Research Article

The Relationship Between the Components of E-Government Services Towards Corruption in Malaysia and Indonesia

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Abstract.

This study investigates the correlation between the components of e-government services and corruption levels in Malaysia and Indonesia. Both countries have implemented various measures, including advanced e-government platforms and public participation, to combat corruption. However, instances of corruption have not shown a significant decline in either country. A total of 240 questionnaires were distributed to respondents from various sectors, including government, entrepreneurs, academia, non-governmental organizations (NGOs), and the media, in Indonesia and Malaysia. The Mann-Whitney U test was utilized to compare e-government services and corruption levels between the two countries. Interestingly, the results indicate variations in the e-government models adopted in Indonesia and Malaysia. In Malaysia, Government-to-Government (G2G) and Government-to-Citizen (G2C) interactions demonstrate a significant impact on corruption levels. In contrast, in Indonesia, Government-to-Business (G2B) and G2C interactions exhibit significant effects on corruption.

Keywords: e-government, Government to Government (G2G), Government to Business (G2B), Government to Citizenship (G2C), anti-corruption

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1. INTRODUCTION

The development of information and communication technology requires the government to provide public services in the form of e-government. The principles of e-government are very important in designing an effective anti-fraud system as a guideline for the realization of human rights and the creation of an anti-corruption strategy [1]. Furthermore, [2] claims that e-government is a tool to reduce corruption.

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This is because the increases in transparency would reduce corruption, reduce under-table transactions, and streamline procedures [3]. It has been almost twenty years since the launch of the e-government flagship by the Malaysian government, so rationally the e-government performance should have achieved a certain standard. Malaysian e-government has shown some significant improvements in its online services [4], [5]. While government, citizens, and business communities receive the widest array of benefits from e-government, evaluation records reveal inconsistent and disappointingly lackluster performance.

Indonesia's repressive efforts in eradicating corruption are shown by law enforcement agencies and the Corruption Eradication Commission (KPK). According to [6] a mental revolution is needed in creating a system and organizational culture that is clean and free of corruption. The crime of corruption in Indonesia currently has become a serious crime which is conducted systematically and has a wide impact on people's live [1]. Therefore, it is timely and relevant to study Malaysia and Indonesia as both are ASEAN countries with most Muslim people and they do embrace similar cultures and beliefs. Thus, this study examines the relationship between the components of e-government towards corruption in Malaysia and Indonesia.

2. LITERATURE REVIEW

2.1. E-Government

The application of e-government in developing countries has various challenges [7]. Corruption can occur when there is an abuse of power and a lack of religious values [8]; [9] due to pressure, opportunity, and rationalization [10]; [11]. In terms of definition, e-government can be interpreted as the use of ICT by government institutions such as Wide Area Networks (WAN), internet, and mobile computing which can alter relationships with communities, businesses, and parties related to government. The e-government system has two main aspects that must be fulfilled, (1) the accessibility aspect; and (2) the availability aspect. The form of e-government implementation is based on 4 types of services [12], namely G2C (Government to Citizen), G2B (Government to Business), G2G (Government to Government), and G2E (Government to Employee).

2.2. Corruption

Corruption is complex and resilient. Therefore, there are limits to what anti-corruption interventions can achieve. 'One of the most common definitions of corruption is the misuse of entrusted power for private gain and Scott identifies three standards by which to determine whether an action constitutes corruption: public interest, public opinion, and the law' [13, 14]. Corruption frequently refers to acts "in which public officials, bureaucrats, legislators, and politicians use powers delegated to them by the public to further their own interests at the expense of the common good" [15]. Three factors of corruption namely: determinants of corruption; due to corruption; and anti-corruption strategy [2]. To detect corruption, law enforcement is needed, and to reduce opportunities for corruption, bureaucratic reform is used [16].

2.3. E-Government toward Corruption

The role of government is to organize information by breaking down organizational boundaries and providing greater access to information, increasing the transparency of public agencies and citizen participation in government, enhancing communication, and facilitating democratic processes [17]. This indicates that no matter how good the government is, the opportunity for corruption is quite large and there are many ways of committing it. Based on the literature, the hypotheses for this study are:

H_{1a}: G2G services have a positive and significant relationship with corruption in Indonesia.

H_{1b}: G2G services have a positive and significant relationship with corruption in Malaysia.

It is assumed that the e-government services introduced for communication between G2G will reduce the risk of corruption for both countries. Installing a controlling system that relies on a computer system to track individuals' work in order to reduce nepotism and bribery. Individuals will be discouraged from overriding the system once they understand that a system is monitoring all of their activities, that any abuse will be discovered at any time, and that they can refer to the system when needed or demanded [18].

H_{2a}: G2C services have a positive and significant relationship with corruption in Indonesia.

H_{2b}: G2C services have a positive and significant relationship with corruption in Malaysia.

The convergence of e-government, social media, Web-enabled technologies, mobile technologies, transparency policy initiatives, and citizen desire for open and transparent government is ushering in a new era of opportunity with the potential to create open, transparent, efficient, effective, and user-centered information and communication technologies (ICTs) [19]. This leads to the understanding that government online services provided by both countries to communities will eliminate face-to-face communication and will contribute to a positive impact on corruption.

H_{3a}: G2B services have a positive and significant relationship with corruption in Indonesia.

H_{3b}: G2B services have a positive and significant relationship with corruption in Malaysia.

E-procurement's capabilities, particularly automation and audit trail capabilities, have the potential to strengthen the transparency and accountability of the government procurement process. The public sector should adopt a widespread e-procurement system to reduce lobbyist involvement and to increase transparency, accountability, and integrity [20]. With E-procurement implemented in both countries, there will be a better sign for the government to portray a transparent government.

3. METHOD

The research method used was a survey questionnaire. The data was gathered from different occupational groups in Malaysia and Indonesia. The questionnaires were distributed equally to 240 respondents of Indonesia and Malaysia. The measurements about G2G, G2B and G2C services were analysed from questionnaire. A seven point-Likert scale is applied for each item of the question except for the demographic section. The Likert-scale ranges from 1=strongly disagree to 7=strongly agree. In terms of data analysis, descriptive and inferential non-parametric statistics were utilised. To measure the comparison of e-government toward corruption between Malaysia and Indonesia, a non-parametric test with Mann-Whitney U was applied to analyse the data collected using SPSS v 25.

4. RESULTS AND DISCUSSION

The results of the analyses focus on three components of e-government namely G2G, G2B, and G2C variables. The variables that are not significant or have no effect will be considered for further testing. The following analysis describes the five selected

categories of respondents from the Government, Academia, Businesspeople, NGOs, and Media in West Java Province Indonesia, and Malaysia. As a comparative study, the data was split equally between 120 respondents for each country and a total of 240 respondents. The description of respondent data is presented in Table I below.

	Indonesia	Malaysia
Gender		
Male	47%	50%
Female	53%	50%
Age		
25-35	27%	28%
36-45	37%	42%
46-55	27.50%	27.50%
Over 55	9.10%	2.50%
Education Level		
Diploma	12.50%	17%
Undergraduate	42.50%	43%
Master	21%	17.50%
Doctor	14%	12.50%
Other	10%	10%

	Indonesia	Malaysia
Level of Computer skill		
Beginner	5%	5%
Intermediate	79%	80%
Expert	16%	15%
Computer usage/day		
6 hour	36%	47.50%
15 hour	30%	29%
1 hour	19%	19%
Over 20	15%	5%

Figure 1: Demographic of Respondent.

Table 1 shows the demographic of respondents. The data was grouped by gender, education, computer skills, and computer usage per day. Both male and female respondents made up 47% and 53% for Indonesia; and 50:50 for Malaysia. About 42.5% (Indonesia) and 43%(Malaysia) of respondents hold a bachelor's degree, followed by a Master's (21%:17.5%), Diploma (12.5%:17%), Doctorate (14%:12.5%) and other qualification for both countries were 10%. The information collected includes not only the general profile of the respondents but also information about the respondents' computer and internet usage experience. According to their level of computer proficiency for respondents in Indonesia and Malaysia, most respondents (79%: 80%) were intermediate users, followed by 16 percent and 15 percent who were experts and both 5 % were novice users, respectively.

The highest respondents are from the government sector, namely 25%, and the rest are taken from academia, business, NGOs, and the media. The correlation test result

between the independent variable and the dependent variables are as follows: (Table II, III, IV).

TABLE 1: G2G CORRUPTION Symmetric Measures.

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Interval by Interval	Pearson's R	.631	.047	12.539	.000[c]
Ordinal by Ordinal	Spearman Correlation	.628	.045	12.441	.000[c]
N of Valid Cases		240			
Table III. G2B CORRUPTION Symmetric Measures					
		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Interval by Interval	Pearson's R	.387	.059	6.469	.000[c]
Ordinal by Ordinal	Spearman Correlation	.319	l.068	5.199	.000[c]
N of Valid Cases		240			
Table IV G2C CORRUPTION Symmetric Measures					
		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Interval by Interval	Pearson's R	.774	.040	18.850	.000[c]
Ordinal by Ordinal	Spearman Correlation	.767	.038	18.463	.000[c]
N of Valid Cases		240			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

Based on Tables II, III, and IV, the relationship between each variable and the dependent variable, where the relationship between G2G and corruption is 0.628; 0.045<0.05, G2B is 0.319; 0.068>0.05, and G2C is 0.767, 0.038<0.05. Thus, the relationship between G2G and corruption shows a strong relationship because it is greater than 0.6 [21], G2B indicates a weak relationship and G2C has a strong relationship with corruption. Next, a non-parametric test with Mann-Whitney U was applied to measure the e-government toward corruption between Indonesia and Malaysia. The

results of the statistical calculation between Indonesia and Malaysia's e-government towards corruption are as follows:

TABLE 2: Test Statistics^a.

	G2G	CORRUPTION
Mann-Whitney U	4862.500	4205.000
Wilcoxon W	12122.500	11465.000
Z	-4.355	-5.586
Asymp. Sig. (2-tailed)	.000	.000
a. Grouping Variable: Country		

Based on Table V, the relationship between G2G and corruption is different between Indonesia and Malaysia. This is evidenced by the value of Asymp. Sig. 0.000 < 0.005.

TABLE 3: Test Statistics^a.

	G2B	CORRUPTION
Mann-Whitney U	4022.000	4205.000
Wilcoxon W	11282.000	11465.000
Z	-5.928	-5.586
Asymp. Sig. (2-tailed)	.000	.000
a. Grouping Variable: Country		

Based on Table VI, the relationship between G2B and corruption is different between Indonesia and Malaysia. This is evidenced by the value of Asymp. Sig. 0.000 < 0.005.

TABLE 4: Test Statistics^a.

	G2C	CORRUPTION
Mann-Whitney U	4111.500	4205.000
Wilcoxon W	11371.500	11465.000
Z	-5.768	-5.586
Asymp. Sig. (2-tailed)	.000	.000
a. Grouping Variable: Country		

Based on Table VII, the relationship between G2C and corruption is different between Indonesia and Malaysia. This is evidenced by the value of Asymp. Sig. 0.000 < 0.005. Refer to Figure 5 below, there are 4 quadrants that show conditions from expected to achievement. In Indonesia, efforts to become a G2G free from corruption are very high, so the main actions needed to support these implementations are to improve the G2B bureaucracy and encourage G2C to be more proactive in overseeing the government and industry.

While Malaysia's level of corruption eradication efforts is much higher than Indonesia's and the government commitments are already very high. However, it is still necessary
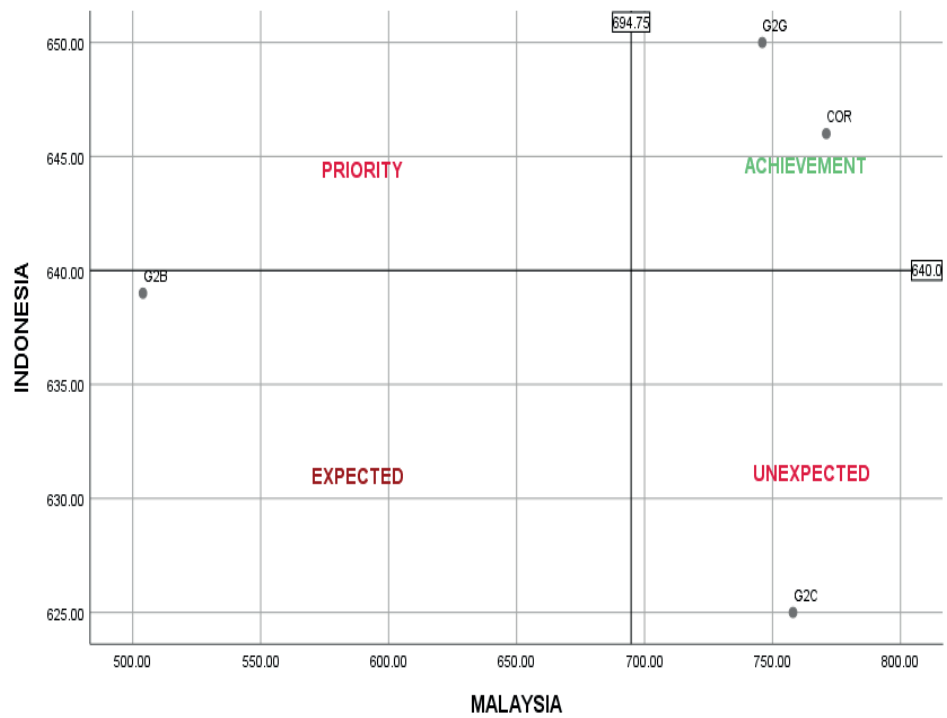
Figure 2: Quadrant of e-government.

to monitor G2B which is still low and less supportive in preventing corruption, while G2C is high enough to oversee the government's efforts to prevent corruption. Thus, both countries need to aim for high levels of prevention and eradication of corruption by promoting clean government practices and increasing G2B and G2C participation.

The hypothesis test used a simple linear regression and compares the value of t_{count} with t_{table}.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.829	.407		2.035	.044
	G2G INDONESIA	.022	.025	.026	.883	.379
	G2B INDONESIA	.663	.065	.680	10.190	.000
	G2C INDONESIA	.343	.080	.284	4.267	.000

a. Dependent Variable: CORRUPTION IN INDONESIA

Figure 3: Coefficients^a.

Based on Table VII in Indonesia, the magnitude of the influence of G2G on corruption is 0.022 with a value of sig. 0.379 > 0.05 and t$_{count}$ of 0.883 < t$_{table}$ of 1.970, thus G2G has no effect on corruption. Thus, H$_{1a}$ is not accepted. Then the magnitude of the influence of G2B on corruption is 0.663 with a value of Sig. 0.000 < 0.05 and t$_{count}$= 10.190 > 1.970, and the effect of G2C on corruption is 0.343 with a Sig.0.000 value <0.05 with t$_{count}$= 4.267 > 1.970. In sum, G2B and G2C have a positive and significant relationship with corruption, so accept H$_{2a}$, H$_{3a.}$

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	7.834	1.643		4.770	.000
	G2G MALAYSIA	.239	.059	.359	4.034	.000
	G2B MALAYSIA	.106	.082	.096	1.296	.198
	G2C MALAYSIA	.314	.087	.321	3.610	.000

a. Dependent Variable: CORRUPTION IN MALAYSIA

Figure 4: Coefficients^{a}.

Based on Table VIII, the influence of G2G on corruption is 0.239 with a value of sig. 0.000 < 0.05 and t$_{count}$of 4.034 < t$_{table}$ of 1.970, thus G2G has an effect on corruption. So, this study accepts H$_{1b}$. The magnitude of the influence of G2B on corruption is 0.106 with a value of sig. 0.198 > 0.05 and count = 1.296 < 1.970, thus G2B has no effect on corruption, so we do not accept H$_{2b}$. The effect of G2C on corruption is 0.314 with a sig.0.000 value <0.05 with count = 3.610 > 1.970, so H$_{3b}$ is accepted. Overall, G2G and G2C have a positive and significant relationship with corruption, thus H$_{2b}$ and H$_{2c}$ are accepted.

4.1. Effect of G2G on Corruption

Based on the analyses, there is a difference between Indonesia's and Malaysia's findings. G2G has no significant effect on corruption in Indonesia, but in Malaysia, G2G has a strong influence on corruption. Those involved in corruption are people or officials who have power and authority in the government. Thus, an element of abuse may exist here. Abuse of power involving superiors is one of the main challenges in dealing with the issue of corruption. This is contrary to the role of the leader, i.e. a leader should show exemplary leadership attitudes to subordinate staff. That unsupportive political

factors or unclear policies in the implementation of e-government in Malaysia, create opportunities for corruption. In sum, with good government, honest businesspeople, and strict enforcement, there are still opportunities for people to commit corruption. The role of government is minimal in preventing corruption, as most perpetrators are individuals in the government agencies themselves.

4.2. Effect of G2B on Corruption

There is a difference between Indonesia and Malaysia. G2B has no effect on corruption in Malaysia, but in Indonesia, G2B has an influence on corruption. In Malaysia, the e-government has been able to minimize business' people being involved in corruption, but in Indonesia's setting, the e-government still could not curtail businesspeople involved with corruption. For example, by paying bribes to win tender projects, and flirting with officials to smooth the business processes/dealings. Collaborating by building integrated online information data between government departments or agencies will have an impact on efficiency and effectiveness [17]. If business people are not honest, then corruption will be more fertile. On the contrary, if an individual is honest and committed, the opportunities for corruption will be narrow and very minimal. In contrast with [1] that e-government enablement is effectively used as an anti-corruption tool. Thus, technology is not the absolute solution to tackling corruption. Nevertheless, it is undeniable that technological sophistication and the introduction of e-government have at least been able to minimize the incidence of corruption. Also, the differences in findings between the two countries may also be due to the level of sophistication of e-government technology practiced and the willingness of business people to accept it.

4.3. Effect of G2C on Corruption

The influence of G2C on corruption is positive and significant and there is no difference between Indonesia and Malaysia. The role of the community in guarding and supervising the running of the government is very important, especially when the government size (e.g. government expenditure and output of economy) is large. The large size of the government can increase the risk of corruption if not well monitored by society. Corrupted Factors causing the failure of e-government implementation are inadequate technical infrastructure, lack of skills, insufficient financial resources, unclear ICT policy, poor leadership, and lack of integration that led to failure. If the community (NGOs,

academia, media) are proactive in supervising the government, it will be able to reduce corruption in the government. In contrast, if people are indifferent, and other institutions are silent and ignorant, then corruption in the government cannot be curbed and minimized. As a result, the people will bear the high cost of living and their quality of life might be affected. Figure ??.6 depicts the results of the e-government model between Indonesia and Malaysia as presented below:
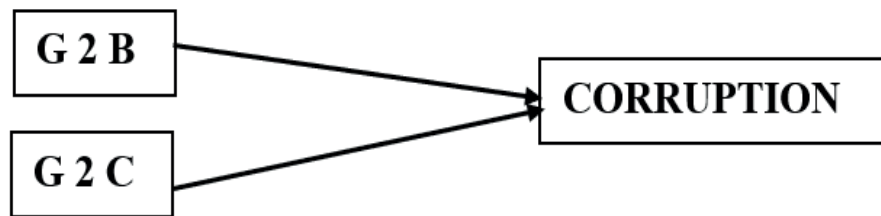

Figure 5.5   E-Governement Model for Indonesia
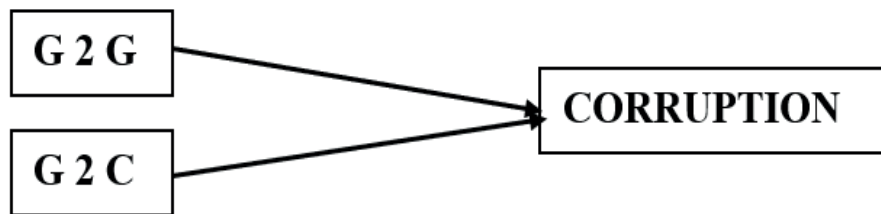
Figure 5.6   E-Governement Model for Malaysia

Figure 5

5. CONCLUSION

In a nutshell, there is a difference between Indonesia and Malaysia. Findings in Malaysia reveal that G2G and G2C are significant with corruption, but not significant with G2B. Whilst for Indonesia, G2B, and G2C are significant in findings, but no effect with G2G. Thus, to curb these problems, e-government is one of the important factors in reducing corruption. Government and staff need to be able to distinguish between right and wrong, lawful and unlawful, for both countries. In terms of the limitation of this study, the model is limited in testing the studied variables. Future studies may include more comprehensive variables, such as religiosity and social economic status, in the proposed model.

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