



The Fifth Information Systems International Conference 2019

# Indonesia in the Spotlight: Combating Corruption through ICT enabled Governance

Alvedi Sabani<sup>a,\*</sup>, Mohamed H. Farah<sup>b</sup>, Dian Retno Sari Dewi<sup>a</sup>

<sup>a</sup>*School of Business IT & Logistics, RMIT University, Melbourne, Australia*

<sup>b</sup>*Graduate School of Business & Law, RMIT University, Melbourne, Australia*

---

## Abstract

This paper puts Indonesia in the spotlight assessing the country's ability to combat corruption through ICT enabled governance. The research firstly tries to define governance through the different lens of intergovernmental organisations. This is followed by a comparative analysis of different situational characteristics of governance in developing and developed countries. The paper then explores the role of governance in Indonesia, highlighting the existing barriers, and potential drivers to the implementation of ICT in Indonesia. It is concluded that ICT enabled good governance needs to be in place to support the eradication of corruption in Indonesia. Corruption in Indonesia is considered systematic as the practice is prevalent across public organisations in the country. This study contributes to the information systems discipline by offering new insights into the issues of implementing ICT enabled open governance in developing countries such as Indonesia.

© 2019 The Authors. Published by Elsevier B.V.

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Peer-review under responsibility of the scientific committee of The Fifth Information Systems International Conference 2019.

*Keywords:* Governance; Corruption; E-Governance; Indonesia

---

## 1. Introduction

Previous studies in information sciences [1, 2], and development studies [3], connected governance and technology by exploring the rise of governance and the risk of economic failure. According to Peters [4] governance is particularly

---

\* Corresponding author. Tel.: +61-3-992-554-03.

E-mail address: [alvedi.sabani@rmit.edu.au](mailto:alvedi.sabani@rmit.edu.au)

useful “in the discussion and publications of [governments who are] responsible for improving the lives of their constituents”.

The term governance has been used in the management of organizations, where the term is concerned with the internal control systems that govern and manage a firm’s direction. Governance also suggests the conception of accountability, suggesting a degree of responsibility for the decisions casted by actors in power - setting policies that affect the social and economic outcomes of all citizens. That is, the purpose of governance is concerned with the decisions taken by specific actors in power, to steer the economy and the society towards a path of development. To realize the true purpose of governance for sustainable development, Ostrom [5] concedes that societies must come together as a collective voice and address issues of development through collective decisions rather than individual decisions. The collective decisions will, in turn, ensure that policy and measure in favor of development are implemented for the common good. Additionally, Peters [4], argues that to achieve effective governance, sustainable development must be addressed with the involvement of the state actors. Peters believes that decisions concerning the collective-good can only be steered by a legitimate force. A force supported by a power enabled institution.

Governance plays a significant role in enabling the sustainable development of societies. The importance of governance to sustainable development for developed countries has been discussed, explored and argued extensively in the literature. The common arguments found in the sample literature, highlight the importance of Information Communication Technology (ICT) enabled governance to sustainable development – declaring that governance is a central driving factor to the success of ICT enabled governance. Information communication technology assists the flow of information “...and provides a self-regulated communication network for governance” ([6] p. 187). Through complex network of integrated systems all the diverse ‘interest groups’ in a society can interact and reach decision on issues pertaining to sustainable development – beyond the unilateral control of one dominant stakeholder.

In 1967, according to McLuhan and Fiore [7] “the new electronic interdependence recreates the world in the image of global village”. Popularized by this concept of global village, ICT lead to the rapid development of many of the Western world [8]. Developing countries such as Indonesia is a prime target to benefit from the rapid development of ICT for three reasons. Firstly, Indonesia’s developing economy position – due to significant information asymmetry. Secondly, Indonesia is plagued with corruption scandals stretching from the private to the public sector – leading to governance failures. Thirdly, the inclusion of ICT enabled governance in Indonesia situates the domain of our study in the mainstream of “information systems governance” research.

Here we put Indonesia in the spotlight assessing the country's ability to promote sustainable development through ICT enabled governance. We begin by understanding governance as a concept, governance role in Indonesia, and governance in ICT. Thereafter, the role of electronic governance (e-governance) in Indonesia, barriers and drivers to the implementation of ICT in governance is reviewed.

## **2. The concept of governance**

A review of the literature on the definition of governance reveals a surprising lack of consensus. Pierre [9] a leading scholar in the field of governance states that, due to the growing popularity of the concept of governance and its existence in many disciplines, there is no exact definition of the term. There is, however, a baseline agreement of the concept. Stoker views [10] governance as “the development of governing styles in which boundaries between and within public and private [are blurred]”.

Governance plays an important role in the achievement of sustainable development; a common consensus of the definition must be achieved to realize development [11]. After a closer examination of the definitions presented in the literature, we see a clear split between the function of governance in relation to development. The first group lead by the World Bank [12] defined governance based on a function of power. While the United Nations Development Program [13] and Kaufmann and Kraay [11], a prominent academic, defined governance based on authority.

The first serious discussion and attempt to define governance was when the World Bank sought to use the concept as part of its international policy strategy prescribing a four-dimension criterion to governance, including; an efficient public service, an accountable administration, a reliable judicial system, and a balance between the government and the governed [14]. According to Kaufmann et al. [15], the definition of the World Bank was inspired by the bank’s involvement and interest of developing economies. The bank’s main aim was to increase political legitimacy and

create a sustainable business environment for economic growth. A decade later, Daniel Kaufmann – an employee of the bank – revised the definition from its earlier focus on power to a focus on authority, defining the concept as “the traditions and institutions by which authority in a country is exercised” (p.6). The difference between the definition of the World Bank and Daniel’s (see Table 1) is further evident that even within one organization, there seems to be a lack of consensus around the meaning and the function of governance.

Table 1. Definitions of Governance.

Source	Definition	Key Dimensions
World Bank (2012)	‘Governance is the manner in which power is exercised in the management of a country’s economic and social resources for development’.	<ul style="list-style-type: none"> <li>• Public management</li> <li>• Legal framework</li> <li>• Transparency and information</li> </ul>
Kaufmann et al. (2008)	‘...the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them.’	<ul style="list-style-type: none"> <li>• Effective policy &amp; decisions</li> <li>• Institutional complementarities</li> <li>• Accountability &amp; transparency</li> <li>• Government effectiveness</li> <li>• Economic &amp; social development</li> </ul>
UNDP (1997)	‘Governance is the exercise of political, economic and administrative authority to manage a nation’s affairs. It is the complex mechanisms, processes, relationships and institutions through which citizens and groups articulate their interests, exercise their rights and obligations a mediate their differences.’	<ul style="list-style-type: none"> <li>• Sustainable human development</li> <li>• Equal gender participation</li> <li>• Rule of law</li> <li>• Transparency</li> <li>• Accountability</li> </ul>

### 3. Governance in Indonesia

Indonesia is the world’s fourth most populated country with over 264 million citizens. Indonesia has the largest economy in Southeast Asia, sixteenth in the world by nominal GDP, and one of the emerging global market economies. In terms of internet penetration, online users have reached over 104 million online users as summarized in Table 2.

Table 2. Overview of Indonesia.

Indonesia Summary Information*	
Government	Unitary Presidential Constitutional
Political System	Democratic Republic
Language	Bahasa Indonesia
Currency	Indonesian Rupiah (IDR), US\$ 1 ≈ IDR 14,240.00 (2019)
Land Size	1,904,569 km <sup>2</sup>
Population	264 million (2018)
Unemployment Rate	5.81% of the labor force
Life Expectancy	68.89 years
GDP	\$ 1.016 trillion USD (2018)
Internet Penetration	104 million online users (2018)

\*Sources: World Bank [16], Statista [17], United Nations [18]

With a growing number of internet users, the Indonesian government initiated various policies to support E-Governance implementation (i.e. development of reliable broadband infrastructure, online taxation guidelines and

standards, as well as the regulation of public service transactions). Presidential Order No.1/2014 formed National Board of Information Technology and Communication to launch a national broadband infrastructure development that includes e-governance, e-government, e-health, e-learning, e-logistic, and e-procurement [19, 20]. This plan was the backbone of the current e-governance development strategy to computerize public services, which aimed to suppress corruption and improve quality of life by providing fast, reactive and transparent public service delivery. However, these policies have failed and are yet to yield substantive results in e-governance in the country.

Most developing countries, including Indonesia, are struggling with the implementation of the basic functions of governance to fight corruptions in manners pertaining to the sustainable development [21]. In the view of many academics, governance is a fundamental concept that underpins the successful implementation of sustainable development goals [22, 23]. For example, they argue that governance is a key determinant of economic development, social inclusion and overall state development. Development in this sense is the effective management of a country's economic and social resources.

Although governance is vital to sustainable development, it is yet unclear how governance can be operationalized to address the different e-governance development issues presented in Indonesia [14]. In the developed countries the concept demands some meaningful and accountable participation from all stakeholders. While in the case of developing countries, such as in Indonesia, the concept is concerned with the key issues of development including; economic development, access to a quality of education, the eradication of poverty, hunger, inequality and health threatening diseases [24].

#### 4. ICT in governance

Electronic governance (e-governance) is defined as the processes that ensure the effective and efficient use of ICT in enabling public organizations to achieve its goals. E-Governance enables digital interactions from governments to citizen (G2C), governments to other government agencies (G2G), governments to their employees (G2E), governments to businesses (G2B) and so vice-versa [25, 26]. There are several benefits from the implementation of e-governance. Ionescu [27], for example, believes that e-governance provides transparency in public transactions. Ciborra [28] deems e-governance makes procedures hassle free and swift Saxena [29] perceives e-governance as a way to enhance information spreading.

The implementation of ICT enabled governance is not an easy task for many developing countries such as Indonesia. According to Indonesian Ministry of Communication and Informatics, development of e-governance in Indonesia faces challenges due to poor infrastructure, inadequate human resources and lack of coordination between public organizations [20]. This is due to pre-existing conditional variables of many developing countries. These variables can be generally classified under four factors as outlined in Table 3.

Table 3. A comparison of governance in developing and developed countries.

	Developing Countries	Developed Countries	References
Governance	Weak Institutions	Medium to strong institutions	[28], [30],
	Low transparency	Medium to high transparency	[31], [21],
	Low Accountability	High Accountability	[3], [15]
	Low control of corruption	High control of corruption	
	Poor Regulatory Quality	High Regulatory Quality	
ICT Infrastructure	Poor infrastructure	Strong infrastructure	[32], [33],
	Infrastructure is centralized	Infrastructure is distributed	[34], [20],
	Lower level of internet accessibility	Higher level of internet accessibility	[35], [18]
	Higher level of digital divide	Lower level of digital divide	
Human Resources	Lack of competent personnel	Highly skilled personnel	[36], [37],
	Lower level of awareness	Higher level of awareness	[38], [39], [40]

	Developing Countries	Developed Countries	References
Environment	Lack of professional training	Sufficient professional training	
	Emerging economies	Developed economies	[41], [42],
	Lower standard of living	Higher standard of living	[43], [20],
	Lower level of transparency	Higher level of transparency	[18], [16]
	Limited development budget	Strong development budget	
	Higher level of corruption	Lower level of corruption	

These several situational characteristics of governance are unique to the context of developing countries such as Indonesia. Governance is often criticized for presenting weak institutions, low transparency, low accountability, low control of corruption and poor regulatory quality [30, 44, 45]. This is due to several challenges including ICT infrastructure, human resources and the environment. The development of ICT infrastructure in developing countries, such as Indonesia is often hindered by the lack of infrastructure availability, low internet accessibility and centralized infrastructure culminating to a higher digital divide. Human resources on the other hand, add further challenges to developing countries to lack of competent personnel, lower level of awareness, and lack of professional training. The environment presents the most challenge as the poor living conditions, high form of corruption and limited development budgets further delay the development process. In contrast developed countries enjoy significantly better ICT infrastructure distribution, higher level of internet access - thereby lower digital divide, higher skilled and trained personnel, higher level of awareness, robust economy, higher standard of living, low level of corruption, higher level of transparency, and sufficient development budget.

## 5. A snapshot of corruption in Indonesia

Corruption is one of the most epidemic problems in Indonesian Governance that hinder sustainable development of the country. The practice is widespread across public organizations. In almost all comparative studies of corruption between countries, Indonesia sits at the top of the pyramid, coming in at 89% CPI [46]. In response, the Indonesia government over the years commissioned The Corruption Eradication Commission (Komisi Pemberantas Korupsi - KPK) to stamp out corruption in all sectors of the economy [20]. A recent case of Elektronik Kartu Tanda Penduduk (e-KTP) or electronic national identity card corruption is considered the worst scandals in the country; the case involves US\$167.66 million. Not limited to financial loses, all of citizens of the country have been facing difficulties to obtain a new e-KTP card since mid-2015. Corruption Eradication Commission summoned 200 witnesses, politicians and government officials for embezzlement investigation. The influence of the KPK has also penetrated throughout all government ranks and agencies, producing corruption reports year by year. One of the main influences of the KPK is the whistle-blower program, which has enabled anonymous user and internal staff the ease of reporting malpractice within public services. In the spirit of bureaucratic reform, Indonesian government encourages all departments to computerize their service in promoting transparency of public service delivery and good governance.

According to Meso et al. [31], the absence of information in the governance implementation is the core issue facing many developing countries, and Indonesia is at the forefront. When a transparent and accountable governance system is desired, most citizens would want to be fully informed about the key issues affecting the country's future; such as corruption and graft. Thus, it is Meso's assertion that 'easy and adequate access to information is made by a well-developed national ICT infrastructure; the extent of development...plays a significant role in optimizing the governance systems within a given nation' (189). Therefore, we posit that the absence of ICT in the governance implementation is one of the many possible issues impacting free quality governance.

## 6. Barriers and drivers to the implementation of ICT in Indonesian governance

E-Governance in Indonesia developed gradually. The Indonesian Government showed and continues to show dedication in supporting the development by devoting large investments in ICT infrastructures and encourages the implementation of e-governance across public organizations. However, this expansion is restricted due to poor

infrastructure, inadequate human resources, and low awareness of public and official involvements [19, 47, 48]. Furthermore, there is a lack of coordination among government bodies and institutions, work in siloes based on government centric instead of citizens centric, resulting non-standardized public services with minimum integration [47, 49, 50].

A comprehensive review of the related literature surrounding the implementation of ICT governance in Indonesia found the existence of several barriers and drivers to the implementation of ICT enabled governance. From this literature review on the implementation of e-governance in Indonesia, research findings within the context are summarized in Table 4. Studies can be classified under two categories, (a) Barriers that hinder e-governance development, and (b) Drivers that support e-governance development in Indonesia.

Table 4. Barriers and Drivers to the Implementation of E-Governance in Indonesia.

Centric	Literature	Barriers							Drivers				
		Budget Limitation	Infrastructure Readiness	Incompetent Staff	Low Awareness	Low Participation	Poor Performance	Accessibility	Government Support	Motivation	Policy Enforcement	Transparency	Trust
Government	Furuholt and Wahid [37]			X		X			X		X	X	
	Hwang and Syamsuddin [51]	X	X										X
	Krishnan, Teo [52]			X					X				
	Prananto and McKemmish [53]	X	X	X				X	X	X			
	Pudjianto, Zo [54]		X									X	
	Dahlan [55]		X	X						X	X		
	Hermana and Silfianti [56]		X			X	X					X	
	Maslihatin [50]		X				X						
Citizen	Mirchandani, Johnson Jr [42]				X	X			X	X			X
	Nurdin, Stockdale [57]		X	X					X		X		
	Prahono and Elidjen [47]	X	X									X	
	Puspitasari and Ishii [48]		X		X	X	X						
	Rana, Dwivedi [58]			X	X			X					
	Rokhman [49]	X	X						X				
	Susanto and Goodwin [59]				X	X							

In relation to Barriers category in Table 4, there is a strong connection between infrastructure readiness and poor performance. In terms of infrastructure readiness, poor internet connectivity and limited electricity access are the two main reasons for creating digital divides that hinder e-governance development in Indonesia. For example, Hermana and Silfianti [56] evaluate public services performance across 33 provinces in Indonesia to find gaps in performance between provinces inside and outside of Java island. In terms of poor performance, Prahono and Elidjen [47] found that only 15.6% provincial public services meet the standard requirements. Obi and Naoko [19], Maslihatin [50] further explain this poor performance is due to a gap in internet infrastructure between metropolitan and rural areas.

In relation to Drivers category in Table 4, government support is the most frequent factor that emerges in the literature. Prananto and McKemmish [53] argue that government involvement and policy enforcement are the two most important factors to ensure e-governance development success. In relation to trust, Mirchandani, Johnson Jr [42] develop a research model to study Indonesian citizens' perception towards e-governance. Study examines if citizens believe in the benefits of using online public services outweigh the efforts of learning the system. The result shows that motivation and trust play crucial roles in e-governance development success. In addition, Pudjianto, Zo [54] find that ICT infrastructure readiness and transparency value of e-governance are the two most significant drivers to e-

governance development success. The implementation of ICT in governance by considering these drivers and barriers are important to support the successful development of e-governance in Indonesia.

## 7. Conclusion and limitations

The main purpose of this paper is to review the concept of governance, the situational characteristic of governance in developing countries, and the role of ICT enabled governance to combat corruption in Indonesia. In relation to the definition, this paper has also reviewed the concept of governance from the literature and found that the consensus around the definition of governance is either based in the exercise of power or authority.

This paper also systematically examines the characteristic of governance in developing countries, the transparency aspect of ICT enabled governance and the barriers and drivers of implementation of e-governance in Indonesia. There are some areas that have not been fully explored, where the gaps exist. For instance, there is little to no research in the literature that succinctly captures all the drivers and assess their level of importance towards e-governance development success. Furthermore, there is only little attention to other factors such as accessibility and trust. Thus, there is a need of an empirical study to further analyses the drivers in Indonesia, by summarizing the key factors that contribute the most to the e-governance success.

This paper concludes that ICT enabled good governance needs to be in place to support the eradication of corruption in Indonesia, which is considered as one of the most epidemic problems, as the practice is widespread across public organizations in the country. Transparency and accountability are central to the concept of good governance. Disclosure of information and transparent decision-making processes is essential to scrutinize actions and hold responsible actors to account. Improving transparency with the implementation of ICT in open governance will become a powerful tool for the Indonesian Government to combat corruption in the effort to attain sustainable development in the future.

## References

- [1] Fletcher, P.D., and L.K. Westerback. (1999) "Catching a Ride on The NII: The Federal Policy Vehicles Paving The Information Highway." *Journal of the American Society for Information Science* **50 (4)**: 299-304.
- [2] Morgan, A., and C. Chen. (2003) "Integrity, Internal Control and Security in Information Systems: Connecting Governance and Technology." *Journal of the Association for Information Science and Technology* **54 (10)**: 976.
- [3] Jessop, B. (1998) "The Rise of Governance and The Risks of Failure: The Case of Economic Development." *International Social Science Journal* **50 (155)**: 29-45.
- [4] Peters, B.G. (2011) "Governance as Political Theory." *Critical Policy Studies* **5 (1)**: 63-72.
- [5] Ostrom, E. (1990) *Governing The Commons : The Evolution of Institutions for Collective Action.*, Cambridge
- [6] Meso, P., P. Datta, and V. Mbarika. (2005) "Moderating Information and Communication Technologies' Influences on Socioeconomic Development With Good Governance: A Study of The Developing Countries." *Journal of the American Society for Information Science and Technology* **57 (2)**: 186-197.
- [7] McLuhan, M., and Q. Fiore. (1967) "The Medium is The Massage: An Inventory of Effects." *Corte Madera, Calif.*: Gingko Press.
- [8] Ehikhamenor, F.A. (2002) "Socio-Economic Factors in The Application of Information and Communication Technologies in Nigerian Print Media." *Journal of the American Society for Information Science and Technology* **53 (7)**: 602-611.
- [9] Pierre, J. (2000) "Debating Governance: Authority, Steering, and Democracy." OUP Oxford. p. 266.
- [10] Stoker, G. (1998) "Governance as Theory: Five propositions." *International Social Science Journal*. **50 (1)**: 17-28.
- [11] Kaufmann, D. and A. Kraay. (2008) *Governance Indicators : Where Are We, Where Should We Be Going?*, World Bank, Washington, DC.
- [12] World Bank Governance and Development. (1992) p. 62.
- [13] United Nations Development Programme. (1997) *Governance for Sustainable Human Development: A UNDP Policy Document*.
- [14] Weiss, T.G. (2000) "Governance, Good Governance and Global Governance: Conceptual and Actual Challenges." *Third World Quarterly* **21 (5)**: 795-814.
- [15] Kaufmann, D., A. Kraay, and M. Mastruzzi. (2010) "The Worldwide Governance Indicators: Methodology and Analytical Issues." *The World Bank*.
- [16] World Bank. (2018) "Indonesia Economic Quarterly", in *World Bank Economic Quarterly*, World Bank, Washington, D.C.
- [17] Statista. (2018) *Internet User Penetration in Indonesia from 2015 to 2022*, New York.
- [18] United Nations. (2018) *United Nations E-Government Survey 2018*, Department of Economic and Social Affairs, New York.
- [19] Obi, T. and I. Naoko. (2016) "A Decade of World e-Government Rankings." Ringgold Inc. Beaverton.

- [20] Republik Indonesia. (2014) *Rencana Pitalebar Indonesia 2014 – 2019* [Title in English: *Bandwidth Planning Indonesia 2014-2019*], K.P.P. Nasional, Editor, Republik Indonesia, Jakarta.
- [21] Güneý, T. (2017) “Governance and Sustainable Development: How Effective Is Governance?” *The Journal of International Trade & Economic Development* **26** (3): 316-335.
- [22] Mc Lennan, A., and W.Y. Ngoma. (2004) “Quality Governance for Sustainable Development?” *Progress in Development Studies* **4** (4): 279-293.
- [23] Meadowcroft, J. (2007) “Who is in Charge Here? Governance for Sustainable Development in a Complex World.” *Journal of Environmental Policy & Planning* **9** (3-4): 299-314.
- [24] Levi-Faur, D. (2012) *The Oxford Handbook of Governance*, OUP Oxford.
- [25] Moon, M.J. (2002) “The Evolution of E-Government Among Municipalities: Rhetoric or Reality?” *Public Administration Review* **62** (4): 424.
- [26] As-Saber, S., and S. Hossain (2007) “Technology, Society and E-Government: in Search of an Eclectic Framework.”
- [27] Ionescu, L. (2013) “The Impact That E-Government Can Have On Reducing Corruption And Enhancing Transparency.” *Economics, Management, and Financial Markets* (2): 210-215.
- [28] Ciborra, C.U. (2009) “Interpreting E-government and Development: Efficiency, Transparency or Governance at a Distance?” in *Bricolage, Care and Information: Claudio Ciborra’s Legacy in Information Systems Research*, Palgrave Macmillan UK, London. pp. 90-110.
- [29] Saxena, K.B.C. (2005) “Towards Excellence in E - Governance.” *International Journal of Public Sector Management* **18** (6): 498-513.
- [30] Dawes, S.S. (2008) “The Evolution and Continuing Challenges of E-Governance.” *Public Administration Review* **68** (s1): S86-S102.
- [31] Farah, M., and A. Sabani, (2019) “Towards Sustainable Development Goals: A Literature Review and A Conceptual Framework of Governance Issues in Africa”, in *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance (ICEGOV)*, ACM Digital Library, Melbourne, Australia.
- [32] Al-Soud, A., H. Al-Yaseen, and S. Al-Jaghoub. (2014) “Jordan’s e-Government at the Crossroads.” *Transforming Government: People, Process and Policy* **8** (4): 597-619.
- [33] Elbahnasawy, N.G. (2014) “E-Government, Internet Adoption, and Corruption: An Empirical Investigation.” *World Development* **57**: 114-126.
- [34] Krishnan, S., and T.S.H. Teo. (2012) “Moderating Effects of Governance on Information Infrastructure and e-Government Development.” *Journal of the American Society for Information Science and Technology* **63** (10): 1929-1946.
- [35] Sabani, A., H. Deng, and V. Thai. (2019) “Evaluating the Development of E-Government in Indonesia”, in *Proceedings of the 2nd International Conference on Software Engineering and Information Management (ICSIM)*, ACM Digital Library, Bali, Indonesia.
- [36] Kristiansen, S., et al. (2009) “Public Sector Reforms and Financial Transparency: Experiences from Indonesian Districts.” *Contemporary Southeast Asia: A Journal of International and Strategic Affairs* **31** (1): 64-87.
- [37] Furuholt, B., and F. Wahid. (2008) “E- Government Challenges and the Role of Political Leadership in Indonesia: The Case of Sragen.” p.411.
- [38] Alfred Tat-Kei, H., and N. Anna Ya. (2004) “Explaining the Adoption of E-Government Features: A Case Study of Iowa County Treasurers’ Offices.” *The American Review of Public Administration* **34** (2): 164-180.
- [39] Sabani, A., H. Deng, and V. Thai. (2019) “Evaluating the Performance of E-Government in Indonesia: A Thematic Analysis”, in *Proceedings of the 12th International Conference on Theory and Practice of Electronic Governance (ICEGOV)*, ACM Digital Library: Melbourne, Australia.
- [40] Waseda University. (2017) “Waseda-IAC International e-Government Rankings”, in *Waseda-IAC International e-Government Rankings*, T. Obi, Editor, Waseda University, Tokyo.
- [41] Napatupulu, D., et al. (2018) “Analysis of Citizen Readiness in Indonesia Toward E-Gov 2.0.” *Journal of Theoretical and Applied Information Technology* **96** (19): 6645-6653.
- [42] Mirchandani, D., J. Johnson Jr, and K. Joshi. (2008) “Perspectives of Citizens Towards E-Government in Thailand and Indonesia: A Multigroup Analysis.” *Information Systems Frontiers* **10** (4): 483-497.
- [43] Sabani, A., H. Deng, and V. Thai. (2018) “A Conceptual Framework for the Adoption of E-Government in Indonesia”, in *Proceedings of the 29th Australasian Conference on Information Systems (ACIS)*, Australasian Conference on Information Systems, Sydney, Australia.
- [44] Coe, A., G. Paquet, and J. Roy. (2001) “E-Governance and Smart Communities: A Social Learning Challenge.” *Social Science Computer Review* **19** (1): 80-93.
- [45] Tripathi, A., and B. Parihar. (2011) “E-Governance Challenges and Cloud Benefits”, in *2011 IEEE International Conference on Computer Science and Automation Engineering*.
- [46] Transparency International. (2018) *Corruption Perception Index*.
- [47] Prahono, A., and A. Elidjen. (2015) “Evaluating the Role e-Government on Public Administration Reform: Case of Official City Government Websites in Indonesia.” *Procedia Computer Science* **59**: 27-33.
- [48] Puspitasari, L., and K. Ishii (2016) “Digital Divides and Mobile Internet in Indonesia: Impact of Smartphones.” *Telematics and Informatics* **33** (2): 472-483.
- [49] Rokhman, A. (2011) “E-Government Adoption in Developing Countries; the Case of Indonesia” *Journal of Emerging Trends in Computing and Information Sciences* **2** (5): 228-236.
- [50] Maslihatin, T. (2016) “Balanced scorecard : Performance Measurement for E-government.” *Journal of Theoretical and Applied Information Technology* **90** (2): 116-123.
- [51] Hwang, J., and I. Syamsuddin (2008) “Failure of E-Government Implementation: A Case Study of South Sulawesi.” pp. 952-960.

- [52] Krishnan, S., T.S.H. Teo, and V.K.G. Lim (2013) “Examining the Relationships Among E- Government Maturity, Corruption, Economic Prosperity and Environmental Degradation: A Cross-Country Analysis.” *Information & Management* **50** (8): 638-649.
- [53] Prananto, A. and S. McKemmish (2007) “Critical Success Factors for the Establishment of e-Government: A Critical Analysis of the Indonesian Cabinet Secretariat’s Legal Document Retrieval System (LDRS) Project”, in *Pacific Asia Conference on Information Systems*. Auckland.
- [54] Pudjianto, B., et al. (2011) “Determinants of E-Government Assimilation in Indonesia: An Empirical Investigation Using TOE Framework.” *Asia Pasific Journal of Information Systems* **21** (1).
- [55] Dahlan, N. (2008) “Development of e-Government in Indonesia: A Strategy Model and its Achievements.”
- [56] Hermana, B., and W. Silfianti (2011) “Evaluating E-Government Implementation by Local Government: Digital Divide in Internet Based Public Services In Indonesia (Report).” *International Journal of Business and Social Science* **2** (3): 156.
- [57] Nurdin, N., R. Stockdale, and H. Scheepers. (2012) “Organizational Adaptation to Sustain Information Technology: The Case of E-Government in Developing Countries.” *Electronic Journal of E-Government* **10** (1): 70-83.
- [58] Rana, N., et al. (2017) “Citizens’ Adoption of an Electronic Government System: Towards a Unified View.” *A Journal of Research and Innovation* **19** (3): 549-568.
- [59] Susanto, T.D., and R. Goodwin. (2013) “User Acceptance of SMS-Based E- Government Services: Differences Between Adopters and Non-Adopters.” *Government Information Quarterly* **30** (4): 486-497.