E-Leadership: The Effect of E-Government Success in Indonesia

Yudha Herlambang C.P,1 Tony Dwi Susanto2

1,2Magister of Information System, Department of Information System, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia
Jl. Raya ITS-Kampus Sukolilo, Surabaya Telp: (031) 5999944, Fax: (031) 5964965 E-mail: yudihimasif@gmail.com, tonydwisusanto@is.its.ac.id

Abstract. This paper aims to identify the relationship between e-leadership and the success of implementing e-government. Identified results obtained from the extraction of several previous studies that discussed e-leadership and e-government. The ability of e-leadership is defined as how a leader utilizes information technology in its efforts to achieve government goals. Each government has a different quality of e-government depending on the e-leadership it has. The research methodology uses literature studies and literature review of online journals related to research topics. The results of the study showed 5 e-leadership items that can influence the success of e-government. These items are strong leadership, leadership vision and mission, align IT and Strategy goals, commitment, and leadership functions. These items are items related to information technology. Furthermore, these items can be used as an illustration to show the e-leadership relationship in the success of e-government in Indonesia.

1. Introduction

Times and science have contributed to various aspects of people's lives in the world [1]. In the current modern era, information and communication technology that functions with practical, effective and efficient technology as the main reference. Now it is realized that the diffusion of ICTs is more than just the adoption and adaptation of technology [2]. The development of ICT that is very fast and fast demands all existing institutional components to pursue it, as well as matters relating to the implementation of e-government. Complex development of e-government is needed in the local or regional government agencies, strong leadership is needed in each direction or unit that enables the e-government transformation process to be carried out with the best [3]. Information and communication technology is the right thing to master to catch up with the Indonesian technology.

The development of e-government for the means of organizing the functions of government and public services means organizing the wheels of government with the assistance (utilization) of information and communication technology. E-government is becoming popular because there are significant benefits to the government, society, and society [4]. One result of implementing e-government is improving the quality and accessibility of public services through the application of online public services. The success of e-government in Singapore by strong leadership with a clear vision [5]. Then become a leader for the use of technology and information to realize the success of e-government. In Indonesia in presidential regulation No. 3 of 2003, several aspects that affect e-government. One of these aspects is e-leadership.

E-leadership is a process of social influence mediated by technology to produce various changes in attitudes and actions in an individual or organizational [6]. E-leadership is not only about extending leadership but as a fundamental change in the way leaders and followers relate to one another in
organizations and between organizations [7]. E-leadership consists of two basic elements, namely leadership, and technology [8]. The quality of e-leadership in each region in Indonesia varies, depending on the commitment of regional leaders in using information technology as a tool to achieve government goals. The government in its efforts to improve the quality of e-government in Indonesia issued several regulations. These regulations include Presidential Instruction No. 3 of 2003, and Regulation of the Minister of Administrative Reform and Bureaucratic Reform No. 5 of 2018 concerning Evaluation of SPBE (Electronic-Based Government System) [9], [10]. All these government efforts will not mean anything without the commitment of regional leaders to participate in making them happen. Given the importance of e-leadership in implementing e-government success, so researchers feel the need to identify what items in e-leadership can influence the success of e-government. In this study, an exploration of items related to e-leadership will be carried out that can influence the success of e-government in Indonesia.

2. Research Methodology

The methodology used refers to previous research conducted by Zhang et al. [11]. This study identifies the latest items about e-leadership and e-government so that readers and practitioners are given relevant knowledge related to previous research. The approach used by extraction from several relevant studies through several stages, looks figure 1 for these stages.

First: Search for literature in national and international online journals and conferences. Because this research on e-leadership is multi-disciplinary, the search process includes information systems, management, and public administration. Read several relevant journals related to research topics.

Second: Do a search with keywords in the literature and books in the library. Most data is obtained from online journals such as Elsevier (Science Direct), IEEE (Comp Soc & Xplore), Google (Google Scholar), and Emerald Insight. Keywords included include e-leadership, e-government, e-leadership effects in e-government, evaluation of e-government and good governance.

Third: Look for reports and working papers on the achievement of e-government in Indonesian government such as PeGI in 2015 and SPBE Evaluation in 2018. The selection study is done by selection search results based on predetermined criteria. The criteria used can be seen on table 1.

| Inclusion | Exclusion |
|-----------|-----------|
| Search results are carried out on online database as described previously. | Search results are done in offline databases such as libraries. |
| The literature search results consist of journals, conference results, books, and other studies related to e-leadership in e-government. | The literature search results are not related to e-leadership in e-government. |
| The literature search results are obtained from an online database in 2004-2018. | The literature search results in online database less than 2004. |
3. Result

3.1 Item Extraction

To obtain e-leadership items, in-depth extracts of leadership and IT keywords are needed. The combination of these two keywords will then be taken from the statements of several previous studies. The items obtained are the items most often mentioned in previous research journals. In Table 1 we extract the items quoted from several journals collected.

| No | Quotation | Keywords |
|----|-----------|----------|
| 1  | Some capabilities that can influence the success of e-government, including strong leadership. (OECD, 2013) [12] | Strong Leadership |
| 2  | Some of the actions that leaders can take to implement e-government are to share vision with followers and formulate a government strategy (OECD, 2013) [12] | Acceptance of vision and strategy |
| 3  | Leadership in e-government requires the ability to realize a vision and mission, this means that e-government is not just about utilizing ICT (Accenture, 2002, p. 2) [13] | Realising a Vision |
| 4  | Factors to determine the effectiveness of leaders in e-government include vision, mission and strategy of e-government, e-government initiatives, and collaboration strategies. [13] | Government vision |
| 5  | Strong leadership and a clear vision influence the success of e-government. the government must form a clear vision for the interests of the government. For example in Singapore. [5] | Mission and Strategy |
| 6  | One of the conditions for the success of e-government is having strong leadership. for example in Brunei and regions that use ICT. [2] | Collaborations |
| 7  | Understanding the vision and translating the vision of government is needed to support the success of e-government. this is a way to monitor the success of e-government. [14] | Strong leadership |
| 8  | The leadership needs to align IT and business strategy to overcome organization challenges. Aligning IT and business strategy requires support from top management, good working relationships, trust between parties, excellent communication, and strong leadership. [15] | Understanding vision to e-Government |
| 9  | Leaders must balance the needs of the community with technological innovation, provide recommendations on the right strategies to achieve the success of e-government. [15] | Translate vision into actions |
| 10 | Some leadership skills are needed in e-government projects such as strategic thinking, awareness and commitment to work related to e-government. without commitment e-government will not succeed. [16] | Align IT and business strategy |
| 11 | One of the criteria in the success of e-government projects in developing countries is very strong political leadership, this happened in Sragen, Indonesia (Heeks, R, 2003 & Ndou, V, 2004). [17] | Support from top management, |
| 12 | A strong management team is needed with strong leadership to be able to realize the success of e-government. [18] | Align public services with the needs and interests of society |
| 13 | E-government is a complex problem, for it requires strong leadership, coordination, and knowledge to make it happen. in | Strategic thinking |
|    | combined with a technology | Commitment |
|    | | Strong leadership |
|    | | Strong leadership |
|    | | Combined with a technology |
addition to complementing all of that combined with adequate technology. [18]

14 Strong leadership in the country is needed to form visions, formulate strategies and create ICT task forces to get public support. this effort is used to realize the success of e-government. [19]

15 Needed the ability to manage ICT and motivate to support the commitment of sustainable e-government projects. leaders must be able to manage this to ensure e-government can run well (UNPOG, 2012) [20]

16 The characteristics of e-leadership are reflected in the vision and mission, and commitment to the e-government project. this is a fundamental factor, proven to have been successfully carried out in the city of Surabaya and Jembrana district (Rahardjo,2008) [21].

17 Someone who wins in e-government must approve the vision of e-government and consider it for governance, according to O'donnell et al, 2003. [22]

18 Leadership must contain people who understand ICT and the impact that ICTs have on society. To realize that strong leadership is needed. [22]

19 The qualities of a leader apply to e-leadership (Avolio B & Kahai S, 2013; K. Mohammad, 2009) e-leader must 1) care about information and technology, 2) have knowledge of technology and information, 3) know when to use traditional and virtual methods, 4) have creativity and innovation with technology, 5) be able to assess and evaluate information technology and 6) want to do experiment with new technology [23]

20 In this research identified if strong leadership and vision are very important factors for the success of e-government projects. [24]

21 The change in the vision of e-government also means changing the e-leadership vision. the first step in e-government is the introduction of ICT to government institutions and implementing leaders as ICT managers. [25]

22 GCIO functions were recently introduced by e-government leaders. They recognize that e-leadership is a major factor in the success of the e-governmnt. The measure of government achieving good governance. E-leadership includes the ability to encourage ICT transformation and link organizational strategy with It strategy. ( Jean-Pierre Auffret, et all, 2010) [25]

23 Acording Leitner and Kreuzeder (2005) e-government requires strong leaders with vision and strategy, have innovation and dare to make changes. transformation will not take place without the ongoing commitment of government leaders. [26]

24 The results of the analysis of leader behavioral factors produce 4 basic leadership functions, including emotional stimulation, attribution of meaning, care and executive function. [27]

3.2 Item of E-leadership
After the extraction is done, the next step is to categorize the extracted keywords into the table. Table 2 contains the results of extractions which will later be used as items on e-leadership that influence the success of e-government in Indonesia.
Table 3. Item of E-Leadership

| No | Item E-Leadership                  | References |
|----|-----------------------------------|------------|
| 1  | Strong Leadership                 | [2] [5] [12] [17] [18] [22] [24] [26] |
| 2  | Vision and Mission Leadership     | [5] [12] [13] [14] [18] [19] [21] [22] [24] [25] [26] |
| 3  | Commitment Leadership             | [16] [20] [21] [26] |
| 4  | Align IT and Strategy Goals       | [13] [15] [18] [19] [25] |
| 5  | Leadership Functions              | [15] [16] [23] [25] [27] |

4. Discussion

Throughout this paper, it has reviewed the theoretical foundation, research topics discussed in some literature. Previous studies discussed how e-government can be implemented successfully through several important items. Given how important e-leadership is to the success of e-government, it is important to discuss what items influence e-government success. Below we provide several items along with what components can be done so that these items can be achieved.

(1) **Strong Leadership Influences the Success of E-Government**

Strong leadership is an important component that must be owned by the government if e-government is to be successful. The leader becomes the most influential person. Previous research states that strong leadership is needed to change a culture, in this case from conventional work to using IT [2]. Strong leadership is needed to overcome problems that often arise in e-government because it involves coordination of various sectors. Strong leadership can accelerate the process of implementing e-government [12]. Some leadership skills that describe strong leadership include educational background, problem-solving, and relationship. Leaders with an IT education background will be easier to implement IT changes and will be more understanding in taking policies related to IT. The way leaders deal with problems that arise due to IT transformation can illustrate strong leadership. Strong leadership is formed because leaders have cooperation with several other regional leaders to form a mutually beneficial work environment.

(2) **Vision and Mission Influences the Success of E-Government**

The vision and mission of leadership are important and can influence the success of e-government. Previous research stated that the vision and mission understood by members can lead to the success of e-government [23]. In another study stated the success of implementing e-government in Hong Kong because the dreamers had the vision to use IT [12]. Some things that can be done so that the vision and mission of leadership can influence the success of e-government are by ensuring that the vision and mission are shared with members. Furthermore, to ensure that members understand the meaning of the vision and mission. Finally, the vision and mission of this leadership must be in line with the vision and mission applied by the organization he leads.

(3) **Commitment Influences the Success of E-Government**

Leadership commitment is one of the important components that leaders have to implement e-government. Implementing various types of e-government services is a long-term affair, this will not work without the leader's continuing commitment [12]. In the study, it was stated that in addition to the support of top management, providing sustainable commitments was needed during the implementation and development of e-government projects [24]. Some things that can describe the commitment of leaders include taking risks, having innovative workgroups related to the development of e-government, and providing trust to its members. Commitments held by leaders make e-government projects carried out with all the risks attached to them. The e-government development innovation continues to be carried out with the presence of innovative work teams. This is done as a form of commitment because e-government will continue to develop in accordance with changing times.

(4) **Align IT and Strategy Goals Influences the Success of E-Government**

Aligning IT with organizational goals is an important component that must be done by a leader. Previous research has suggested that IT alignment with organizational goals is a factor that influences e-government success [15]. IT alignment with organizational goals means that IT is really needed and
departs from problems that will be better solved by using IT. In other words, IT is present in accordance with usability (appropriate). This can be illustrated by how regional leaders view IT functions. Besides that, it can be seen from how the impact felt after using IT.

(5) Leadership Function Influences the Success of E-Government
The function of leadership is an important component for a leader. The function of leadership is the basic ability possessed by a leader. It becomes important to have the basic ability to lead to be able to manage the organization well [27]. This capability is needed because the process of implementing e-government leaders is the key to its success. Some of the abilities that must be possessed by leaders are control, managerial and support. Leaders exercise control to ensure the implementation of e-government in accordance with planning. Manage existing resources to realize agreed goals. The final leader provides support and motivation to its members to realize organizational goals.

5. Conclusions
This paper contains a literature review and extracts definition relating to leadership theory and e-government. This research produces 5 components of e-leadership can influence the success of e-government implementation. These items include strong leadership, leadership vision and mission, leadership commitment, align it and strategic goals and leadership goals. The results of these leadership items can be used as an illustration of the importance of e-leadership in the success of e-government implementation. We believe the results of this study can help practitioners to improve the success of e-government implementation. In this digital age, researchers understand that the concept of e-leadership is very possible for development. The future work that can be done is to measure how much influence e-leadership has on the success of e-government by using items that have been found. To measure the influence of e-leadership on the success of e-government, the value of the SPBE solution is needed as an indicator of the success of e-government implementation.

6. References
[1] Y. Liang, G. Qi, K. Wei, and J. Chen, “Exploring the determinant and influence mechanism of e-Government cloud adoption in government agencies in China,” Government Information Quarterly, vol. 34, no. 3, pp. 481–495, Sep. 2017.
[2] H. Kifle and P. L. K. Cheng, “e-Government Implementation and Leadership - the Brunei Case Study,” vol. 7, no. 3, p. 13, 2009.
[3] A. Anwaruddin, “Faktor Kunci Pengembangan Kapasitas Teknologi Informasi dan Komunikasi di Daerah,” p. 14.
[4] Y. Muflihah and T. D. Susanto, “Faktor yang Mempengaruhi Warga dan Pemerintah dalam Adopsi E-Government: Sebuah Ulasan Sistematis,” p. 7, 2017.
[5] W. Ke and K. K. Wei, “Successful e-government in Singapore,” Communications of the ACM, vol. 47, no. 6, pp. 95–99, Jun. 2004.
[6] B. J. Avolio, J. J. Sosik, S. S. Kahai, and B. Baker, “E-leadership: Re-examining transformations in leadership source and transmission,” The Leadership Quarterly, vol. 25, no. 1, pp. 105–131, Feb. 2014.
[7] P. DasGupta, “Literature Review: e-Leadership,” vol. 4, p. 36, 2011.
[8] A. Budvytyte, “Pre planned e-leadership management across human sensitive to reach communication quality,” p. 6, 2006.
[9] INSTRUKSI PRESIDEN REPUBLIK INDONESIA NOMOR 3 TAHUN 2003, “KEBIJAKAN DAN STRATEGI NASIONAL PENGEMBANGAN E-GOVERNMENT.” 2003.
[10] PERATURAN MENTERI PENDAYAGUNAAN APARATUR NEGARA, DAN REFORMASI BIROKRASI REPUBLIK INDONESIA, dan NOMOR 5 TAHUN 2018, “PEDOMAN EVALUASI SISTEM PEMERINTAHAN BERBASIS ELEKTRONIK.” MENTERI PENDAYAGUNAAN APARATUR NEGARA DAN REFORMASI BIROKRASI REPUBLIK INDONESIA, 2018.
[11] H. Zhang, X. Xu, and J. Xiao, “Diffusion of e-government: A literature review and directions for future directions,” Government Information Quarterly, vol. 31, no. 4, pp. 631–636, Oct. 2014.
[12] S. C. Y. Luk, “The impact of leadership and stakeholders on the success/failure of e-government service: Using the case study of e-stamping service in Hong Kong,” Government Information Quarterly, vol. 26, no. 4, pp. 594–604, Oct. 2009.

[13] O. Gordon Z., “Towards a framework for assessing the maturity of government capabilities for ‘e-government,’” South African Journal of Information and Communication, no. 4, p. 0, 2003.

[14] M. Al-Shboul, O. Rababah, M. Al-Shboul, R. Ghnemat, and S. Al-Saqqa, “Challenges and Factors Affecting the Implementation of E-Government in Jordan,” Journal of Software Engineering and Applications, vol. 07, no. 13, pp. 1111–1127, 2014.

[15] Y. Dur Mohammed Al-Bulushi, “THE EFFECTS OF LEADERSHIP ROLES ON E-GOVERNMENT PERFORMANCE IN OMAN,” ProQuest, vol. 10260914, 2017.

[16] S. Abdalla, “AN E-GOVERNMENT ADOPTION FRAMEWORK FOR DEVELOPING COUNTRIES: A CASE STUDY FROM SUDAN,” p. 340, 2012.

[17] V. D. Ndou, “E - Government for Developing Countries: Opportunities and Challenges,” The Electronic Journal of Information Systems in Developing Countries, vol. 18, no. 1, pp. 1–24, Jun. 2004.

[18] M. Elnaghi and S. Alshawi, “A Leadership Model for e-Government Transformation,” Proceedings of European and Mediterranean Conference on Information Systems, 2007.

[19] D. N. Saidi, “e-Government: Technology for Good Governance, Development and Democracy in the MENA countries,” p. 44.

[20] M. B. Up CHO, “Leadership in E-Government Development.” United Nations Project Office on Governance (UNPOG), Jul-2012.

[21] Asiti, “Upaya Penyiapan e-Leadership dalam Rangka Mendukung Penyelenggaraan e-Government,” 2008.

[22] S. Al-Shafi, “FACTORS AFFECTING E-GOVERNMENT IMPLEMENTATION AND ADOPTION IN THE STATE OF QATAR,” p. 260, 2009.

[23] S. T. Jr and G. Hapanyengwi, “The influence of culture on e-leadership in developing countries;,” p. 15.

[24] V. Weerakkody, R. El-Haddadah, and S. Al-Shafi, “Exploring the complexities of e-government implementation and diffusion in a developing country: Some lessons from the State of Qatar,” Journal of Enterprise Information Management, vol. 24, no. 2, pp. 172–196, Feb. 2011.

[25] J.-P. Auffret, “Developing a GCIO System: Enabling Good Government Through e-Leadership,” p. 7, 2010.

[26] J. Nograšek, “Change Management as a Critical Success Factor in e-Government Implementation,” Business Systems Research, vol. 2, no. 2, Jan. 2011.

[27] R. Burke, “Leadership and spirituality,” Foresight, vol. 8, no. 6, pp. 14–25, Nov. 2006.