Web Usability of Public Organization Websites: The Case of Indonesian Ministry Websites

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ABSTRACT

As a consequence of the development of Information and Communication Technologies (ICT), nowadays almost all governments around the world, included Indonesian government have official websites to provide information and services for their citizen. In the second period of President Susilo Bambang Yudhoyono administration has thirty two ministries and each ministries have an official website. However implementation of the ministry websites have not been measured yet on usability aspect. The objective of this research is to examine the usability of ministry websites of Indonesian Government. Eleven websites was taken as sample in this study. Respondents are 128 Internet users who have competency for assessing web usability. Usability of websites were measured by several indicators were adapted from E-Government Toolkit for Developing Countries that was prepared by the National Informatics Centre and UNESCO. The main indicators consist of navigation architecture, layout design, and content.

Keywords: Government website, Indonesian government, web usability, public organization

ABSTRAK

Sebagai konsekuensi dari perkembangan Teknologi Informasi dan Komunikasi (TIK), saat ini hampir semua pemerintah di seluruh dunia, termasuk Pemerintah Indonesia memiliki

website resmi untuk memberikan informasi dan pelayanan bagi warga negara mereka. Pada periode kedua Pemerintahan Presiden Susilo Bambang Yudhoyono secara administratif memiliki tiga puluh dua kementerian dan masing-masing kementerian memiliki website resmi. Namun pada implementasinya website kementerian ini belum diukur secara pasti aspek kegunaannya. Tujuan dari penelitian ini adalah untuk menguji kegunaan dari situs kementerian Pemerintah Indonesia. Sebelas website diambil sebagai sampel dalam penelitian ini. Responden adalah 128 pengguna internet yang memiliki kompetensi untuk menilai kegunaan web. Kegunaan website ini diukur dengan beberapa indikator yang diadaptasi dari E-Government Toolkit untuk Negara Berkembang yang disiapkan oleh National Centre Informatika dan UNESCO. Indikator utama terdiri dari navigasi arsitektur, desain tata letak, dan konten.
Kata kunci: Pemerintah website, pemerintah Indonesia, kegunaan web organisasi, masyarakat

INTRODUCTION

Recently creating a website is relatively easy and some instant technologies and tools are available in the market. Main purpose of an organization when develop a website t is to attract users in order to visit and take many benefits from their websites. But in fact, many websites are developed less attention to this issue. Website developers tend to emphasize on the technology and ignored the needs of their users. As a result, website developments are unsuccessful to get visitors and the website is not be used by target users.

Some research on web usability in the various aspects have been carried out by many experts, both in web usability level measurements and concerning how to develop a measurement of the web usability (Chou and Chou 2010); (Al-Radaideh, Abu-Shanab and Hama 2011); (Nivala, Brewster and Sarjakoski 2008); (Lobo, et al. 2011). However these researches are still far to explore about usability of public organization's websites. Web usability for public organizations is very important because the main orientation of public organizations is public services, and in this digital era public service are not limited to the brick and mortal or traditional model, but have been transforming to public service digital models through a website of which was called as e-government. This paper reported on study of web usability from the Indonesian government ministries. This study is very important because there had been no studies on this subject so there were no explanation regarding web usability of their websites but in fact all of the ministries in Indonesia has been

providing web-based services. This research is just the beginning of the study and can be proceed to further study with wider scope not only at the ministerial level but also for various levels of public organization from the central government to the local government and its units.

There are many perspectives concerning definition of web usability. In the recent decade an expert who very concern on web usability is Jakob Nielson. According to Nielson usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process. On the web, usability is a necessary condition for survival. If a website is difficult to use, people leave. If the homepage fails to clearly state what a company offers and what users can do on the site, people leave. If users get lost on a website, they leave. If a website's information is hard to read or doesn't answer users' key questions, they leave. Note a pattern here? There's no such thing as a user reading a website manual or otherwise spending much time trying to figure out an interface. There are plenty of other websites available; leaving is the first line of defence when users encounter a difficulty (Nielson 2012).

Web usability also can be defined as the ease with which visitors are able to use a website. Website usability is not just about making sure everything on the site works, but how quickly and easily visitors are able to make use of the site. Usability is a concern for marketers because of its potential impact, positive or negative, on marketing metrics such as conversion rates, which in turn affect profitability (Marketing Terms 2012). Usability is the process of making a website easy for customers to use. It encompasses the heuristics of the site as well as the methods that people use to manipulate the site. A website is considered usable if the customers coming to that site can find what they need and accomplish their goals (About.com 2012).

Chittenden, another expert of web usability suggested that web usability is the degree to which your website is usable and useful to visitors. Your website is the front door and reception room of your business. Increasingly, it is the first place prospective customers look before deciding to do business with you. And you know about first impressions. All things being equal, managers that actively engage with their sites will en-

gage more customers (Chittenden and Wright 2012).

In another perspective web site usability is the quality of a user's interaction with a web site or, in other words, how usable a web site is to the user. Ultimately, users want to be able to easily access a web site and determine how to use it within seconds. Usability influences whether many users will return to a web site, how often they will use the web site, and how happy they are with their overall experience at the web site. There are millions of sites on the Internet and they are all in competition for users' time and attention. Users get their expectations for usability from the best of all of these other sites (Tuscaloosa City School 2002).

Web usability has some attributes. This attributes very important for measuring the degree of usability of a website. The following table showed attribute of web usability of which have developed by some researcher.

TABEL 1 ATTRIBUTES OF WEB USABILITY

Source	Attributes
[Arms 2000]	interface design, functional design, data and metadata, computer systems networks
[Bass , John 2003]	modifiability, scalability, reusability, performance, security
[Brinck, Gergle , Wood 2002]	functionally correct, efficient to use, easy to learn, easy to remember, error tolerant, subjectively pleasing
[Campbell , Aucoin 2003]	easy to learn, easy to use, easy to remember, error tolerant, subjectively pleasing
[Donyaee , Seffah 2001]	effectiveness, efficiency, satisfaction, productivity, safety, internationality, accessibility
[Oulanov , Edmund 2002]	affect, efficiency, control, helpfulness, adapta bility
(UNESCO 2005)	accessibility, navigation architecture, layout design, and content, reliability
(Sauro and Lewis 2009)	task times, completion rates, errors, post task satisfaction, post-test satisfaction

Source: Adopted from (Dubey 2010)

This study used three attributes from Unesco due to Indonesia is a developing country. Unesco has developed web usability attributes based on their research in developing countries. Originally the attributes from Unesco consist of five attributes but this study did not used accessibility and reliability attributes. Accessibility refers to the extent to which the portal and its contents are available to a wide range of users with varied levels of physical capabilities/skills and technologies. This attributes was eliminated from this study since this study has homogen respondent, there are no far differences in skill and capability. Reliability refers to the extent of trust, which a citizen can impose on the government website

with respect to security and legal requirements. Government web sites must raise citizens' confidence by abiding by the law and explaining their terms and conditions clearly to the users. Reliability attribute also was eliminated in this research because this attribute can be measured in content attribute.

RESEARCH METHODS

This study was conducted by descriptive quantitive study. Respondents in this study were 123 students of Public Administration Science Department, Jenderal Soedirman who participated in a lecture on management information system. Data collected during lecture period in odd semester academic year 2011/2012, September 2011 until January 2012. These students were competent to assess the ministry sites in Indonesia because the lecture has topic regarding web usability and before they fill in the questionnaire there was a special briefing to explain how to asses web usability level of a website.

In the second period of the President Yudhoyono administration has thirsty two (32) ministries and each ministries have an official website. From thirsty two websites, this study has taken eleven websites (35%) as sample of which were taken by random technique. Sample of the study consist of (1) the National Development Planning Agency, (2) Women Empowerment and Child Protection (3) Ministry of Manpower and Transmigration, (4) Home Affairs, (5) Education and Culture, (6) Forestry (7) Justice and Human Rights, (8) Tourism and Creative Economy, (9) Youth and Sports Affairs, (10) Industry, (11) Research and Technology.

This study consisted of three variables (attributes) namely navigation architecture, layout design, and content. Data analyzed by descriptive statistical techniques such as frequency distribution and mean. Output of the data analyzing will be exposed by table and diagram. Description and indicator of all variables can be explained in the following table.

TABLE 2. DESCRIPTION AND INDICATOR OF THE VARIABLE

Variable	Description	Indicator
Navigation Architecture	Includes all those features which make it convenient/inconvenient for a user to browse the contents on the Portal (UNESCO 2005)	URL easy to be remembered
		Availability of site map
		Availability of search engine
		Easy to be navigated
		Quick to be navigated
		Not make the user get miss menu
Layout design	Government web portals should have citizen friendly design and layout so that people find it enjoyable and comfortable to access the desired information with minimum fuss (UNESCO 2005)	Main colour
		Consistency of page colour
		Picture and illustration
		Font style and size
		Availability of e-mail contact
		Availability of guest book
Content	The content aimed at the common public must be written plainly and in a language which people with diverse educational and knowledge backgrounds can easily understand, and provide high degree of information quality (UNESCO 2005) (Lucey 2002)	Up to date
		Relevant with the user
		Represent main job and function of the ministries
		Easiness
		Completeness
		Thrustibility
		Useful

RESULT AND ANALYSIS

Based on data collection and then were analyzed by descriptive analysis techniques, web usability of eleven ministries can be shown in a figure below.

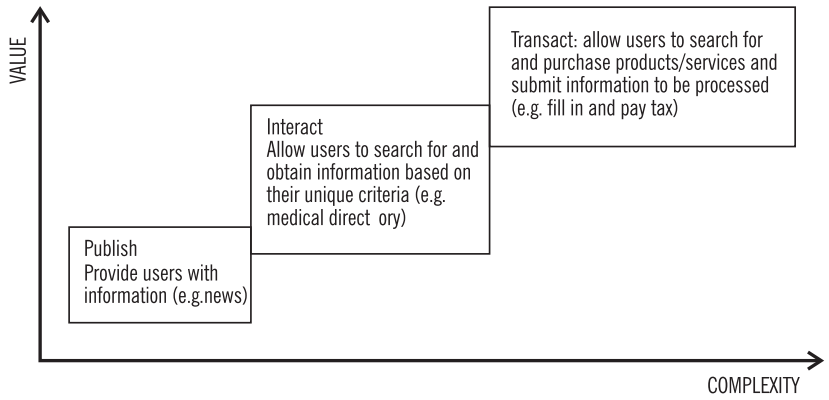

FIGURE 1. FREQUENCY DISTRIBUTION OF WEB USABILITY

This study found that all ministries have good level on web usability. They have more than 60 %. The diagram above showed the Ministry of Tourism and Creative Economy has the highest web usability level (91%) followed by the Ministry of Home Affairs (90%) and The National Development Planning Agency (86%). Otherwise the Ministry of Industry has the lowest level of web usability (64%) followed by the Ministry of Women Empowerment and Child Protection. Average or mean of web usability for all ministries are 79.45%.

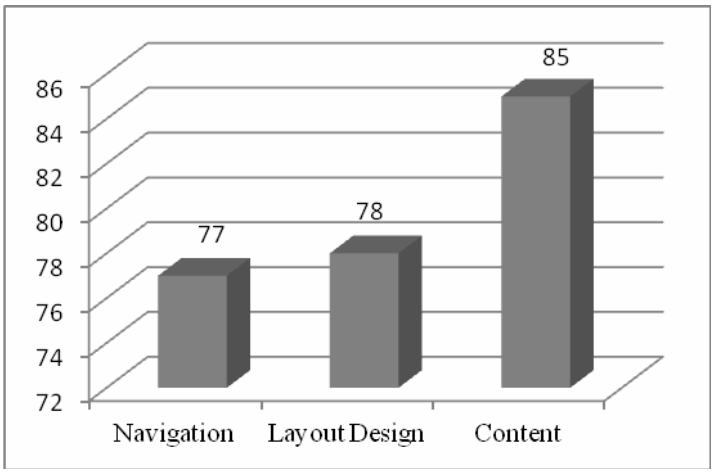

FIGURE 2. FREQUENCY DISTRIBUTION OF WEB USABILITY VARIABLES

Figure above showed this study used three variables of web usability namely navigation architecture, layout design and content. The best attribute is content (85%) and followed by layout design 78% and navigation architecture 77%. This finding indicated that respondents more satisfy on the web content than layout design and navigation architecture. This findings consistent with (Chi, et al. 2003) who stated according to usability experts, the top user issue for websites is difficult navigation.

As for more detail about frequency distribution for eleven ministries which be explained in each variables can be found in the following table.

TABLE 3. FREQUENCY DISTRIBUTION OF WEB USABILITY FOR EACH MINISTRIES

No	Ministry	Navigation (%)	Layout Design (%)	Content (%)
1	The National Development Planning Agency	85,2	82,53	89,31
2	Women Empowerment and Child Protection	68,97	69,11	75,84
3	Manpower and Transmigration	74,12	81,71	75,73
4	Home Affairs	94,99	80,89	93,84
5	Education and Culture	61,38	91,67	92,68
6	Forestry	70,73	78,86	84,67
7	Justice and Human Rights	91,06	79,47	90,01
8	Tourism and Creative Economy	90,92	95,53	88,04
9	Youth and Sports Affairs	75,34	73,17	83,04
10	Industry	70,73	47,36	73,98
11	Research and Technology	73,44	77,24	85,95

Based on the finding of this study, content of website is the first rank of web usability and followed by layout design then navigation architecture. This finding indicated that website development of the Indonesian Ministries is on the right track. Response of majority of the respondent that described by frequency distribution analysis showed all of web usability variables have more than 77 percent.

This findings was consistent with previous research in similar area also consistent with relevant theories that found the most important aspect or critical factor in a website development is website content. Other previous researches also found that navigation architecture still as top user issue in web usability. User still difficult to navigate a website. Several researches reported that content is the most critical element of a website and more important than navigation, visual design, functionality, and interactivity (Badre 2002); (Nielsen and Tahir 2002); (Spyridakis 2000); (Rosmaini, et al. 2009).

This study can be used as a comparison from previous research of which conducted by Rokhman (2008) that responsiveness level from government website administrator was very low, indicated by only a few of website administrator who have good responded when their users send question or requirements. This result differences can be explained by development e-government level where Indonesian e-government still in the beginning level namely publish level while in this level do not necessary to interactive with the user.

CONCLUSION

This study found some significant findings that Indonesian public organization website have good level on web usability. However this study is only preliminary study and need to be continued in wider scope and more big number of heterogenic respondent. Attribute that will be used in the next study consider to be more complete. Level of public organization website also need to be extend not only for central government but toward the lowest level of public organization units, therefore result of the study can be used by the government especially when they develop and manage their website.

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