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EVALUATING FOCUS AND QUALITY OF INDONESIAN E-GOVERNMENT WEBSITES

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Abstract
The study aimed to evaluate focus and quality of Indonesian e-government website. All 456 websites of districts/cities throughout the country are taken into account. The study revealed that 66.9% of districts/cities had their own website and were in operations, while other were either still embedded into website of province, not found, or inaccessible. In general, the websites focused on promoting linkage between government and business, while efficiency and effectiveness in the delivery of frontline services were less prioritized. The quality of the website in general was in medium level, both in terms of the quality of content and the level of ease-of-use.

Keywords*: e-government website, website focus, website quality, Indonesia.*

1. INTRODUCTION

Adoption of e-government has increased in most countries but at the same time the rate of adoption varies from country to country. Generally, developing countries, including Indonesia, are lagging behind in e-government adoption compared to developed countries. Based on a global e-government survey conducted in 2006, Indonesia was 183rd out of the 208 surveyed countries (West, 2006). The United Nations' Global e-Government Readiness Report put Indonesia on 97th place among the 191 surveyed countries. The readiness incorporates Web measure, telecommunications infrastructure, and human capital indices (United Nations, 2005).

The disparity in e-government implementation between districts in Indonesia is huge due to a number of reasons, including management, infrastructure, and human factors that vary across this large and heterogeneous country (Furuholt & Wahid, 2008). In 2003, only 49.9% local governments, which include province governments and district/city governments, implemented e-government. At the central government level, 90% of the institutions have implemented e-government for a variety of functions (Ahmadjayadi, 2003). However, most initiative are still in emerging presence, some in enhanced presence, and only a handful of government agencies has moved forward to interactive presence (United Nations, 2005).

Taken the current state into account, this recent study aims to evaluate focus and quality of Indonesian e-government website. The rest of the paper is organized as follows. Section 2 presents a literature review, followed by research method in Section 3. Section 4 presents study result and discussion. Section 6 brings this paper to a conclusion.

2. LITERATURE REVIEW

2.1 Defining e-Government

According to Kumar and Best (2006), e-government can be defined broadly as the use of information and communication technologies in the public sector to improve its operations and delivery of services. Although e-government encompasses a wide range of activities and actors, three distinct sectors can be identified. These include government-to-government (G2G), government-to-business (G2B), and government-to-citizen (G2C). Some observers also identify a fourth sector, government-to-employee (G2E). Since G2E operations tend to focus on internal, administrative activities, they can be considered a subset of the G2G sector (Seifert & Bonham, 2003).

The literature offers a number of models presenting the development of e-government. Some of these (e.g. Layne & Lee, 2001; United Nations, 2005) describe e-government as an evolutionary phenomenon, starting with presence on the web, providing the public with relevant, basic information. The development is then described in a number of levels, from (1) *emerging presence,* (2) *enhanced presence,* (3) *interactive presence*, (4) *transactional presence*, (5) *networked presence* (United Nations, 2005). This highest level is usually a long-term objective where e-government is offered as "seamless" on the "one-stop-shop" principle.

Several studies (e.g. Kunstelj & Vintar, 2004; United Nations, 2005) have found that most countries reach the interactive presence, with various degrees. This level is relatively easy to achieve, as supplying information, application forms and e-mail

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addresses online involves no great effort or any change in existing operations. The development of the real transaction services (or vertical integration), enabling all phases of back-office processes to function electronically, however, requires intervention also in back-office systems. At this level development starts to significantly slow down, even in the developed world.

2.2 e-Government in Indonesia

In Indonesia, e-government was introduced by Presidential Instruction No. 3/2003 in July 2003, with the objectives of supporting the government's change towards democratic governance practice, to facilitate communication between central and local governments, to improve transparency, as well as to control and ensure accountability towards implementation of good corporate governance, and to enable a transformation towards the information society era (Haryono & Widiwardono, 2003). The Presidential Instruction contains a national policy and strategy pertaining to e-government development in Indonesia.

Before the introduction of the instruction local governments had taken initiatives to develop e-government without any guidelines from the central authority. Development of national e-government solutions in Indonesia is managed by the Ministry of Communication and Information Technology. The Ministry has reported that the adoption of e-government by local governments has been slow.

According data from The World Bank (2005), Indonesia's present offer of content and services by the government via the web is still poor and the country's ranking in terms of governmental web presence is lower than for most other Asian countries except for Bhutan, Bangladesh and Sri Lanka. This low ranking does not make sense for a national government serving a large country that has a unified language and high rates of literacy and education (The World Bank, 2005).

Abhiseka (2003) reports that, as of March 2003, 369 government offices had opened their own websites, but about 24 percent of the websites failed to maintain their running times. Less than one year later, only 85 (or 23 percent) were still operating with their complete options.

2.3 Evaluation Criteria of e-Government Website

E-government may be evaluated using various aspects. For instance, after reviewing several studies, Gupta and Jana (2003) grouped the measurement methods of e-government performance into (a) hard measures (e.g. cost benefit analysis, benchmarks in e-government); (b) soft measures (e.g. scoring method, stage of e-government, sociological angle); and (c) hierarchy of measure (e.g. using six level of performance measurement, from return on investment to system characteristics).

This recent study focuses on two aspects: the quality and the focus of the website. According to Gupta and Jana's categorization, this study falls into hard measures employing benchmark in e-government with special reference to e-government websites. However, we have to note here, that website is only a small part of e-government and not the e-government itself as misunderstood by many local government actors in Indonesia.

2.4 Focus of the Website

Content of the website varies and focus on various functions and targeted audience (Padilla, 2008). For instance, the the US. portal has separate links for resources for "Kids", "Parents", "Seniors", "Military & Veterans", and "Americans Abroad". There are also separate links "For Citizens", "For Businesses," and Nonprofits", and "For Visitors to the US." (www.usa.gov). Singapore's site also contains personalized links for targeted audiences; "Government", "Citizens & Residents", "Business", and "Non-Residents" (www.gov.sg).

Using different perspective, Stowners (2004) classified focus of the e-government website into six, based on main function it targeted. The classification is based on relevant information/resources provided in the website. Table 1 summarizes the classification and its relevant information/resources.

2.5 Quality of Website

Quality of website may be evaluated using various set of criteria. For instance, Henriksson et al. (2007) proposed an instrument to evaluate e-government website using several features provided: security and privacy, usability, content, services, citizen participation, and features. Another evaluation instrument called eQual developed by University of Bath (Barnes and Vidgen, 2006) incorporated usability, information quality, and service interaction. eQual was originally developed to assess user perception of the quality of e-commerce websites.

Eschenfelder et al. (1997) proposed a more comprehensive criteria divided into two main categories: content and ease of use. The information content criteria were broken-down into seven sub-criteria: orientation of website, content, currency, metadata, service, accuracy, and privacy. The ease-of-use criteria were divided into five sub-criteria: links, feedback mechanism, accessibility, design, and navigability.

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Table 1. Focus of the website

No	*Function*	*Relevant information/resource*
1	Promote citizens' awareness and understanding of their community's characteristics	a. Historical, cultural, physical, social, and economic information b. Political organization c. Community/city news
2	Promote efficiency and effectiveness in the delivery of frontline services	a. Government services and procedures b. Downloadable forms
3	Promote transparency and accountability of government in operations and services	a. Government services and procedures b. Programs and projects c. Procurement information and bid invitations d. Ordinances e. Financial information
4	Promote citizens' awareness of the policymaking process and their participation in decision making	a. Information on local policymaking process b. Ordinances c. Online polls and surveys
5	Promote linkage and interaction between government and citizens and other groups in society: both vertical communication and horizontal communication	a. E-mail, phone number of city officials; feedback form; online polls/surveys (vertical communication) b. Discussion forum, chat, and other similar online facilities (horizontal communication)
6	Promote linkage between government and business	a. Procurement information and bid invitations b. Economic and business profile c. Investment opportunities d. Tourism information

3. METHODS

The study assesses official websites of all 456 districts/cities in Indonesia. The assessment was made within three-week period in the beginning of January 2008. The study focuses on assessment of two aspects: the quality of the website and the focus of the website.

The quality of the website was measured using two main criteria: information content and ease-of-use. The assessment criteria was adopted with some adjustments from those one developed by Smith (2001) which is based on a set of criteria proposed by Eschenfelder et al. (1997). Each sub-criterion as aforementioned was operationalized with several items measured by a Liket 5-scale anchored by very disagree and very agree on availability or quality of each criteria.

The focus of the website was examined using classification of e-government functions and relevant information or services provided that was developed by Stowners (2004). The availability of each type of information/service provided in the website was assessed using an ordinal scale with three options: not found, implemented/provided in some degrees, and well implemented/provided.

4. RESULTS AND DISCUSSION

Out of 456 websites evaluated, we found that only 305 (66.9%) district/city governments that have accessible website. Eighteen districts/cities do not manage their own website and put their websites on provincial websites. Table 2 summarized the state of the websites evaluated. The subsequent analyzed is based on 305 accessible websites.

Table 2. State of the website

No.	*State*	*n*	*%*
1	Accessible	305	66.90
2	Embedded on the provincial website	18	3.90
3	Do not have*	88	19.30
4	Do have but inaccessible**	45	9.90
	Total	456	100.0

Notes:
**The district/city does not have a domain name*
***The domain name of the district/city is found but inaccessible due to various reasons.*

Table 3. Scores of availability of the content

No.	*Feature*	*Score**
1	Tourism information	1.59
2	Historical, cultural, physical, social, and economic information	1.55
3	Community/city news	1.46
4	Political organization	1.37
5	Economic and business profile	1.35
6	Investment opportunities	1.14
7	Online polls and surveys	1.07
8	Discussion forum, chat, and other similar online facilities	1.06
9	Ordinances	1.03
10	Programs and projects	0.97
11	Government services and procedures	0.94
12	E-mail, phone number of city officials	0.90
13	Feedback form	0.84
14	Downloadable forms	0.75
15	Procurement information and bid invitations	0.52
16	Financial information	0.44
17	Information on local policymaking process	0.43

*Notes: *Based on Likert scale: 1=not found, 3=well provided.*

Table 3 summarized scores of availability of the content in the websites. Tourism information is well provided by most the websites, while in contrast

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providing information on local policymaking process gets a less attention.

Using categorization presented in Table 1, we found that in general most efforts has put on promoting linkage between government and business mostly by providing tourism information, economic and business profile, and investment opportunities. However, only a limited procurement information and bid invitations is provided. As indicated in Table 4, efforts in providing information to promote efficiency and effectiveness in the delivery of frontline services is less prioritized. Hitherto, only limited transactional services were provided on the Internet, instead, some districts/cities setup service points in offices in sub-district level and even in village levels (Furuholt & Wahid, 2008).

Table 4. Scores on focus of the website

No	Function	Score
1	Promote linkage between government and business	2.98
2	Promote citizens' awareness and understanding of their community's characteristics	2.84
3	Promote transparency and accountability of government in operations and services	2.53
4	Promote linkage and interaction between government and citizens and other groups in society: both vertical communication and horizontal communication	1.82
5	Promote citizens' awareness of the policymaking process and their participation in decision making	1.64
6	Promote efficiency and effectiveness in the delivery of frontline services	1.10

The findings tell us that economic motivation in term of attracting more investment is dominant. In Indonesia, economic performance after implementing e-government is often seen as success indicator. For instance, in Sragen, a leading district in implementing e-government in Indonesia enjoyed an obvious economic impact on the number of investments in the district (Sinombor & Taslim, 2006). From 2002 to 2005 the value of investments increased by 61.3%, from IDR 592 billion (USD 65 million) to IDR 955 billion (USD 105 million). Selecting a project that yields an immediate impact, often-called quick-strike project (Bhatnagar, 2004), is of important strategy to gain support from various stakeholders.

Assessing the quality of the websites, we found that in general, quality of e-government websites in term of information content and ease of use is medium (respectively scored 3.15 and 3.21 out of 5) as depicted in Table 5. Privacy scored the lowest in information content criteria, while metadata the highest. In ease of use criteria, link sub-criteria got the lowest score, while accessibility the highest.

Table 5. Scores on quality of the website

No	Criteria	Score
1	**Information content criteria**	**3.15**
1.1	Orientation to website	2.92
1.2	Content	3.55
1.3	Currency	3.07
1.4	Metadata	3.77
1.5	Services	3.31
1.6	Accuracy	3.35
1.7	Privacy	2.79
2	**Ease-of-use criteria**	**3.21**
2.1	Links	2.58
2.2	Feedback mechanisms	2.74
2.3	Accessibility	3.69
2.4	Design	3.47
2.5	Navigability	3.40
	Total score	**3.17**

When we compared the quality of the websites in Java and Off-Java Island, we found a significant difference (t=1.7, p<0.1) in total score. In general, the quality of websites of local government in Java Island (3.27) is better that those in Off-Java (3.13). It has been argued that development in Indonesia is uneven between Java and Off-Java due to previous central government policy.

The findings indicated that a significant effort should be taken to improve the quality of the website, especially for Off-Java local governments. Several factors may partake in the disparities. Rose (2004) explained the difficulties of implementing e-government in Indonesian regional governments with the following reasons: financing problems, few qualified people, lack of supporting infrastructures, and low attention from regional government offices. The political will, laws and regional regulations are fundamental criteria for successful implementation of e-government. In another study in Indonesia, Furuholt and Wahid (2008) found that management, infrastructure, human resources factors partake in ensuring successful implementation of e-government.

5. CONCLUSION

Focus and quality of the website of Indonesia local government have been evaluated. In general, we found that the contents of the websites were focused to promote linkage between government and business. However, limited transactional services were provided to the business sector. Promoting efficiency and effectiveness in the delivery of frontline services were less prioritized. We found that the quality of the website in general was in medium level, both in terms of the quality of content and the level of ease-of-use.

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However, we have to note here, that there was no intention to give a complete picture of development of e-government in Indonesia based on the findings of the study. As aforementioned, due to low penetration of the Internet, the local governments did not see that, nowadays, providing the transactional services through the website was the best option. Instead, local computer networks connecting local government agencies in various levels were preferred to ensure the accessibility of the public service.

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