

## ARTICLE

# CRITICAL SUCCESS FACTORS OF E-GOVERNMENT IMPLEMENTATION: A CASE STUDY ON FINANCIAL AUDIT AGENCY

Harti Fitriani<sup>1</sup>, Larastri Kumaralalita<sup>1</sup>, Achmad Nizar Hidayanto<sup>1\*</sup>, Herkules<sup>2</sup>, Edson Yahuda Putra<sup>3</sup>

<sup>1</sup>Faculty of Computer Science, Universitas Indonesia, INDONESIA

<sup>2</sup>STMIK Palangka Raya, INDONESIA

<sup>3</sup>Universitas Klabat, INDONESIA

## ABSTRACT

**Background:** At this time government is expected to further improve the quality of public services delivery and be effective in providing information to the public. One of the utilization of information technology that supports this governmental process is Electronic Government (e-Government). However, an organization sometimes has difficulties in the implementation of E-Government to the fullest. Therefore, it is important to acknowledge the Critical Success Factors (CSF) that relate to and affect to the success of the implementation of E-Government. This study conducted an analysis of 12 CSF implementation of e-Government of organization internal circle. **Methods:** To perform the analysis, this research conducted a case study in a government agency that has successfully implemented the E-Government, which is the Central Office of Finance Audit Agency (Badan Pemeriksa Keuangan RI- BPK-RI). Data collection is captured using a questionnaire of closed-questions with sampling conducted by purposive sample to internal employees in units that are directly related to the implementation of E-Government. **Results:** The research result shows that that the 12 CSF is positively related to the successful implementation of E-Government except awareness factor. As a whole, the entire CSFs also affect the successful implementation of E-Government. Nevertheless, partially only one of the factors that affect largely, that is effective project management factor. **Conclusions:** Effective project management is dominated factor to the rising of successful implementation of E-Government in the BPK-RI. This factor should be enhanced and maintained so that BPK-RI can continue to be successful in implementing E-Government.

## INTRODUCTION

Today, government's needs for an electronic-based information system is increasing. Government is expected to continuously improve services to citizens [1]. In addition the government is expected to further improve the quality of public services delivery and effectiveness in providing information to the public. One of the utilization of information technology to support the government's is called E-Government.

In general, E-Government is the ability to connect and create interaction between the dimensions of the government, citizen and businesses through the use of information technology (IT). E-government is used for the purpose of improving services, increasing transparency, convenience and accountability of a state's institution [2]. Hence, the impact can increase state's revenues and reduce its cost.

In the President Instruction No. 6 of 2001 on the Development and Utilization of Telematics in Indonesia, it explains that the Indonesian government needs to make a breakthrough in order to effectively accelerate the utilization of telematics technology that has great potential to improve the welfare of the citizen and strengthen the unity of the nation as a solid foundation for sustainable development. Generally, it states that government officials should use information technology to support Good Governance. The aim is to improve working relationships among government agencies and can provide public services delivery for the citizens and businesses effectively and transparently. Besides, as stated in Presidential Instruction No. 3 of 2003 regarding Policy and National Strategy of E- Government Development, it also explains regarding Guidelines for Preparation of Master Plan (Strategic Plan Development of E-Government) Institutionalization for Central and Local Government Agencies.

Government development that is undertaken by government agencies should consider related aspects such as network infrastructure, software and applications as well as organizational and human resources. Hence generally according to Laudon and Laudon for which quoted by Komara [3], dimensions that must be considered in the development and implementation of E-Government are IT, Human Resources and Organization. However, an organization sometimes have difficulties in the implementation of E-Government to the fullest. Therefore, it needs to know what are critical factors of organization to drive a success of E-Government in an organization [4]. The focus of this study is to find the Critical Success Factors (CSFs) of an E-Government implementation internally. As a case study, this research was conducted on one of the government agencies that have implemented, which called the E-Government Headquarters of Financial Audit Agency of the Republic of Indonesia Jakarta (Badan Pemeriksa Keuangan-Republik Indonesia).

## E-GOVERNMENT

As explained earlier in the definition of E-Government, that the purpose of E-Government is to improve the performance and functions of government services by utilization of digital media. At the end, all

### KEY WORDS

E-Government, Critical Success Factors, Indonesia

Received: 10 Oct 2016  
Accepted: 12 Nov 2016  
Published: 6 Dec 2016

### \*Corresponding Author

Email: nizar@cs.ui.ac.id  
Tel.: +62-21-7863419  
Fax: +62-21-7863415

stakeholders can obtain government services and public information from the result. Stakeholder of E-Government consists of:

- Communities
- Businesses
- Government Employees
- Institutions, departments, and government ministries
- The leader of the union
- Community leaders, non-profit organizations
- Politicians
- Foreign investors
- and others

From the different types of stakeholders, Fang, quoted from Lee [5] identified eight models of the E-Government, as follows:

- Government to citizens (G2C): The delivery of public services in one direction by the government to the public.
- Communities to government (C2G): Enables the exchange of information and communication between the public and the government.
- Government to Business (G2B): Consists of electronic transactions where government provides needed information for business to transact with the government. For example, an e-procurement system.
- Business to Government (B2G): Leads to marketing of products and services to government to help government become more efficient for example, improvement of business processes and electronic data management. E-procurement system is an example of an application that facilitates both G2B and B2G interactions.
- Government to employees (G2E): Consists of initiatives that facilitate service management and internal communication with government officials. For example, an online human resources management system.
- Government to Government (G2G): Enables communication and online information exchange between departments or government agencies through integrated databases.
- The government to non-profit organizations (G2N): The Government provides information to non-profit organizations, political parties or social organizations.
- Non-profit organizations to government (N2G): Enables the exchange of information and communication between government and non-profit organizations, political parties and social organizations

## RESEARCH MODEL

Implementation of E-Government is an activity undertaken by government agencies in helping to improve its services in the areas of government. E-Government is known to provide benefits to society, by addressing the bureaucratic complexity, increase efficiency, reduce service time and makes it easy for people and businesses to deal with the government, which in turn can be part for the community and the business world.

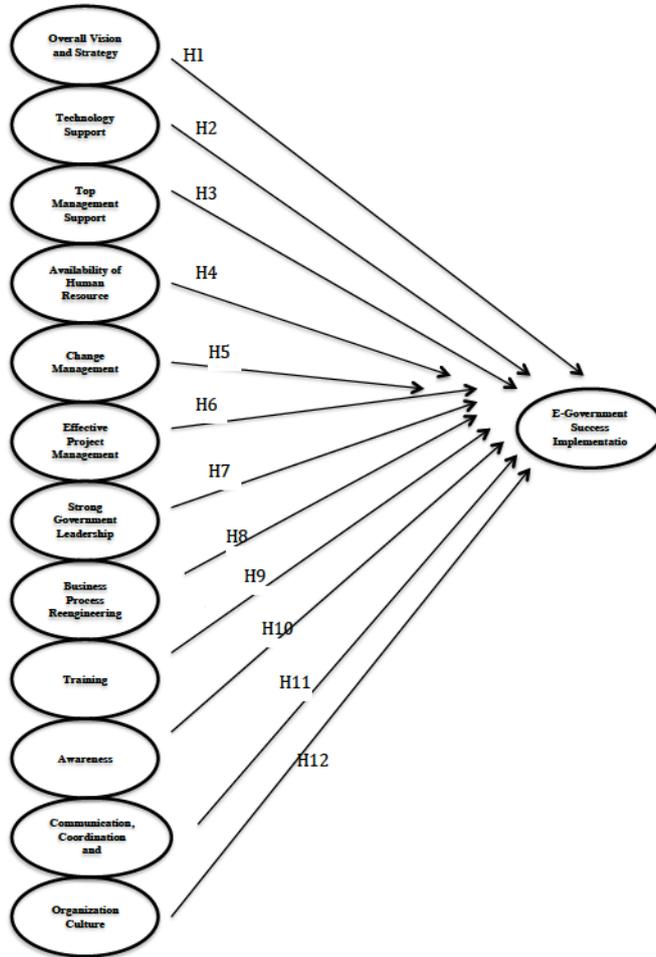
However, the implementation of e-government is not easy, because there are various factors that determine the success is known as Critical Success Factors [6]. Some models of the Critical Success Factors in Implementing E-Government a lot based on the gap analysis, named, "ITPOSMO", introduced by Heeks [7]. Such research on the factors of success and failure are conducted in Bangladesh by Hossan, Habib, and Kushchu [8] that produced some critical factors such as internal political desire, overall vision, dominance of politics or self-interest, change management, project management, competencies, technological infrastructure, and others factors. Similarly, research conducted by Prananto and McKemmish [9] which mentions the critical success factors of an E-Government implementation is the availability of adequate technology infrastructure, coordination between departments / units of the related policies, their political support, vision and government strategies and legislation, for good governance and the last is the appropriate change management strategy. Results summary of the literature review on the implementation of E-Government CSFs can be seen in Table 1.

**Table 1:** Summary of CSFs implementation of E-Government

Critical Success Factors	Reference
Overall Vision and Strategy	[8, 9, 10, 11, 12]
Technology Support	[8, 9, 11, 12, 13]
Top Management Support	[5, 10, 12]
Availability of Human Resource	[12]
Change Management	[2, 9, 11, 12, 14]
Effective Project Management	[15]
Strong Government Leadership	[8, 9, 10, 11, 12]

Critical Success Factors	Reference
Business Process Reengineering	[2, 11, 12]
Training	[10, 11, 12]
Awareness	[10, 11, 12]
Communication, Coordination and Collaboration	[5, 9, 11, 12]
Organization Culture	[11, 12, 13]

Based on Table 1, it can be composed to twelve hypotheses as can be seen in Fig. 1.



**Fig. 1:** Research Model.

## METHODS

To test the hypothesis that had been developed, this research uses a questionnaire with closed questions (close-ended questionnaire) and using a Likert scale 1-5. Before filling out the questionnaire first asked about the respondents profile that consisting of respondent's gender, age, education, past, class, years of work units and position. The variables are summarized in 44 statements that can be seen in Table 2.

**Table 2:** Summary of the research instrument

Variable	Description	Number of Indicator	Reference of Indicator
CSF 1	Overall Vision And Strategy	3	[15]
CSF 2	Technology Support	5	[15]
CSF 3	Top Management Support	2	[5]
CSF 4	Availability of Human Resource	3	[3, 5]
CSF 5	Change Management	7	[3, 5]
CSF 6	Effective Project Management	4	[16]
CSF 7	Strong Government Leadership	4	[17]
CSF 8	Business Process Reengineering	6	[3]
CSF 9	Training	3	[12]
CSF 10	Awareness	2	[12]
CSF 11	Communication, Coordination and Collaboration	5	[9, 11, 12]

Variable	Description	Number of Indicator	Reference of Indicator
CSF 12	Organization Culture	2	[12]
Success	E-Government Success Implementation	5	[18]

Samples taken from the inner circle population of the organization, i.e. employees and units leader that are directly related to the implementation of E-Government, namely IT Bureau, Bureau of Human Resources, Bureau of Finance, the General Bureau, PSMK and Auditama, with a visit to the office of BPK-RI. Results of the questionnaires are then processed with statistical data processing tools, named 'SPSS 16'. From these results, then enrich the data with triangulation by observation to see the implementation of E-Government in the BPK-RI. The data was compiled and statistically tested using the test validity and reliability, correlation analysis and multiple regression analysis.

## RESULTS AND DISCUSSION

### Respondent Demography

According to the result of data collection, there are 79 respondents that fill out the distributed questionnaire. The respondent profile can be seen on Table 3.

**Table 3:** Respondent demography

Category	Frequency	Percentage
<b>Gender</b>		
Male	33	42%
Female	46	58%
<b>Age</b>		
20-30 years old	43	54%
30-40 years old	32	41%
>40 years old	4	5%
<b>Education</b>		
Bachelor	49	62%
Master	30	38%
<b>Working Duration</b>		
0-10 year	61	77%
10-30 year	18	23%

### Statistics Result

Based on result of validity and reliability test on the instrument study found that overall the entire item statement is valid and reliable so that it can be used in the process of further research. From the analysis of Spearman's rho correlation obtained significant value of each CSF, only CSF 10 (Awareness) that has no significant relationship, while the other CSF has a significant relationship to the successful implementation of E-Government. Based on the criteria for the interpretation of the correlation index (r) as follows:

- 0,8 ≤ r ≤ 1            very high
- 0,6 – 0,799        high
- 0,4 – 0,599        modest
- 0,2 – 0,399        low
- 0.0 – 0.199        very low

Hence, the correlation of each CSF to the successful of E-government implementation can be showed on Table 4.

**Table 4:** The correlation of each CSFs to the successful of E-government implementation

Variable	R	Correlation Type	Description
CSF 1	0.269	Significantly Positive	low
CSF 2	0.451	Significantly Positive	modest
CSF 3	0.296	Significantly Positive	low
CSF 4	0.222	Significantly Positive	low
CSF 5	0.462	Significantly Positive	modest
CSF 6	0.596	Significantly Positive	modest
CSF 7	0.370	Significantly Positive	low

CSF 8	0.410	Significantly Positive	modest
CSF 9	0.254	Significantly Positive	low
CSF 10	0.160	Not Significantly Positive	-
CSF 11	0.309	Significantly Positive	low
CSF 12	0.260	Significantly Positive	low

While the results of multiple regression test showed that only one critical factor that has the most significant effect on the successful implementation of E-Government, which is Effective Project Management factor, with significant value of 0. The summary of test results can be seen in Table 5.

**Table 5:** The output of T-Test (Coefficient)

		Coefficients <sup>a</sup>					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	-.136	.543		-.251	.803		
	CSF1	.018	.098	.018	.186	.853	.637	1.570
	CSF2	.042	.098	.043	.425	.672	.605	1.653
	CSF3	-.018	.097	-.018	-.182	.856	.667	1.499
	CSF4	-.002	.097	-.002	-.022	.983	.678	1.476
	CSF5	.170	.088	.170	1.933	.058	.811	1.233
	CSF6	.515	.090	.536	5.699	.000	.711	1.406
	CSF7	.195	.112	.180	1.740	.087	.588	1.700
	CSF8	.038	.128	.034	.296	.768	.477	2.098
	CSF9	.112	.090	.120	1.241	.219	.672	1.488
	CSF10	-.072	.108	-.065	-.668	.506	.671	1.491
	CSF11	.088	.102	.085	.865	.390	.657	1.521
	CSF12	-.006	.129	-.004	-.043	.966	.613	1.632

a. Dependent Variable: KESUKSESAN  
Sumber : Analisis Regresi Ganda. diolah.

The regression equation is as follows.  
Y = 0.515X6

Based on the constant value and the regression coefficients of each independent variable as has been shown in the regression equation above, then the influence of the independent variables on the dependent variable can be explained that the value of the variable regression coefficient CSF6 (b6) is positive, that is 0.515, meaning that any increase CSF6 1% will increase the successful implementation of E-Government for the positive 0.515.

**Discussion**

As mentioned earlier, the misleading of implementation of E-Government that often occurs is when merely see the E-Government from the standpoint of information technology. At the end is often found that the implementation of E-Government regarded as something that has a high cost, resistance and change in work patterns [3].

To anticipate this, an implementation of E-Government should consider other aspects than only information technology aspect. Altameem, Zairi, and Alshawi [12] says there are three dimensions of the E-Government implementation factors proposed as Critical Success Factors which are Governing Factors, Organizational Factors and Technical Factors. All of these factors are then proposed in this study, and the other factors put forward by Vir and Bansal [15] concerning Effective Project Management is also regarded as a critical factor in the implementation of E-Government. Hidayanto et al. [19] found the importance of leadership, human resource, and culture as effective factors for e-government success.

At the end of the result showed that the implementation of E-Government in the BPK-RI has been able to reach success with an average value of success is 4 on a scale of 5. To maintain and enhance that success, then the BPK-RI must pay attention to the 12 Critical Success Factors that, especially on one factor that most affects the successful implementation of E-Government, namely: Effective Project Management. It is seen from the results of statistical tests showed that when these factors enhanced the successful implementation of e-Government will be increasing, thus giving benefits to its stakeholders [20] and increasing organizational performance [21].

**Lesson Learned**

Basically IT project management in BPK-RI has been running effectively. This can be seen with the completion of IT projects that are in accordance with the allocated budget, time schedule and determined results of the project. BPK-RI established a committee for each IT project which consists of steering committee and strategy committee. Steering committee called FKTI (IT Coordination Forum) was established to implement IT projects consisting of IT Bureau, the General Bureau, Bureau of Finance and

Planning Agency, Development Training and Projects that implement IT procurement. While the Strategy Committee on the so-called KPTI (IT Steering Committee) tasked to provide direction in every IT project is done, the BPK-RI leadership consisting of the Chairman, Vice Chairman and seven Members, as well as the officials of first level in the BPK-RI. With the establishment of the committee prior to the implementation of IT projects, IT projects are expected to be effective and in accordance with the needs of the organization that is also based on the existence of new policies imposed from the top leadership in BPK-RI. It is to produce an IT project that truly fit the needs of the organization BPK-RI

## CONCLUSION

The results showed that all factors together have a relationship and influence on the successful implementation of E-Government. However, from the results of the partial test / bivariate obtained only one critical factor that partially have an influence on the successful implementation of E-Government is effective project management. This factor is dominated factor to the rising of successful implementation of E-Government in the BPK-RI. This factor should be enhanced and maintained so that BPK-RI can continue to be successful in implementing E-Government. Besides, several other factors must be supported by one of these factors that the successful implementation of E-Government can continue to be achieved.

### CONFLICT OF INTEREST

There is no conflict of interest.

### ACKNOWLEDGEMENTS

This research is fully supported by Universitas Indonesia through 'Hibah Publikasi Internasional Terindeks untuk Tugas Akhir Mahasiswa Universitas Indonesia 2017' with title 'Faktor Adopsi dari Smart Government di Indonesia'. It is a pleasure to convey our gratitude to our university for their continuous support, particularly for Research and Community Engagement Directorate for their excellent services.

### FINANCIAL DISCLOSURE

None

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