

Development of E-government through Public-Private Partnerships in Indonesia

Lisman Manurung
Department of Public Administration
Universitas Indonesia
Depok, Indonesia
lisman.manurung@ui.ac.id

Fikri Akbarsyah Anza
Department of Public Administration
Universitas Indonesia
Depok, Indonesia
fikriakbarsyah@ui.ac.id

Abstract—The application of information and communication technology (ICT) is a phenomenon that permeates many aspects of government practices since the end of the last century. E-government has been growing rapidly following the development of E-commerce. More than the application of ICT, international aid agencies expect that E-government can be a tool for the governance transformation efforts in developing countries. Government of Indonesia's initiative to develop E-government has been strengthened in various government policies since 2001. The Indonesian government has set up many programs to keep pace in the field of E-government. Basically, the government is aware of the constraints of priority in public finance, lack of technology and human resources. Therefore, since 2001 the government has initiated the development of E-government through public-private partnerships. However, apart from the aspects of ICT and capital, as well as the availability of human resources, the implementation of public-private partnerships in the development of E-government has not been held smoothly. Developing E-government through public-private partnerships could potentially be facing institutional barriers. Therefore, the implementation of E-government in Indonesia, which is expected to be done by a public-private partnership schemes are susceptible to situations of uneasy. Inequality in institutional arrangements has been slowing the progress of the program. So, the two parties have not yet able to achieve greater benefits from the partnership.

Keywords—E-government; public-private partnerships; government transformation; institutional arrangements

I. INTRODUCTION

The application of information and communication technology (ICT) is a phenomenon that has penetrated various aspects of government practices since the 1990s [1][2]. E-government is the application of information and communication technology to improve the functions of government administration and public service provision. [1]-[5]. This phenomenon is known by various names such as online government services; digital government, one-stop government and others. E-government has been a

trend in the era of the internet boom [6]. E-government in many ways following the pattern of development of E-commerce. E-commerce takes place between companies, companies and their customers, and companies with public sectors [7]. E-commerce includes various forms of exchange of business information through electronic data transmission, e-mail, electronic bulletin, facsimile and electronic transactions. E-commerce managed to increase efficiency in commercial transactions. E-commerce characterized by wide use of the Internet as a mean for marketing and transaction. The development of social media services like Twitter and Facebook is also a part of E-commerce.

Developments in the sector of E-commerce and E-government both evolve in unique way. Internal processes and complexities and incentives in E-commerce and E-government differs from one another. The development of E-government has not been able to match with the progress of E-commerce. Rainey, Backoff, and Levine (1976) said that environmental and organizational tasks of the government sector contrasts with the private sector organizations environmental drivers and constraints, duties and scope of organization of organizational mandates and scope. However, many conclusions from the academic forum states effectiveness of partnership between two sectors to enhance the development of E-government, albeit with some critical notes [8][9].

The development of E-commerce and E-government is characterized by the size and the performance of different processes. The development of E-commerce and E-government in Indonesia can be seen from the simplest parameter by the number of internet and mobile phone users. The Indonesian government has tried to facilitate internet usage since the 1990s. By now, name it websites, internet providers, internet subscribers, online services and transactions already increasing exponentially [10] [11].

In contrast to the performance of E-commerce, E-government development in Indonesia has been less encouraging. Despite having the increased trend from previous years, the achievements of Indonesia in the development of E-government. According to the Global E-government Development Index, rank of Indonesia is still

relatively low compares to other developing country. The United Nations E-government Development Research Survey analyzes the development of E-government according to the three components, namely online service components, telecommunication infrastructure and human capital component. According to the publication of United Nations Public Administration Network (UNPAN), Indonesia currently rank 116 in E-government Development Rank with index of figure: 0.4478. This number is still far below from other ASEAN countries, such as Malaysia (Rank 60: 0.62), Vietnam (Rank 89: 0.5143), Philippines (Rank 71: 0.5765), and Thailand (Rank 77: 0.5522). The highest ranking nowadays achieved by UK (Rank 1: 0.9193), beating Republic of Korea which is now ranked 3rd (0.8915), followed by Australia ranked 2nd (0.9143), Singapore ranked 4th (0.8828), and Finland in rank 5th (0.8817).

Developing countries are enthusiastically implementing E-government. However, according to Heeks [4] most of the developing countries fail to develop E-government. Failure of E-government projects, of which he said was due to drafts of the planned system could not be implemented. Heeks composes E-government failure in two categories, namely total failure and the partial failure. From the survey results, Heeks concluded that 35% of developing countries in total failure, only 50% are partially successful. Furthermore, according to Subhajit Basu [12] the causes of failure of E-government in developing countries, among others, is because it does not have adequate infrastructure. According to Soumitra Sharma [13] factors causing the failure of E-government in developing countries are due to the limited number of skilled human resources, lack of incentives for competent employee, lack of political commitment to develop E-government, the legal system is less support and the problems associated with interoperability. According to Sharma the development of E-government in developing countries are faced with several issues, namely (i). public sector is rarely able to manage financial resources, (ii). inadequacy of public sector in terms of internal management, especially in concern of inventiveness of increasing productivity of skilled personnel (iii). typical procedural dependence of the public sector, and (iv). rigid legislative process.

Indonesian government has been established a public policy to enhance the development of E-government thorough public-private partnership. E-government development initiatives are outlined in the Presidential Instruction No. 6 of 2001 on the Development and Utilization of Telecommunications, Media and Information. Instruction is then amended by Presidential Instruction No. 3 of 2003 on National Policy and Strategy Development of E-government. Through Presidential Instruction No. 3 of 2003, the Government of Indonesia has

committed to the improve E-government on a large scale. This public policy states the intent to delivering a clean and transparent government. To do this government should be able to meet the people demands in the two modalities i.e. public services that meet the interests of the public. Secondly, the government should be facilitating dialogue and public participation in the public policy formulation process. To answer these challenges, government should be able to form a new dimension to the organization, management systems, and work processes that include (a). development of systems and procedures that are flexible to facilitate various forms of complex interactions within government agencies, communities, businesses, and the international community, (b). development of a modern management system with a networked organization that can shorten the lines of decision-making and expand the span of control, (c) ease the separation wall that limits interaction with the private sector, in the sense of government organizations to be more open to forming partnerships with business (public-private partnership) and (d) use of advanced information technologies to improve the ability to process, manage and distribute information and improves public services.

Specifically, Presidential Instruction No. 3 year 2003 stresses the importance of flexible work systems and the establishment of public-private partnership. Explicit policy has emphasized the importance of the establishment of public-private partnership. Meanwhile, in less than 10 years since the enactment of President Instruction No. 3 year 2003, there has been tremendous growth in E-commerce sector. It should be noted, the prime mover of the development of E-commerce are companies that already operate in the domestic or international investment and technology support. It should be interesting to explores whether E-government can grow along with the development of E-commerce in Indonesia. Of course some limitations can potentially be hindering any public-private partnership initiative. On the other hand, Government of Indonesia has facing limited online services, the lack of infrastructure and limited human resource development. Rather an explanation to confirm a hypothesis, this study is developed to examine the fact that institutional aspects are often hindering the progress of a public private partnership.

II. METHODOLOGY

Development of concepts and arguments of this study refers to the theories of E-government and public-private partnership. Data collection in this study is conducted through a series of literature review (mainly), in-depth interviews, and observations. Participants in the study were decision makers and relevant stakeholders in the development of public-private partnerships and E-government. Data analysis was performed as an

interpretative analysis based upon pro and con arguments that have become main stream in E-government research paper and PPP studies.

III. RESULT

There are some main aspects about pro-con that can be conclude after analyzing data: E-government as a tool of transformation, Challenges of E-government development in Indonesia, Public Private Partnership for E-government, Critics of the PPP, Development of E-government in Indonesia, and Build E-government with Public Private Partnership.

A. *E-government as a tool of transformation*

Implementation of E-government influence on the structures and functions of public administration (Snellen 2000; Chen et al, 2006). E-government raise public service transformation, especially in the developing world [13]-[15]. In 2011 United Nations Public Administration Network (UNPAN) states that E-government has passed the experimental to the era of effective governance. E-government has the potential to increase the effectiveness of citizen participation at the national and local levels.

Heeks [4] defines E-government in the broad sense as all use of information technology in the public sector. He further said: *'It covers a broad range of issues from managerial high-level strategy to detailed tactics; from the technicalities of the data flows and process mapping to the politics of E-government'*. Revisions to IT to ICT to expand along with the need for the formulation of a more rapid development covers related technologies.

Here are some definitions about E-government based on data analyzing:

- Neither E-government and E-commerce is the impact of the internet boom [6].
- E-government related to the utilization of information and communication technology in government [16].
- E-government practices include use of the Internet for tax services and to facilitate the licensing, town planning and facilitation of the implementation of consultation through the Internet [17].
- From Britain's House of Commons in 2011, E-government is a government initiative to improve performance.

The development of E-government implies the application of a broad 'to the full range of government function'. Potential developments made possible by the extraordinary nature of the network (networking) on the internet and related technologies. Internet has the power to transform-changing structures and ways of working (operation) government. E-government can act to trigger change. Even E-government has led to a rethinking the role of government as a whole [16].

Gronlund [6] found three objectives expected to be achieved by developing E-government, namely (i). towards a more efficient government, (ii). provide better services for citizens as well as (iii). develop democratic processes more efficient.

The definitions of E-government range from the holistic definition to specific definitions. Each definition contains specific goals. E-government is essentially permanent government's commitment to improve the relationship between citizens and government sectors by developing public services effectively and efficiently. E-government also intended to allow the provision of information required citizens. E-government does not just make the performance of government officials to be more effective and more efficient. More than that, implementation of E-government has been potentially strengthening democratic values in developing countries.

B. *Challenges of E-government development in Indonesia*

Governments of developing countries are very enthusiastic to develop E-government. Various initiatives have been undertaken by governments of developing countries to achieve E-government applications. But according to Heeks [4] many E-government projects fail in implementation. From the survey results, Heeks [4] concluded that 35% of developing countries in total failure, 50% only partially successful, and which can be categorized as successful only 25%. According to Heeks[4], the failure of E-government in developing countries can be seen as the gap between actual or current reality with the proposed design projects E-government. If the proposed design cannot be achieved then the project is considered a failure. Meanwhile, if the current reality with the proposed design of the project is considered successful. With this approach, it can be shown that there are three categories of E-government project success. The first category is if the proposed design at all cannot be applied. The second is if the application is only partial. While the third is if all the proposed design can be implemented.

Danish Dada [17, p. 2] states: *'E-government failure is defined as the inability of such a system to Achieve predefined goals or other, previously unanticipated benefits'*. Furthermore, Dada quoting Heidegger (1978) says: 'the essence of technology is a revealing that challenges the world by ordering it and creating a concrete infrastructure'. The essence of technology is revealed by managing the challenges of the world and then the next challenge is creating the infrastructure. Dada further illustrates that Heidegger framework, especially regarding the 'arrangement' used by Ciborra (2005) to explain the position of E-government. Not merely as the application of technology, E-government ordering relations between government and citizens, establish clear boundaries between the state and the market to ensure accountability

and transparency in government. Therefore, Ciborra critically addressing the implementation of E-government in developing countries. So Ciborra confirms that ICT applications are not necessarily realizing E-government. Ciborra assess the application of ICT is not necessarily directed to make governance better governance.

In the Indonesian context, the barriers to the development of E-government in Indonesia has been investigated by several researchers. Kumorotomo [18] discovered the fact of civil servants use computers to play games or use the ICT facilities for other things. Budiati and Komara [19] found public sector managers are slowly adapting ICT-based working patterns. In addition, the two researchers said officials are still hard to accept Internet-based communications and forgo face-to-face interaction. According to the two researchers of E-government in Indonesia still faces obstacles bureaucracy culture and leadership problems.

For E-government in financial sector itself, they need to identify how to align Business Model, Enterprise Architecture, and Risk Management can be resolve between public and private sector [20]. This is not an easy task to solve, especially in modern era nowadays, meaning every layer of citizen in Indonesia need to get information and services related into financial aspect. Which is its all about every single aspect in citizen life, everything that needs to be paid whenever, wherever, and whatever transaction need to be done. Regarding those conditions, in technical term we can call it as Ubiquitous, and for that to be implemented, government need to deep study in one of type E-government which is Mobile Government, popular as M-Government [21].

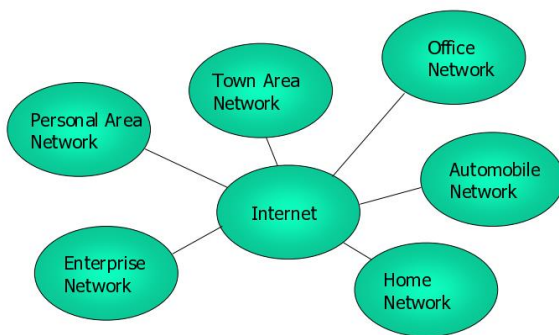


Fig. 1 Internet-scale Ubiquitous Computing [21]

M-Government can be categorized by many type of application, such as web-based, SMS-based, mobile-apps, etc. Those categories have advantages and disadvantages itself, depending on technology, location, infrastructure, capability human resource, budget, etc. By that point, government need to learn more, which type they need to be implemented for which user it can be use [21]. For further information, in financial aspect, Mobile Payment looks promising to study. This case support by research result in

South Africa that said innovation in Mobile Payment can be used for Sustainable Energy Access in a whole society class [22].

C. Public Private Partnership for E-government

In the development of E-government government faced financial issues, technology and human resources. According to Soumitra Sharma [13] the factors that slow the government to develop E-government include:

- Resource crunch, especially in developing countries.
- Growing salary burden in government agencies, along with poor management practices.
- Weak accountability mechanisms, along with lack of incentives for good work within the public sector.
- Lack of political will, together with corrupt practices.
- Change management and business process reengineering issues.
- Lack of project management expertise in government agencies.
- Legislative and procedural bottlenecks.
- Legacy systems and interoperability issues.
- Cultural and contextual challenges such as digital divide, language interfaces, delivery mechanisms and localized content, etc.

To overcome this, Sharma suggested that the government should involve the private sector to share the risk. The development of E-government recommended by international development agencies to implement the principle of public-private partnership or PPP. Site OECD defines as a public-private partnership: arrangements whereby the private sector provides infrastructure assets and services that traditionally have been provided by government, such as hospitals, schools, Prisons, roads, bridges, tunnels, railways, and water and sanitation plants.

PPP for E-government based on a specific contract between the private sector and the government. PPP function is the sharing of risks and benefits between the government and the private sector. No different from the E-commerce, E-government are also characterized by the risks in the selection of the technology, but management is not the same in the two sectors.

In the context of E-government, the application of PPP is more specific [23]. The basic properties of PPP for E-government. The first is that the private sector provides the service of e-service, in which case the private sector assume responsibility for funding and providing needed technology. Second, both the private sector is responsible for risks that occur in the service process. Third, payments by the government to private parties are only given when the service has been performed [24].

ICT application contains several characteristics that will be exposed to the legalistic nature of fiscal management. Conventional E-government funding mainly comes from the state. Making decisions on the choice of software or hardware ICT implies the fluctuating budget. Choice of hardware or software that is reliable will be more expensive. It is such things that can be addresses by the PPP, as a matter of choice using a variety of hardware and software that is vulnerable to the cost price of the options will be able to be part of the private partner.

D. Critics of the PPP

Public private partnership initiative faced a series of criticisms. One criticism is that the substance of the PPP regime blamed as another form of privatization. Privatization and market liberalization is a sub part of structural adjustment. Wettenhall from the Public Services International Research Unit (PSIRU) in the University of Greenwich UK concludes that the practice of public-private partnerships that have the support of the World Bank was less successful realization of the expected changes [25].

Legality of a public-private partnership is less clear. Expectations of the partnership is to work according to sharing objectives. But according to Hall Wettenhall's cite, obscurity override most PPP: '*...The vast majority of PPPs, for example, are not partnerships in any legal sense, but simply contractual relationships*'.

Criticism directed against PPP marked pessimism. At first the PPP is expected to lead to the transformation of the relationship between government and the private sector.

Transformation of aggressive yet produced by PPP. However, some researchers remain hopeful public-private partnerships can be developed to learn from the experience as it is said Lau [24].

Recognizing the unequal situation in a public-private partnership, Lau believes that both sides should always be trying to 'share' in the range of the benefits and risks. Furthermore Indrajit [26] confirmed that the E-government should not be too dependent on the government funding. Further Indrajit view that the five issues need to be explored both sides, namely (a) it has not been a model of cooperation that brings a win-win solution, (ii). mutual waits between the parties, (iii). fear of corruption allegations as the E-government initiatives, and (iv). phenomena that followed the change of government policy alternation and (v). risk factors that are not easily controlled.

Except in ideological ideas, arguments about the separation of government and the private sector is difficult to verify. In fact, the criticism on PPP indicates the number of aspects that are rarely explored. Government sector often foundered on bureaucratic rigidity of government in developing E-government related to funding, technology applications and professional mobilization. While in the

private sector, fiscal management, technology applications and professional development resources have a distinct market that require users. In other words, whatever the name, the public and private sector collaboration opportunity. It is needed is a proper institutional setup.

E. Development of E-government in Indonesia

United Nations Organization has taken the initiative to encourage the development and implementation of E-government. UN has conducted a survey of E-government to the UN member states. Since early 2000, the United Nations has initiated a comprehensive study on the development of E-government. Comprehensive annual indexing has been done since 2004. In Global E-government Development Index 2010, 2012, and 2016; they prepared based on three components, namely online service components, infrastructure and human capital telecommunication show some indication of progress or setbacks in applying E-government in all member states. In the Index report in 2016 demonstrated that Global E-government Development Index in 2010, 2012, and 2016 arranged a table for some countries in the region as follows:

TABLE 1 EDGI RANK

Country	Rank			Index			Change	
	2016	2012	2010	2016	2012	2010	I	II
Republic of Korea	3	1	1	0.8915	0.9283	0.8785	0	-2
Singapore	4	10	11	0.88	0.8474	0.7476	1	6
Malaysia	60	40	32	0.62	0.6703	0.6101	-8	-20
Brunei Darussalam	83	54	68	0.5298	0.625	0.4796	14	-29
China	63	78	72	0.6071	0.5359	0.47	-6	15
Vietnam	89	83	90	0.5143	0.5217	0.4454	7	-6
Philippines	71	88	78	0.5765	0.513	0.4637	-10	17
Thailand	77	92	76	0.5522	0.5093	0.4653	-16	15
Indonesia	116	97	109	0.4478	0.4949	0.4026	12	-19
India	107	123	119	0.4637	0.3829	0.3567	-4	16
Lao PDR	148	153	151	0.309	0.2935	0.2637	-2	5
Cambodia	158	155	140	0.2593	0.2902	0.2878	-15	-3
Myanmar	169	160	141	0.2362	0.2703	0.2818	-19	-9

Description: Adapted from data sources (UNPAN)

In the table above, the position of Indonesia in 2012 rose to the rank 97 from rank 106 in 2010. Though in 2016 these results became worse than ever, which is ranked 119. These changes reached + 12 and down into -19. What worse, in ASEAN country, Indonesia still below Singapore (4), Malaysia (60), Brunei Darussalam (83), Vietnam (89), Philippines (71) and Thailand (77). Indonesia only win with Lao PDR (148), Cambodia (158), and Myanmar (169). In aggregate ranking of E-government development in 10 countries of ASEAN was decreased an average of 4.3. Intuitive interpretation is that the achievements Indonesia still needed.

The development of E-government can be seen in 4 groups. The four groups that are, first published government information via the website, and second, the government organizes the interaction between society and

the offices of a public service provider via e-mail; these three governments realize interactive transactions between citizens and government offices, as well as to realize the four-public service basis of a data base [10]. In 2010, there were as many as 2202 website. In 2012 observations over 60 government sites at the central, regional and independent bodies. From the observation of all samples have websites include an email address and phone number. Some of them have held discussion forums and citizen complaints, such as Denpasar municipal government sites, Bekasi and Bandung. But in terms of implementation of transactions for cash payments to the city government has not effectively use the internet facility. Most of the sites are just providing a one-way flow of information.

F. Build E-government with Public Private Partnership

The development of E-government by the Indonesian government deal with the scarcity of infrastructure, limited mastery of technology and skilled resources are limited. Public sector cannot do its own capacity and quality of government websites, develop infrastructure and trained manpower needs. Therefore, the Indonesian government has long encouraged the establishment of partnerships between public and private sectors, as mentioned in the Presidential Instruction No. 3 of 2003.

The development of E-commerce in Indonesia is an advantage of the private sector and is a valuable asset. With the PPP asset that can be utilized to overcome the limitations of online services, increasing infrastructure capacity and human resources to address a shortage of ICT sector. Exploration is the main point of the institution has been addressed in many studies, among others by Indrajit [26]; Sharma [13]; Kaliannan, Halimah and Raman [27]; Sharmal, Vinay and Piyush Seth [28], Al-Shqairat, Zaid [29] and others. The issue is how to design appropriate institution.

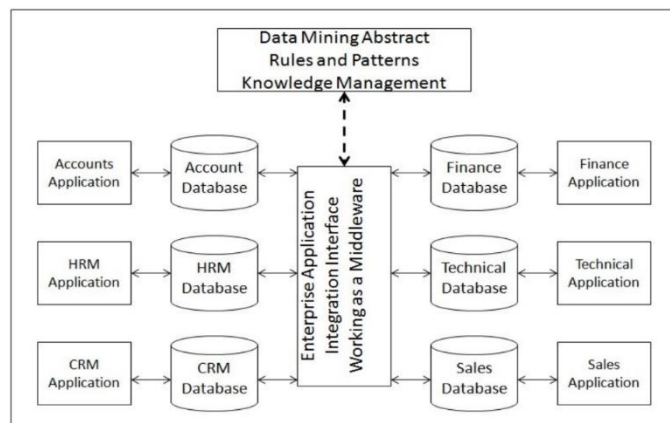


Fig. 2 EAI Approach [30]

With Public Private Partnership, not only government can focus on governmental task at hand, but also, they can provide excellent services using support from private

sector. Still for this can be implemented, government need to create a strategic that can be satisfied both sides (public and private sector) and need to align with their own business goals. As for solution, public and private sector need to understand which data or information that can be shared with one another and how that information can be use in their field of work covering their weakness each other. For that, some research's result already gave one mutual understanding with EAI approach or Enterprise Application Integration as a Middleware for both side [30].

Institutional support by the World Bank probably is not enough. Wettenhall said that public-private partnerships that support the World Bank was less successful. This is thought because the design partnership implemented by the World Bank did not realize the substance of the partnership. Even though, public-private partnerships are particularly vulnerable on the issue of the legal basis (legal phrase) as well as in technical operations (technically exact phrase). But this can be overcome by learning from failure. Still, even though World Bank support not to be the best option, cooperation with National Bank and Private Bank in Indonesia need to establish nowadays [31]. Because, currently e-transaction already happened in our everyday life, between citizen and private organization, citizen and government, citizen and citizen, government and government, and many more [32]. Even more, after Tax Amnesty program already in effect in society [33], government need to re-think how they can be monitor every single penny transaction or crime that can happened in their own region [34]. Through this, Indonesia already has some policies regarding how E-government need to be establish in financial sector from Presidential decree 2008 [35]. Hopefully this implementation can be realized in not long future.

Take an example from real case with Ali Baba. Ali Baba the massive E-commerce organization from China, already had interest with Indonesia for a long time. Indonesia had many Beneficial's factor in Ali Baba's owner eyes (Jack Ma). First, in Geographic's factor, Indonesia position as the largest Asian country that can be bridge between market in South East Asia, East Asia, Middle East Asia, Australia, New Zealand, and even Russia. Second, in Human Resource's factor, Indonesia had many man power with low-cost efficient type of worker [36]. Currently, Ali Baba's owner Jack Ma, already become an advisor for Indonesia's E-commerce [37] and even they already incur some money for Tokopedia Indonesia as an investor [38].

Still even though there is many benefit in PPP, PPP itself had weakness lies in the institutional dimension. There was some implementation of public private partnerships in Indonesia had failed such as mono rail partnership development project in Jakarta. The project was initiated under Governor Sutiyoso to address the traffic problem in Jakarta. Another PPP program that does not fail,

but not successfully reach its target is a partnership between Thames Water plus Lyonise with the Local Government of DKI Jakarta. The slow progress achieved by the PPP is characterized by the failure of both sides to realize planning in 1999 that planned would bring potable water to the population in 2007. This PPP have been struggling to build institutional partnerships. Inequality has been happening since the beginning, when it failed to build a foundation of partnership. The foundation of this PPP is not directed to ensure the continuity of the partnership. The private sector is likely to be tempted to transfer the risk to the shoulders of the government. The private sector is just trying to grab comfort zone. Meanwhile, public sector managers who work for PPP in the Water Service have no incentive to work optimally.

Non-compliance in the initial formation of the partnership will have an impact on the processes of business management. In the future, non-compliance issue can disappoint both sides. Even in the end has led to lags in making decisions that interfere with business activities in partnership wheel. In such a situation, this public-private partnership has been going uneasy. Such situations occur in practice partnerships water supply in Jakarta which has been forming as public private partnership [39][40].

Legality of a public-private partnership is need. The partnership itself should reflect the 'sharing' of any risks that may be encountered. To encourage the design of best divisions among parties in a PPP is not deeply explored yet academically.

Recognizing the unequal situation in a public-private partnership, Lau believes that both sides should always be trying to 'share' in many ways. Furthermore, Indrajit [26] confirmed that the E-government should not be too dependent on the government funding.

IV. CONCLUSION & FUTURE RESEARCH

Although the Government of Indonesia has enacted a policy to enhance E-government through public private partnership initiative, but E-government project based on PPP is still just a few. Meanwhile, in its endeavor to develop E-government, the government has been facing the lack of online services, limitation of telecommunication infrastructures and the problem of human resources.

Up to now development of E-government through PPP is not a priority to government. However, E-commerce in Indonesia has been developing fast. Therefore, the Government need to rethink to improve public private partnership. Vast progress in development of E-commerce in Indonesia should be appreciated. Developing E-government through PPP initiatives is likely beneficial.

Critics toward public private partnership in E-government claims the PPP is an exemplar of privatization. However, this study has explored the underperformance of

E-government in its relation to the institutional failure of PPP.

Studies about institutional aspects of E-government through PPP in Indonesia until now is still rare. Furthermore, we are facing the slowness of exploration toward institutional arrangement. In this case, the initiative to explore more about E-government through public-private partnership are challenging.

REFERENCES

- [1] R. Heeks, *Implementing and Managing E-Government*, London: Sage Publication, 2006.
- [2] J. Fountain, "Bureaucratic Reform and E-Government in the United States: An Institutional Perspective," 2007. [Online]. Available: http://www.umass.edu/jfountain/files/JF_HIP.pdf.
- [3] A. Jain, "Using the lens of Max Weber's Theory of Bureaucracy to examine E-Government Research," in *Proceedings of the 37th Hawaii International Conference on System Sciences*, Hawaii, 2004.
- [4] A. Gronlund and T. A. Horan, "Introducing e-Gov: History, Definitions, and Issues," in *Communications of the Association for Information Systems*, 2004.
- [5] M. L. Bhasin, "E-Commerce and M-Commerce Revolution: Perspectives, Problems and Prospects," 2005. [Online]. Available: http://www.icaai.org/resource_file/10375824-840.pdf.
- [6] eGovernment for Development, "Success and Failure in eGovernment Project," 2008. [Online]. Available: <http://www.egov4dev.org>.
- [7] UNESCAP and the Ministry of Planning and Budget, Republic of Korea, "Public Private Partnerships in Infrastructure Development, An Introduction to Issues from Different Perspectives," UNESCAP, 2007.
- [8] Bastian, "Perkembangan "E-Government "di Indonesia," *Harian Umum Sore Sinar Harapan*, 8 March 2003.
- [9] D. A. Harijadi, "Developing E-government, The Case of Indonesia," 2004. [Online]. Available: <http://www.unpan1.un.org>.
- [10] R. Heeks, *Most e-Government-for-Development Projects Fail: How Can Risks be Reduced?*, London: IPDM, 2003.
- [11] S. Basu, "E-Government and Developing Countries: An Overview," *International Review of Law Computer & Technology* Vol 18, No 1, pp. 109-132, 2004.
- [12] S. Sharma, "Exploring best practices in public-private partnership (PPP) in e-Government through select Asian case studies," *The International Information & Library Review*, 2007.
- [13] K. N. Hanna, "E government in developing Countries. Moving from Window Dressing to Real Transformation," 2011. [Online]. Available: <http://egov.eletsonline.com/>.
- [14] UNDP-APDIP, "Fighting Corruption with e-Government Applications United Nations Development Programme's Asia-Pacific Development Information Programme," UNDP-APDIP, 2006.
- [15] Organization for Economic Cooperation and Development, "OECD Annual Report - OECD.org," 2009. [Online]. Available: <https://www.oecd.org/newsroom/43125523.pdf>.

- [16] D. Dada, "The Failure of E-Government in developing Countries: A Literature Review," *The electronic Journal on Information Systems in Developing Countries*, pp. 71-80, 2006.
- [17] W. Kumorotomo, "Kegagalan Penerapan e-government dan Kegiatan Tidak Produktif dengan Internet," 2011. [Online]. Available: <http://kumoro.staff.ugm.ac.id/wp-content/uploads/2009/01/kegagalan-penerapan-egov.pdf>.
- [18] A. Budiati and R. Komara, "Bureaucracy Culture and Leadership in Indonesian e-Administration Implementation: based on Perspective of Knowing and Learning Organization," 20 August 2011. [Online]. Available: <http://www.ums.ac.id>.
- [19] J. Hu and N. Zhong, "A Multilevel Integration Approach for Developing E-Finance Portals: Challenges and Perspectives," in *ACM International Conference on Web Intelligence*, Leipzig, 2007.
- [20] T. Nakajima, H. Ishikawa and E. Tokunaga, "Technology Challenges for Building Internet-Scale Ubiquitous Computing," in *International Workshop on Object-Oriented Real-Time Dependable Systems*, San Diego, 2002.
- [21] W. L. Pailman, W. Kruger and G. Prasad, "Mobile Payment Innovation for Sustainable Energy Access," in *2015 International Conference on the Domestic Use of Energy (DUE)*, Cape Town, 2015.
- [22] The Institute for Public-Private Partnerships, "Public-Private Partnerships in E-Government: Knowledge Map," 2009. [Online]. Available: <http://www.infodev.org/publications>.
- [23] E. Lau, "Challenges for E-government Development," in *5th Global Forum on Reinventing Government*, Mexico City, 2003.
- [24] R. Wettenhall, "Thinking Seriously about Public Private Partnership as an MDG tool, Centre for Research in Public Sector Management, University of Canberra," 2005. [Online]. Available: <http://unpan1.un.org/intradoc/groups/public/documents/eropa/unpan026304.pdf>.
- [25] R. Indrajit E, "Ragam Model Bisnis Kemitraan Pemerintah-Swasta, Sebuah Kunci Sukses Pengembangan E-Government di Indonesia," in *Prosiding Konferensi Nasional Teknologi Informasi & Komunikasi untuk Indonesia*, Bandung, 2006.
- [26] M. Kaliannan, H. Awang and M. Raman, "Public-Private Partnerships for E-Government Services: Lessons from Malaysia," *International Journal of Institution and Economics*, pp. 207-220, 2010.
- [27] V. Sharmal and P. Seth, "Effective Public Private Partnership through E Governance Facilitation," 2003.
- [28] Z. Al-Shqairat, "Understanding the role of Public--Private Partnership in E-Government implementation in Developing Countries," *Leeds Basket University*, Leeds, 2011.
- [29] A. A.-M. AL-Ghamdi and F. Saleem, "Enterprise Application Integration as a Middleware: Modification in Data & Process Layer," in *Science and Information Conference 2014*, London, 2014.
- [30] I. A. Pribadi, "BI: Integrasi nasional sistem pembayaran mulai 2017," 26 August 2017. [Online]. Available: <http://www.antaranews.com/berita/582351/bi-integrasi-nasional-sistem-pembayaran-mulai-2017>.
- [31] Bank Indonesia, "Gubernur Bank Sentral dan Menteri Keuangan ASEAN Sepakat Dorong Integrasi Keuangan di Kawasan," 26 August 2017. [Online]. Available: <http://www.bi.go.id/id/ruang-media/info-terbaru/Pages/Gubernur-Bank-Sentral-dan-Menteri-Kuangan-ASEAN-Sepakat-Dorong-Integrasi-Kuangan-di-Kawasan.aspx>.
- [32] Indonesia Investment, "Tax Amnesty Program Indonesia Ended, What Are the Results?," 26 August 2017. [Online]. Available: <https://www.indonesia-investments.com/finance/financial-columns/tax-amnesty-program-indonesia-ended-what-are-the-results/item7719?>.
- [33] Tirto, "10 Bank Siap Terapkan Integrasi Sistem Pembayaran pada 2017," 26 August 2017. [Online]. Available: <https://tirto.id/10-bank-siap-terapkan-integrasi-sistem-pembayaran-pada-2017-cpc4>.
- [34] Indonesia Presidential Decree, "Pelaksanaan E-government Di Instansi Pemerintah Pusat Dan Daerah," Indonesia Government, Jakarta, 2008.
- [35] N. Freischlad, "Alibaba to open data center in Indonesia amid tighter controls on local storage," 26 August 2017. [Online]. Available: <https://www.techinasia.com/alibaba-cloud-data-center-indonesia>.
- [36] The Jakarta Post, "Alibaba's Jack Ma agrees to become RI e-commerce adviser," 26 August 2017. [Online]. Available: <http://www.thejakartapost.com/news/2016/09/09/alibaba-s-jack-ma-agrees-become-ri-e-commerce-adviser.html>.
- [37] R. Indra, "Tokopedia Dapat Suntikan Rp14,7 Triliun dari Alibaba," 26 August 2017. [Online]. Available: <https://www.cnnindonesia.com/teknologi/20170817201937-185-235487/tokopedia-dapat-suntikan-rp147-triliun-dari-alibaba/>.
- [38] L. Manurung, "Jakarta Water Service: The Case of an Uneasy Public-Private Partnership," *Flinders Institute of Public Policy and Management - The Flinders University*, Adelaide, 2007.
- [39] L. Manurung, "Percepatan Implementasi E-Government untuk Meningkatkan Efisiensi Pemerintahan dan Daya Saing Indonesia Menyongsong Pasar Tunggal ASEAN," *Jurnal Pusat Pengkajian Strategi Nasional*, 2011.
- [40] H. J. Song, "E-Government in Developing Countries, Lesson Learned from Republic of Korea," *United Nations Educational, Scientific and Cultural Organisation*, Bangkok, 2006.
- [41] D. F. Kettl, *Reinventing Government: A Fifth-Year Report Card*, Washington: Brookings Institution's Center for Public Management, 1998.