

An Evaluation of E-Government Portals in Malaysia: The Evolutionary Perspective

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Abstract: *The study evaluates the functions of e-government portals in Malaysia based on the evolutionary perspective in terms of information display, provision of online services, tools for interaction, channels for participation, and opportunities for collaboration. Thirty-five e-government portals were selected, and content analyzed at two time points separated by 6 months. The study reveals that the e-government portals in Malaysia are information rich, interactive, and provide various types of online services. However, the channels for participation are limited and the opportunities for collaboration are totally absent. This study offers insights to government policy makers on ways to enhance public participation and collaboration while providing public services via e-government portals.*

Keywords: *e-Government Portals, Evolutionary Perspective, Information Display, Provision of Online Services, Tools for Interaction, Channels for Participation, Opportunities for Collaboration, Malaysia.*

I. INTRODUCTION

E-Government is as a powerful strategy to enhance public service delivery to citizens in terms of greater efficiency, deeper transparency, higher service quality and increased citizen participation. The emergence of Web 2.0 has led to the concept of e-Government 2.0 which capitalize on the capabilities of Web 2.0 in terms of interactivity, participation and collaboration. Various Web 2.0 applications such as social media and blogs have been widely used in the commercial setting. However, the use of Web 2.0 applications in government organizations is still lagging behind. The development of e-government services enables transformation of government service delivery to the larger population especially among citizens located in rural and remote regions in the developing countries. This initiative is in line with the Malaysian government's vision to be an inclusive digital government spearheading citizen centric service delivery.

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Therefore, this study aims to evaluate the functions of e-government portals in Malaysia in terms of information display, provision of online services, tools for interaction, channels for participation, and opportunities for collaboration. This study is important to ascertain the readiness of the Malaysian government in providing public services to the citizens through e-government portals. The paper is organized as follows. Next section reviews the recent literature about e-government portals in relation to the features of information sharing, provision of online services, interaction, participation and collaboration. Section three describes the research method on how the e-government portals are selected and evaluated. Section four presents the main findings. The last section concludes the study by presenting the implications, limitations, and recommendations for future research.

II. LITERATURE REVIEW

E-Government portals are platforms for governments to transform public service delivery to citizens and strengthen transparency and accountability of government services. Government 2.0 leverages on the capabilities of Web 2.0 applications which are characterized by dynamism, interaction, participation, and collaboration in providing public service delivery (Bonsón, Torres, Royo, & Flores, 2012).

Evolutionary Perspective of e-Government Portals

Various models are used to explain the development and evolution of e-government portals. Among these models, the evolutionary perspective is the most dominant and received more attention from the scholars (Sandoval-Almazan & Gil-Garcia, 2012). The evolutionary perspective consists of various stages with different functionalities and capabilities. Nevertheless, the functionalities and capabilities identified in each stages are seen as complementary rather than mutually exclusive. As demonstrated in Figure 1, the evolutionary perspective of e-government portals is positioned on a continuum from less collaboration and participation on one end to more collaboration and participation on the other end. The following subsections explain the functionalities and capabilities of each stages on the continuum.



Information Display

The most basic function of e-Government portals is to display public information (Chang, Kirlidog, Lee, & Gun, 2008). The information is usually displayed in the national language and English language is available in most portals. E-Government portals use menu or directory to display the information about the government organization and services offered. The information can be displayed in the form of text, or multimedia such as audio and video. Most of the portals also offer search option which allows users to enter some keywords in order to obtain the information they need instead of browsing through the menu or directory. Contact information such as corresponding address, email, telephone number, facsimile number and location map are also available for users to communicate with the organization. A sitemap allows users to view the entire structure of the portal. E-Government portals are updated regularly to reflect accuracy and currency of the information, of which the updated date is displayed.

Provision of Online Services

The provision of online services on e-Government portals may range from the basic form download, information checking, online transactional services, online payments, to interactive applications downloads. The number of provision of online services correlates with the perception of success of the portals

Tools for Interaction

Web 2.0 applications enable interactivity between government organizations and citizens. These applications include social media such as Facebook, Twitter, Instagram, YouTube, blogs, RSS, and live chat apart from the traditional email and feedback form. Interaction between government officials and citizens could happen through these applications to share problems and discuss public policies. For instance, government officials can use Twitter to send messages with news, announcements, early warnings and ideas about public development projects through these interaction tools.

Channels for Participation

E-Government portals can provide channels for citizens to participate in government initiatives. Through the use of online survey, forum or polls (Ong & Wang, 2009), citizens can engage themselves in providing feedback or opinions about which government projects to be prioritized or implemented. Participation from citizens adds value to government projects and increase the chances of success. In order to increase participation rate, the information on the portals should be accurate and updated regularly to reflect the currency of the government initiatives.

Opportunities for Collaboration

Opportunities for collaboration may involve individuals, business organizations, NGOs, and other agencies. For instance, during natural disasters, government alone is unable to provide all needed services to victims without the

collaboration with various parties. Other emergencies and crises require the similar collaboration between government organizations and other interest groups to solve emerging problems more effectively (Maldonado, Maitland, & Tapia, 2010). Wikis is an example of Web 2.0 application that allows users to collaborate by sharing and classifying knowledge on a general or specific topic and correct the content in real time. In sum, e-Government portals provide a platform for citizen to communicate, participate and collaborate with governments as well as other non-government organizations.

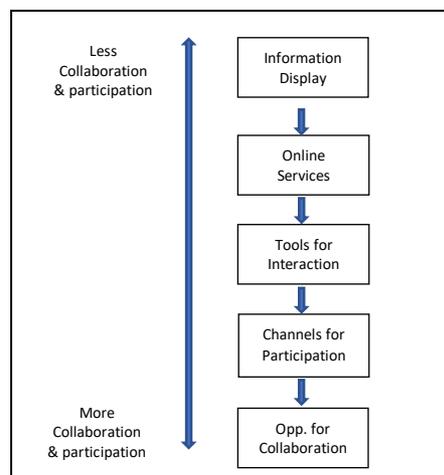


Fig. 1 Evolutionary Perspective of e-Government Portals

III. METHOD

Selection of E-Government Portals

Thirty-five e-Government portals in Malaysia were selected, comprising all 24 federal ministries, four government departments, and seven statutory authorities and government agencies. The e-government portals were selected based on the importance in offering public service delivery and the high traffic volume of these portals.

Content Analysis

The selected e-government portals were content analyzed using the evolutionary framework consisting five perspectives – information sharing, provision of online services, channels for interaction, and opportunities for collaboration. Information sharing consists of 15 items, seven items for provision of online services, eight items for tools for interaction, two items for channels for participation, and two items for opportunities for collaboration. Data were collected at two-time points separated by 6 months, the first was in October 2017 and the second was in April 2018.



The purpose of collecting longitudinal data was to observe any changes take place between the two-time points.

IV. FINDINGS

This section presents the main findings of evaluation according to each perspective of the evolutionary framework of e-government portals. Refer to Table 1 for details.

Information Display

In general, the 35 e-Government portals contain the necessary information to public. All portals (100%) have specific menu bar or service directory for users to navigate the information about the government organizations. The availability of having a mobile enabled site with designated web address is applied to all portals. Contact information in terms of address, email, telephone, and facsimile, is available on all portals. An English version of portal is available on all e-Government portals, apart from the national language of Bahasa Malaysia. Eighty percent of the portals have search option in the first period of assessment and it was increased to 83% in the second period. While the text-based information are available on all portals, the multimedia information about the government organization is limited. Audio (podcast) information about the government organization is found on a third of the portals (34%) in the first period and 40% in the second period, and video (vodcast) information is available on 57% of the portals in the first period and 62% in the second period. Eighty-nine percent of portals have a sitemap for easy navigation in the first period, and 91% in the second period. Website update information is available on 57% of the portals in the first period and it was increased to 85% in the second period. Nevertheless, the information about webmaster is only available on 37% of the portals in the first period and it was increased to 43% in the second period.

Provision of Online Services

Overall, the 35 e-Government portals provide information about the online services to users. Ninety-four percent (94%) of the portals have designated menu, directory or catalogue for the online services; 80% of the portals provide form download services in the first period and it was reduced to 74% in the second period as some forms are embedded into online services; 71% of the portals have some downloadable interactive applications from the portals in the first period but it was decreased to 69% in the second period. On average, the portals provide seven online services in the first period and it was increased to nine in the second period. Provision of payment services is only available on less than a third (31%) of the portals in the first period and it was further reduced to 29% in the second period. As for the online services for employees, 57% of the portals provide intranet link in the first period and it was increased to 71% in the second period.

Tools for Interaction

An official Facebook link is available on all the 35 e-Government portals. Twitter is the second most commonly found interaction tool on the portals, followed by Instagram and YouTube, accounting for 91%, 74% and 66% in the first period and 91%, 74% and 71% in the second period respectively. Only 9% of the portals have an official blog link and none of the portals has a live chat. Questions or feedback submission form is available on 94% of the portals in the first period and 97% in the second period. RSS is available on 77% of the portals in the first period and 80% in the second period.

Channels for Participations

Generally, the channels for participation is limited in most e-Government portals. Online survey is available on a third (34%) of the portals in the first period and it was reduced to 31% in the second period. Voting or polls is available only on 14% of the portals in the first period and 17% in the second period.

Opportunities for Collaboration

None of the 35 e-Government portals provides users the opportunities for collaboration as applications such as Wiki, crowdsourcing and crowdfunding are not available.

Generally, the changes between two periods in terms of the functions available on the e-Government portals are not prevalent, with the exception of intranet and web update information which account for a double-digit percentage increase.

V. CONCLUSION

Implications

The findings reveal that the e-Government portals in Malaysia are generally information rich and interactive and provide various types of online services. However, the channels for participation are limited and the opportunities for collaboration are totally absent. The government policy makers should take into consideration of providing the functionality of participation and collaboration on the e-Government portals. To enhance citizens' participation in the government development programs, online survey or polls should be made available to gauge citizens' opinion.

Meanwhile, government organizations should take advantage of citizens from diverse background, knowledge and expertise to collaborate on public development projects. As such, applications such as Wiki and crowdsourcing should be made available on e-Government portals.



Limitations and Recommendations for Future Research

The number of evaluated e-Government portals in this study is limited to 35. Even though it covers the e-government portals of all the 24 federal ministries, the number of other government departments and agencies are below 10. Furthermore, none of the evaluated portals are from the state and local governments. As such, the findings of this study may not be representative of the e-Government portals in Malaysia. Future research are recommended to include a more representative sample size by including e-Government portals of state and local governments.

This study adopts a simple approach in measuring the availability of the identified functions on the e-Government portals without looking into the details of each function. The functionality, popularity and quality of each function can be explored by future research. The view can be obtained from the users and other stakeholders.

This study adopted a descriptive research about the functions of e-Government portals without suggesting any correlations or relationships between socio-economic factors and functionality of e-Government portals. Future research may identify important socio-economic factors that influence the functionality of e-Government portals.

In conclusion, this study finds that e-government portals in Malaysia are information rich, interactive, and provide various types of online services. However, the channels for participation are limited and the opportunities for collaboration are totally absent. The study also reveals that little changes have taken place in the functionality of e-Government portals between two-time points of 6 months where data were collected. In relation to this, the Malaysian government officials and policy makers should leverage on the emergence of various technologies to enhance the public service delivery, citizen participation and collaboration through e-Government portals.

Table 1. Percentage of Availability of Government 2.0 Features (n=35)

Evaluation Criteria	Point 1 (Oct'17)	Point 2 (Apr'18)	Changes
Information Display			
Menu / Directory	100	100	-
Search option	80	83	+3
Multimedia – audio / podcast	34	40	+6
Multimedia – video / vodcast	57	62	+6
Mobile friendly/enabled site	100	100	-
Webmaster	37	43	+6
Language – English version	94	94	-
Contact Us – email	100	100	-
Contact Us – address	100	100	-
Contact Us – telephone / facsimile	100	100	-

Contact Us – map	71	80	+9
Contact Us – dedicated personnel / department	63	63	-
Staff directory	94	97	+3
Sitemap	89	91	+3
Website updated date	57	85	+27
Provision of Online Services			
Dedicated menu / directory / catalogue	94	94	-
Provision of online services	97	97	-
Provision of transactional services	97	97	-
Payment services	31	29	-3
Intranet (for employees)	57	71	+15
Interactive apps (downloadable)	71	69	-3
Form download page	80	74	-6
Tools for Interaction			
Official Blog	9	9	-
Official Facebook	100	100	-
Official Twitter	91	91	-
Official Instagram	74	74	-
Official Youtube	66	71	+6
RSS	77	80	+3
Question/Feedback form	94	97	+3
Live Chat	0	0	-
Channels for Participation			
Online survey	34	31	-3
Voting/polls	14	17	+3
Opportunities for Collaboration			
Wiki	0	0	-
Crowdsourcing / Crowdfunding	0	0	-



REFERENCES

1. Bonsón, E., Torres, L., Royo, S., & Flores, F. (2012). Local e-government 2.0: Social media and corporate transparency in municipalities. *Government Information Quarterly*, 29(2), 123-132. doi:10.1016/j.giq.2011.10.001
2. Chang, L. K., Kirlidog, M., Lee, S., & Gun, L. G. (2008). User evaluations of tax filing web sites: A comparative study of South Korea and Turkey. *Online Information Review*, 32(6), 842-859. doi:14684520810923962
3. Maldonado, E. A., Maitland, C. F., & Tapia, A. H. (2010). Collaborative systems development in disaster relief: The impact of multi-level governance. *Information Systems Frontiers*, 12(1), 9-27. doi:10.1007/s10796-009-9166-z
4. Ong, C.-S., & Wang, S.-W. (2009). Managing citizen-initiated email contacts. *Government Information Quarterly*, 26(3), 498-504. doi:10.1016/j.giq.2008.07.005
5. Sandoval-Almazan, R., & Gil-Garcia, J. R. (2012). Are government internet portals evolving towards more interaction, participation, and collaboration? Revisiting the rhetoric of e-government among municipalities. *Government Information Quarterly*, 29(Supplement 1), S72-S81. doi:10.1016/j.giq.2011.09.004