A Pilot Study on the Citizens' Engagement in Using the Open Government Data Website

Siti Mahfudzah Ashahril, Azman Mat Isa, Norizan Anwar

School of Information Science, College of Computing, Informatics and Media
Universiti Teknologi MARA (UiTM) Selangor, Malaysia
Email: smahfudzah@outlook.com, azmanmi@uitm.edu.my, norizan8027@uitm.edu.my

Abstract
In addition to innovation professionals, researchers, academicians, and business owners, the citizen is one of the end users of open government data (OGD). Numerous investigations employing OGD involve the participation of researchers and academic specialists. Nonetheless, there is a dearth of studies on community participation in OGD, particularly through the usage of government websites. This pilot study was done to evaluate the technical and navigable features of the online survey process and the instrument itself, as well as the feasibility of successfully enrolling participants for the study, evaluate the convenience (in terms of both access and navigation) of the survey tool used, and to test the internal consistency of each variable and dimension constructed based on previous studies. This pilot study focuses on the information quality and system quality of the ministry's website, which is one of the OGD platforms in Malaysia. **Method:** This pilot study was quantitatively done by distributing a questionnaire to 35 respondents who matched the research criteria. Respondents must reside in the Klang Valley, be at least 21 years old, and have familiarity navigating the ministry's website. The development of the survey set was carried out by adapting from previous studies and verified by a six-person panel of experts who were appointed, namely 3 academics and 3 more from among citizens who have experience using the government website. Data analysis was performed using SPSS Version 23. **Results:** Of the 35 respondents, 34 answered the survey, and a total of 22 or 67% were female respondents and the majority of respondents were civil servants. More than half or 61% of the respondents did not know about the www.data.gov.my portal. A reliability test of Cronbach Alpha is tested for all the variables and dimensions and the pilot test analysis indicates that Cronbach's Alpha values for all constructs are more than 0.7.
Conclusion: This study has found that in doing an online survey, an approach via WhatsApp is easier to be done. The size of the pilot study's sample is an important consideration to think about. Researchers should test their questionnaires with an adequate sample to account for any changes in the population that might change the responses.

Introduction
In line with the development of technology, the use of the internet provides great benefits to society. The introduction of the World Wide Web provides easy access and passage for all types of information. The Internet offers several services to individuals and organizations. It is mostly used for email, news, access to government information, and researching various topics. In the early days of the internet, it was primarily utilized by those with higher incomes, but now the digital divide is narrowing and more individuals with middle incomes are going online. On the internet, anyone can post information (Parker et al., 2006). The website is one of the social media platforms used as a resource to obtain the most recent government-related information, including the national budget, legal procedures, tender offers, the most recent announcements regarding the status of Covid-19, and government scholarship opportunities, among others. The availability of information on the ministry's website plays a crucial role in facilitating communication between the public and the government. It serves as a check and balance for the government and the people. The information that is made available over the internet and the World Wide Web is capable of being promptly disseminated to a diverse audience as well as being continuously updated (Rasool et al., 2020). Numerous nations have already made progress in empowering open government data as part of their efforts to establish a transparent and dependable government by providing quality information. E-government websites and portals give citizens at the national, state, or municipal level access to information that is essential to the functioning of a democracy, good governance, and a wide range of e-government services (Rasool et al., 2020).

One of the most important government departments in Malaysia, the Malaysian Administrative Modernization and Management Planning Unit (MAMPU), is making a variety of initiatives to empower online service and OGD. OGD portal and Malaysia's e-government are managed by MAMPU. The government of Malaysia is embracing online technology as part of an effort to modernise government services for the benefit of its citizens. Through the use of cutting-edge technology, governments are able to switch from their outdated, laborious, and time-consuming methods to more convenient online options (Eze et al., 2011).

Most prior research focuses on OGD from an academic standpoint, and OGD adoption. Less research is conducted from the perspective of end-users and community participation. Academics are the most common users of OGD, likely because they understand the data's worth. Academic researchers have been devoting a great deal of attention to the difficulties surrounding OGD efforts during the past many years (Wang & Lo, 2019). OGD is heavily utilised by Malaysia's higher education communities, such as postgraduate students and academicians (Zainal et al., 2019). As a result, and considering the fact that there is a gap in the research, the purpose of this study is to determine which elements are able to impact the involvement of the citizens in using the website of the ministry as a platform to acquire genuine and correct information.

Open Government Data
An open government is a multinational, political, and social process that involves in particular actions taken by the government and administration that are transparent, collaborative, and participatory (Wirtz & Birkmeyer, 2015). OGD promotes bilateral partnerships and community

involvement, serving as a check and balance against the government. It is also capable of fostering transparency in decision-making, allowing the government to continue to earn the public's trust. This statement is supported by (Wirtz et al., 2017) in which they highlighted open government is a two-way issue that involves not only the participation of government actors such as public administrations but also the participation of social actors, particularly citizens. In Malaysia, the government has selected MAMPU to administer the OGD portal via the www.data.gov.my link beginning in 2014 as one of the platforms and initiatives for the dissemination and exchange of government information and data in addition to the ministry and agency websites.

Information Quality
Because of the non-standard methods of Web publishers, IQ is also a significant property of websites. For websites, essential IQ indicators include accessibility, timeliness, accuracy, relevance, credibility, completeness, objectivity, consistency, appropriateness and representation, readability, validity, organisation, and appearance (Ballou & Pazer, 1985; Parker et al., 2006). Information of a high quality is information that can be put to good use by the people who receive it. It is the person who will be using the information who determines its quality or usefulness. That's why it's so important to have high-quality data: it can fulfil its purpose (Wang & Strong, 1996b). In this study, we are going to test completeness (COM), accuracy (ACC), and relevance (REL) as the dimensions of information quality (Al-Mamary et al., 2014; Nelson et al., 2005; Wang & Strong, 1996a).

System Quality
One of the most desirable qualities of an information system is its level of system quality. Consider factors such as simplicity of operation, adaptability of the system, dependability of the system, ease of instruction, intuitiveness, level of sophistication, and speed of reaction (Petter et al., 2008). Users are able to feel satisfied with an effective quality system, which increases their level of faith in the system that is being provided. System quality is used to figure out the quality of both the software and the hardware that make up an information system. It is the system's performance, which means how well the capabilities of the equipment, programme, arrangements, and methods of the data framework can give data on client needs (Delone & McLean, 1992). Dimensions under system quality that are going to be tested are responsiveness (RES), flexibility (FLE), and reliability (REB) (Nelson et al., 2005; Zheng et al., 2013).

Perceived Usefulness (PU) and Ease of Use (PEU)
Perceived Usefulness refers to the belief that individuals have that the utilisation of particular subjects will lead to an improvement in their work performance (Davis, 1989). The term "ease of use" refers to the amount of effort that a person believes is required to utilise an information system, whereas the term "usefulness" refers to the degree to which a person anticipates that utilising an information system would improve his or her own personal performance (Ma & Liu, 2005). When a system on a website is user-friendly, easy to access, and accessible from anywhere, it makes it simpler for users and can indirectly encourage them to return to the website in the future.

Satisfaction (SAT) and Trust (TRU)

It is possible for increased productivity, performance, and effectiveness to result from satisfied users of the system (DeLone & McLean, 2003). Satisfaction is also a level of contentment experienced by users in relation to reports, websites, and support services (Petter et al., 2008). It is anticipated that citizens' engagement in using the OGD website would be influenced by the level of satisfaction experienced when using the website. When there is a higher level of user satisfaction, there will be a greater level of user engagement with the information system (Krismawati & Hidayanto, 2021).

When individuals have trust in their government, they are also more likely to have confidence in the goods, services, and organisations that the government offers (Krismawati & Hidayanto, 2021). In the context of open data, consumers' trust in an open data portal will increase proportionately to the usefulness they derive from an open data service (Kang & Namkung, 2018). The citizens' prior experiences with governmental organisations and the opened data that they give shape trust, and process-based trust is arguably the most significant in the context of OGD use (Purwanto & Janssen, 2020).

Citizens' Engagement

Citizens' involvement is crucial to ensure that the government and the people maintain a two-way interaction. It is anticipated that the transparency in providing information and data, the accessibility of the system, and the information provided will influence the actions and decisions of end users to continue using the ministry's website. The implementation of new forms of citizen engagement necessitates the commencement of dialogue and genuine collaboration between citizens and authorities in the form of coproduction (Piqueiras et al., 2020). They also argue that engagement is supposed to work by putting citizens and public organisations back on an equal footing. As public sector organisations move from a one-way flow of information to a two-way flow of dialogue, engagement is seen as the method that works best with citizens who are tech-savvy and have a lot of power. Citizens' engagement refers to the quality of the user experience that places an emphasis on the favourable features of the engagement, and in particular the phenomena that are linked with being captivated by technology. This notion is inspired by the realization that successful technologies are not merely utilised; rather, people interact with them (Attfield et al., 2011).

The Pilot Test

The primary purpose of this pilot study was to evaluate the technical and navigable features of the online survey process and the instrument itself, as well as the feasibility of successfully enrolling participants for the study (Fraser et al., 2018). This study is a quantitative study which distributed a set of questionnaires as the method of survey. This pilot study uses purposive sampling as its data collection strategy. It is the most economical, time-efficient, and practical way compared to others. The sample size for this pilot study was 35 respondents. The response rate is 97.14% or 34 respondents have managed to answer the questionnaires before the deadline. On average, this set of questionnaires took less than 15 minutes to be completed for each respondent. The method of distribution is via WhatsApp and email. The method of distribution is tabulated in Table 1:

Table 1

The Response Rate based on Distribution Method

No	Method of Distribution	No. of respondents reached	No. of feedback	Response Rate (%)
1	WhatsApp (Individual)	30	30	100
3	Email	5	4	80
Total		**35**	**34**	**97.14**

The next purpose of this pilot test is to evaluating the convenience (in terms of both access and navigation) of the survey tool used (Fraser et al., 2018). The target respondents are those who have experience in using ministry's website, must be 21 years and above and live in Klang Valley. A total of 34 respondents have answered the questionnaires. Before the questionnaires are being distributed, we have appointed expert panellists to review and revise the proposed questionnaires which adopted from the previous studies. Three academicians are selected and three citizens that fulfilling the research criteria have been appointed to give suggestion and recommendations. We then enumerate all of the recommendations in order to examine amendments and revisions, although no items have been eliminated. 25 items are being rephrased and reorganised in accordance with the provided recommendations. This questionnaire with 65 items and six sections is bilingual to accommodate a variety of responses. Translation is needed to accommodate for linguistic and cultural differences that could otherwise lead to inconsistency (Beaton et al., 2000; Cha et al., 2007). Selected respondents were given the Google Form link that would take them to the survey questions and therefore complete the questionnaires. The data collected then being analysed using Statistical Package for Social Science (SPSS) Version 23. The research questionnaire has two parts: the demographics of the respondents and the research items, which are set up based on the variables and dimensions that were used. A Likert scale is used to rate the answers (1 = strongly disagree, 5 = strongly agree) for independent variables and 7-Likert scale (1= Never True, 7 = Always True) and were tested for validity and readability. The pilot test has taken place for three weeks in September 2022.

The Result Analysis

Finally, the data collected was analyzed using SPSS version 23. The reliability test was tested by analyzing the Cronbach Alpha for all the independent and dependent variables.

Demographic Variables

In the demographic section, there are 9 questions in which one is open ended question. Table 2 is the result from the pilot study analysis.

Table 2

Demographic Section Result Analysis.

Items		*Frequency*	*Percentage (%)*
Gender	Male	12	35.29
	Female	22	64.71
Age	21-30 years	6	17.64
	31-40 years	15	44.11
	41-50 years	11	32.35
	51-60 years	2	5.88
	61 years and above	0	0

Educational Level	Primary/ High School	2	5.88
	Certificate/ Diploma	4	11.76
	Bachelor's degree	16	47.05
	Master's degree	11	32.35
	PhD	1	2.94
	Others	-	-
Marital Status	Single	11	32.35
	Married	22	64.71
	Widowed	1	2.94
	Divorced		
Employment Status	Government Sector	16	47.05
	Private Sector	10	29.41
	Retiree	0	0
	Self-employed/ Business Owner	5	14.70
	Unemployed	0	0
	Student	2	5.88
	Housewife	0	0
	Others	1	2.94
How often do you visit Ministry's Website?	Almost every day	7	20.58
	Almost every week	12	35.29
	Almost every month	6	17.64
	Once in 3 months	5	14.70
	Once in 6 months	3	8.82
	Once a year	1	2.94
Which Ministry's website do you frequently visit?	JPM	15	14.42
	MOF	15	14.42
	MITI	1	0.96
	MINDEF	4	3.85
	KKR	5	4.80
	MOE	12	11.53
	MOT	1	0.96
	KASA	0	0
	MOHR	4	3.85
	KWP	5	4.80
	KWPKM	1	0.96
	MOHE	5	4.81
	KeTSA	1	0.96
	KDN	0	0
	MOH	13	12.5
	MAFI	0	0
	KPLB	4	3.84
	KLN	2	1.92
	KPDNHEP	2	1.92
	K-KOM	0	0
	KPKT	7	6.73
	MOSTI	2	1.92
	MEDAC	1	0.96

	MPIC	2	1.92
	MOTAC	0	0
	PERPADUAN	0	0
	KBS	0	0
Do you know about www.data.gov.my portal?	Yes	13	38.24
	No	21	61.76

Since this research survey started in October 2022, one month before the 15th General Election in Malaysia, the list of Ministries in the questionnaires does not match the most recent list of Ministries under the new government, which was officially formed in December 2022. Based on the pilot test, 22 or 64.71% respondents are female, and 15 out of 34 respondents are aged 31-40. 22 are married, and most of the respondents have bachelor's degree as the education qualification. Only 2 respondents are students and 5 are business owners, the remaining are from government sector (16) and private sector (10). Most of them visit ministry's website for once a week (35.29%) and only 1 respondent or 2.94% visits ministry's website for at least once a year. JPM and MOF are the most commonly accessed websites, with 15 respondents each, followed by MOH with 13 respondents (12.5%). KASA, KDN, MAFI, K-KOM, MOTAC, PERPADUAN, and KBS are not featured as commonly visited websites. This pilot survey revealed that 61.76 percent of respondents, or 21 individuals, had never heard of the www.daata.gov.my portal. Only 13 respondents were aware about the OGD portal.

For the open-ended question, which is question A8 (Kindly provide all other Agency/ Department/ Local Authorities websites that you have used apart from the above-mentioned list), the list provided by respondents are www.anm. Gov, Pejabat Tanah dan Galian Negeri Sembilan, FELCRA Bhd, DBKL, Land registrar offices, Jabatan Perkhidmatan Awam, Pejabat Tanah dan Galian Wilayah Persekutuan, www.doe.gov.my, www.eperolehan.gov.my, JPS, JKR, Perbadanan Labuan, Perbadanan Putrajaya, SME Corp, MARA, Pejabat Daerah, MAMPU, data.gov.my, and Railway Asset Corporation.

Cronbach's Alpha Reliability Test
According to Gliem & Gliem (2003), cited that George & Melly (2003) listed the cronbach alpha's indicator as _<.5 (unacceptable), _>.5 (poor), _>.6 (questionnable), _>.7 (acceptable), _>.8 (good), and _>.9 (excellent). Table is the result of Cronbach's Alpha reliability test for each variables. The findings of the pilot test analysis indicate that Cronbach's Alpha values for all constructs are more than 0.7. It demonstrates that all variables met the required internal consistency reliability value. Table 3 is the summary of the Cronbach's Alpha for each variable and dimension.

Table 3
Cronbach's Alpha Reliability Test

No	Variables	No. of item	Cronbach's Alpha	Strength
1	Completeness	5	.956	Excellent
2	Accuracy	5	.949	Excellent
3	Relevance	5	.978	Excellent
4	Responsiveness	5	.952	Excellent

5	Flexibility	5	.942	Excellent
6	Reliability	5	.975	Excellent
7	Satisfaction	5	.957	Excellent
8	Perceived Usefulness	5	.973	Excellent
9	Perceived Ease of Use	5	.940	Excellent
10	Trust	5	.921	Excellent
11	Citizen Engagement	5	.963	Excellent

Internal consistency is the one of the primary objectives of this investigation, and the Cronbach's Alpha value is employed as the gold standard for assessing the consistency of measurement across indicators. The result of dependability test (Cronbach's Alpha) is listed in Table 4.43. Cronbach's alpha values for all constructs appear to be above 0.7, as indicated by the pilot study's statistical analysis. As we can see, some of the Cronbach's Alpha was somewhat too high. However, it was agreed to keep the finding for the time being so that internal consistency reliability could be further investigated during the upcoming full dataset SEM study.

Conclusion
Based on the results of this Pilot Study, it can be concluded that the WhatsApp approach is easier to monitor and receive feedback, whereas email can be utilised, but a reminder email must be sent so that respondents are reminded of the prior email. This finding satisfies the primary purpose of this pilot study. The pilot indicated that the online survey was suitable for data collecting. This method may be employed for the actual survey to be done later. Another way that may be considered for use as a distribution strategy is Facebook advertising. As for the respondent category, the Pilot Test sample size is estimated to be fairly inclusive, as it was able to recruit respondents from diverse age groups, educational backgrounds, and occupations. The size of the sample used in the pilot study is an important consideration. Researchers should pilot their questionnaires with a sufficient sample size to account for any substantial changes in the population that are likely to affect responses, as noted by (Saunders et al., 2009). In most cases, the pilot sample is a relatively limited representation of the full population (Bhattacherjee, 2012). The average time spent for each person to answer is around 15 minutes. None of the respondents commented on the comprehension or structure of the questions. The link provided (Google Form) can easily be accessed by the respondents. This fulfils the next objective of the pilot test which is to evaluate the convenience (in terms of both access and navigation) of the survey tool used. Finally, to test the internal consistency reliability of the variables and dimensions. Cronbach's Alpha values for all constructs are more than 0.7, based on analysis of pilot tests. It indicates that the items tested are internally consistent and can be proceed to the actual data collection. This study demonstrates the usefulness of pilot testing in terms of enhancing questionnaire distribution, to identify the amount of time required by each respondent to answer this set of questionnaires as well as to ensure that each question provided is understood by the respondent. This study also successfully identified that the existence of www.data.gov.my as a platform for the government's open data set was unknown to more than half of respondents, 61.76 percent of respondents, or 21 individuals. Therefore, the Malaysian government must take action to increase citizens' awareness of the OGD portal. Overall, this topic of study adds value to the field of OGD, where the initiative must not only emphasize the

open government portal as a one-stop-centre, but also suggests that the ministry's website be highlighted.

References

Al-Mamary, Y. H., Shamsuddin, A., & Abdul Hamid, N. A. (2014). The relationship between system quality, information quality, and organizational performance. *International Journal of Knowledge and Research in Management & E-Commerce*, *4*(3), 7–10.

Attfield, S., Piwowarski, B., & Kazai, G. (2011). *Towards a science of user engagement*.

Ballou, D. P., & Pazer, H. L. (1985). Modeling Data and Process Quality in Multi-Input, Multi-Output Information Systems. *Management Science*, *31*(2), 150–162. https://doi.org/10.1287/mnsc.31.2.150

Beaton, D. E., Bombardies, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the Process of Cross-Cultural Adaptation of Self-Report Measures. *SPINE*, *25*(24), 3186–3191. https://doi.org/10.1080/000163599428823

Bhattacherjee, A. (2012). Social Science Research: Principles, Methods, and Practices. In *Pure and Applied Chemistry* (2nd ed., Vol. 61). https://doi.org/10.1351/pac198961091657

Cha, E. S., Kim, K. H., & Erlen, J. A. (2007). Translation of scales in cross-cultural research: Issues and techniques. *Journal of Advanced Nursing*, *58*(4), 386–395. https://doi.org/10.1111/j.1365-2648.2007.04242.x

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *Management Information Systems Research Center, University of Minnesota*, *13*(3), 319–340. https://doi.org/10.5962/bhl.title.33621

Delone, W. H., & McLean, E. R. (1992). Information systems success: The quest for the dependent variable. *The Institute of Management Sciences*, 60–95. https://doi.org/10.5267/j.uscm.2014.12.002

DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, *19*(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748

Eze, U. C., Huey Goh, M., Yaw Ling, H., & Har Lee, C. (2011). Intention to use e-government services in Malaysia: Perspective of individual users. *Communications in Computer and Information Science*, *252 CCIS*(PART 2), 512–526. https://doi.org/10.1007/978-3-642-25453-6_43

Fraser, J., Fahlman, D., Arscott, J., & Guillot, I. (2018). Pilot testing for feasibility in a study of student retention and attrition in online undergraduate programs. *International Review of Research in Open and Distance Learning*, *19*(1), 260–278. https://doi.org/10.19173/irrodl.v19i1.3326

Gliem, J. A., & Gliem, R. R. (2003). Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales. *2003 Midwest Research to Practice Conference in Adult, Continuing, and Community Education Calculating,* 82–88. https://doi.org/10.1016/B978-0-444-88933-1.50023-4

Kang, J. W., & Namkung, Y. (2018). The information quality and source credibility matter in customers' evaluation toward food O2O commerce. *International Journal of Hospitality Management*, *78*(October), 189–198. https://doi.org/10.1016/j.ijhm.2018.10.011

Krismawati, D., & Hidayanto, A. N. (2021). The User Engagement of Open Data Portal. *2021 International Conference Advanced Computer Science and Information Systems (ICACSIS)*.

Ma, Q., & Liu, L. (2005). The technology acceptance model: A meta-analysis of empirical

findings. *Advanced Topics in End User Computing*, *4*(1), 112–127. https://doi.org/10.4018/978-1-59140-474-3.ch006

Nelson, R. R., Todd, P. A., & Wixom, B. H. (2005). Antecedents of Information and System Quality : An Empirical Examination Within the Context of Data Warehousing Antecedents of Information and System Quality : An Empirical Examination. *Management of Information Systems*, *21*(4), 199–235. https://doi.org/10.1080/07421222.2005.11045823

Parker, M., Moleshe, V., De La Harpe, R., & Wills, G. (2006). An evaluation of Information quality frameworks for the World Wide Web. *Proceedings of the 8th Annual Conference on WWW Applications*, 1–11. Retrieved from http://eprints.ecs.soton.ac.uk/12908/

Petter, S., DeLone, W., & McLean, E. (2008). Measuring information systems success: Models, dimensions, measures, and interrelationships. *European Journal of Information Systems*, *17*(3), 236–263. https://doi.org/10.1057/ejis.2008.15

Piqueiras, P., Canel, M.-J., & Luoma-aho, V. (2020). Citizen Engagement and Public Sector Communication. *The Handbook of Public Sector Communication*, (First Edition), 278–287.

Purwanto, A., & Janssen, M. (2020). Citizens ' Trust in Open Government Data A Quantitative Study about the Effects of Data Quality , System Quality and Service Quality. *The 21st Annual International Conference on Digital Government Research*, 310–318.

Rasool, T., Warraich, N. F., & Rorissa, A. (2020). Citizens' assessment of the information quality of e-government websites in Pakistan. *Global Knowledge, Memory and Communication*, *69*(3), 189–204. https://doi.org/10.1108/GKMC-03-2019-0033

Saunders, M. A., Lewis, P., & Thornhill, A. (2009). Research Methods for Business Students Eights Edition Research Methods for Business Students. In *Research Methods for Business Students* (6th ed.). Retrieved from www.pearsoned.co.uk/saunders

Wang, H., & Lo, J. (2019). *Factors Influencing the Adoption of Open Government Data at the Firm Level*. *67*(3), 670–682.

Wang, R. Y., & Strong, D. M. (1996a). Beyond accuracy: What data quality means to data consumers. *Journal of Management Information Systems*, *12*(4), 5–34. https://doi.org/10.1080/07421222.1996.11518099

Wang, R. Y., & Strong, D. M. (1996b). Preparation and properties of a carbon free precast block for ladle lining. *Journal of Management Information Systems*, *12*(4), 5–33.

Wirtz, B. W., & Birkmeyer, S. (2015). Open Government: Origin, Development, and Conceptual Perspectives. *International Journal of Public Administration*, *38*(5), 381–396. https://doi.org/10.1080/01900692.2014.942735

Wirtz, B. W., Weyerer, J. C., & Rosch, M. (2017). Open government and citizen participation: an empirical analysis of citizen expectancy towards open government data. *International Review of Administrative Sciences*. https://doi.org/10.1177/0020852317719996

Zainal, N. Z., Hussin, H., Abd Rahim, N. H., Nazri, M. N., & Suhaimi, M. A. (2019). Open Government Data Use by Malaysian. *IEEE 2019 6th International Conference on Research and Innovation in Information Systems (ICRIIS)*, 1–6.

Zheng, Y., Zhao, K., & Stylianou, A. (2013). The impacts of information quality and system quality on users' continuance intention in information-exchange virtual communities: An empirical investigation. *Decision Support Systems*, *56*(1), 513–524. https://doi.org/10.1016/j.dss.2012.11.008