bandung Regency	26.92%	1 (Presence)
18	Pangandaran Regency	37.32%	1 (Presence)
19	Bogor city	45.35%	2 (Interaction)
20	Sukabumi City	43.27%	1 (Presence)
21	Bandung City	22.77%	0
22	Cirebon City	22.45%	0
23	Bekasi city	41.35%	1 (Presence)
24	Depok City	41.35%	1 (Presence)
25	Cimahi City	37.17%	1 (Presence)
26	Tasikmalaya City	41.50%	1 (Presence)
27	Banjar City	22.77%	0

4 CONCLUSION

This study aims to test the E-government maturity model using best practices in 27 public service portals used in West Java province. The research found 17 cities and regencies classified into stage 1 (presence) and 8 cities and regencies classified into stage 2 (interaction) of the maturity model. The average results for the two stages are then evaluated to improve the public service quality. This study surveys the implementation of E-government by best practice in West Java and formulates solutions to improve its maturity stages. This paper portrays the government portal maturity model by identifying the best practices and providing the justification of the mapping and best practice models.

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