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MATURITY MODEL TO MEASURE THE GOVERNMENT INSTITUTIONS OF INDONESIA (THE ENVIRONMENT BUREAUCRACY OF EDUCATION) IN THE IMPLEMENTATION OF E-GOVERNMENT

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ABSTRACT

Implementation of e-Government are expected to be solution in the care system, but in the process will be a challenge that has a risk of failure. In this study will result in a maturity model that becomes the size of maturity/readiness of a government institution when it will make the process of e-Government implementation. With the results of this dissertation study is expected to have the readiness of government institutions and the risk of failure of the implementation process will be smaller.

Keywords: E-Government, Implementation, Maturity Model, Risk of Failure

1. INTRODUCTION

Government is a sector policy makers, administrative and public services such as (Presidential Decree No. 24 of 2010). The success of government services supported by many factors, one of the supporting factors is to implement e-Government (Presidential Instruction No. 3 of 2003). The Implementation of e-Government are expected to be solution as the service system, but the process will be a challenge that has a risk of failure. This paper will result in a maturity model that becomes the size of maturity or readiness of a government institution when the implementation of e-Government. It's also expected to minimize the risk of failure the implementation of e-Government.

2. LITERATURES REVIEW

2.1. Maturity Model

This paper discussed a maturity model for measuring the maturity and readiness of government agencies (the bureaucracy of education) in Indonesia. This study will used references on maturity models: Capability Maturity Model Integration (CMMI) and Maturity of Indonesian Software Industry or commonly known by its Indonesian CMM. The five maturity levels of the capability maturity model (GCMM, 2001).

Capability Maturity Model Process Areas

An incremental measurement scale based on a score ranging from 1 to 5; this scale is associated with the following generic qualitative model (Valdés *et al*., 2011):

Level 1: Initial Capability. The key domain area is addressed reactively and individually on a case by case basis; and there is evidence that it has been recognized and needs to be addressed
Level 2: Developing Capability. A regular intuitive pattern is followed in addressing the key domain area. Different people follow similar procedures to address the same tasks; however, there is neither formal training nor dissemination of procedures

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Level 3: Defined Capability. Procedures related to the key domain area have been defined, documented and communicated; they are not sophisticated, but rather correspond to the formalization of existing practices. There is formal training to support initiatives related to the key area

Level 4: Managed Capability. It is possible to monitor and measure procedure fulfillment and compliance and to take action when the key domain area appears to work ineffectively and established standards and rules-related to the key area are applied throughout the organization

Level 5: Integrated Capability (Optimizing). Procedures related to the key domain area have reached the level of best practices and continuous improvements are applied. The key area is optimized through the use of ICT and it works in an integrated manner with other related areas

The evolving structure of the maturity levels suggests a roadmap for improvements, to be followed in moving up from lower levels of maturity up to level 5 (Optimizing) (**Fig. 1-2**). For illustrates the key domain areas and their minimum capability level required in each organizational maturity level **Table 1**.

2.2. Critical Success Factors

The implementation of e-Government will use some of the theories discussed on "The Study of Critical Success Factors for Implementation of e-Government" which will be the study of success factors on the implementation of e-Government (Darmawan, 2014).

Maturity model have CSF dimension **Table 2**. Maturity model has three dimensions: Maturity stage dimension, CSF dimension and assessment dimension (Niazi *et al*., 2003).

CSFs (Critical Success Factors) define the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization (Darmawan, 2014).

2.3. IT Leadership

The implementation of e-Government is strongly influenced by the IT Leadership (**Fig 3-4**). In many information technology companies give a lot of support and to transform its business growth. Likewise in governance and the role of IT Leadership is essential to make changes in management.

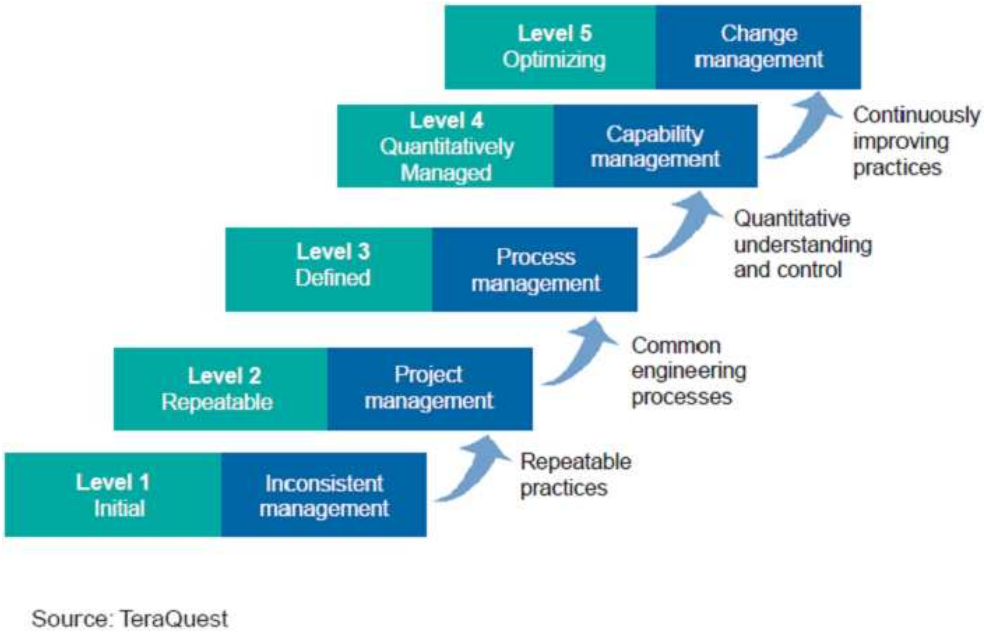

Fig. 1. Maturity level

Maturity Level	Improvements Implemented
5. Optimizing	• Develop change infrastructure • Evaluate and deploy improvements • Eliminate causes of defects
4. Quantitatively Managed	• Manage processes quantitatively • Establish capability baselines
3. Defined	• Establish improvement infrastructure • Identify required software processes • Define common software processes • Deploy and manage processes • Collect process-level data • Provide organization-wide training • Coordinate with non-software groups
2. Repeatable	• Manage requirements • Plan and track projects • Manage suppliers • Manage product configurations • Measure projects • Assist and assure policy compliance
1. Initial	No required processes

Fig. 2. Process areas

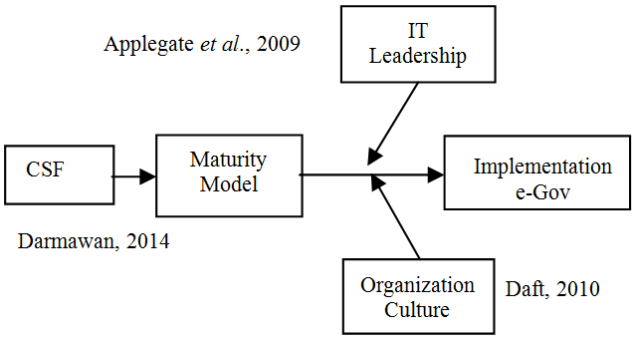

Fig. 3. Theoretical framework

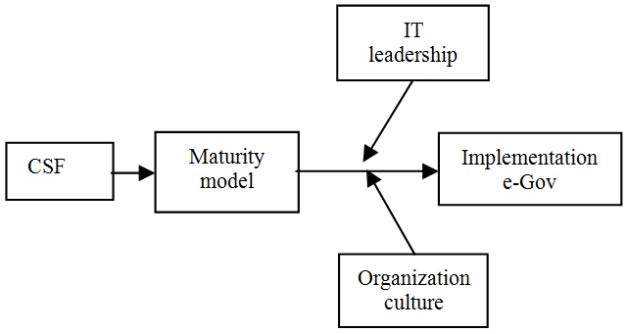

Fig. 4. Research model

Table 1. Organizational maturity in terms of the capability of priority key domain areas

		Organizational maturity levels				
Leverage domain	Key domain area	ML 1: Initial	ML 2: Developing	ML 3: Defined	ML 4: Managed	ML 5: Optimizing
E-Government	Vision, Strategy and Policy		2	3	4	5
Strategy	Enterprise architecture strategy				3	4
	IT Management and Organization		2	3	4	5
IT	IT Architecture			2	3	4
Governance	Portfolio and risk management		2	3	4	5
	IT Service delivery			2	3	4
	Assets utilization			2	3	4
Process Management	Business process management			2	3	4
	Performance management			2	3	4
	Services to citizen and business		2	3	4	5
	Interoperability		2	3	4	5
	Compliance		2	3	4	5
	Quality and security assurance			3	3	4
Organization and people	Infrastructure and eGov tools		2	3	4	5
	Knowledge management				3	4
	Human capital		2	3	4	5
	Change management				3	4

Table 2. Critical success factors for e-government implementation

No.	Critical success factor
1	User and stakeholder involvement
2	Good planning
3	Using portal/Application
4	Training
5	Good system usability
6	System campaign
7	Prototype
8	Good team skills and expertise
9	Strong leadership
10	Good coordination between all project participants
11	Best practice consideration
12	Enough funding
13	Make bettet business process
14	Supportive government policy
15	Political support and strategy
16	Good outsourcing strategy
17	Supportive ICT infrastructure/service availability
18	User/citizen computer/internet literacy
19	Good and clear organizational structure
20	International support
21	System security
22	Legal framework
23	Monitoring and evaluation
24	Good partnership with other institution
25	Good change management
26	Supportive cultural environment
27	Good system modeling
28	Deal with bureaucratic processes
29	Citizen relationship management
30	Top management support
31	Support interoperability
32	Good project management
33	Good Information quality
34	Good system quality

2.4. Organization Culture

The implementation of e-Government is also greatly influenced by organizational culture, especially the culture of work. In Many information technology companies give a lot of support, and transform their business for growth. Likewise in government, IT Leadership role is essential for change management (Deborah, 2009)

3. PROBLEM INDENTIFICATION AND STATEMENT

This paper presents the author's issues regarding the implementation of e-Government, especially studies related to the size of the model that will provide the measurement of maturity (maturity models). How this will Maturity Model can be a measure of the maturity of government institution (the bureaucracy of education) in Indonesia to the implementation of e-Government. In the implementation of e-Government does IT Leadership and Organizational Culture has a role and influence in the process?

4. THEORETICAL FRAMEWORK

The implementation of e-Government in Indonesia is solution to improve government services to the general public with a performance-based electronics for effectiveness and efficiency. From the literature review made a research frame as follows.

This paper presents two approaches they are Critical Success Factor and Maturity Models that can be used for the implementation of e-Government in Indonesia.

5. HYPOTHESES AND PROPOSED RESEARCH MODEL

From the theoritical frame of thought which there are several hypotheses:

H-1: CSF impacts on Maturity Model
H-2: Maturity Model impacts on Implementation e-Government
H-3: There is relationship between IT Leadership and Implementation e-Government
H-4: There is relationship between Organization Culture and Implementation e-Government

6. RESEARCH METHODS

This paper will conduct a survey process to all the factors supporting success factors (critical success factors) in implementation of e-Government. Having determined that these factors can be adapted to existing conditions in Indonesia, especially needed in the governance environment. The research will see for a maturity model to measure the maturity or readiness of the implementation of e-Government. The author's will explain that there's a relationship between the Critical Success Factors (CSFs) with a maturity model to be created.

The first test for descriptive hypotheses, the formulation of the hypothesis is:

- IT Leadership affects the maturity value of a government institution for implementation of e-Government
- Organizational Culture Work, especially the culture of work also affects the value of the maturity of a government institution for implementation of e-Government

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8.1. Funding Information

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8.2. Author's Contributions

Bambang Saras Yulistiawan: Preparation and developing the manuscript.

Harjanto Prabowo: Reviewing the hypotheses and research model.

Dyah Budihastuti: Reviewing the literature review and theoretical framework

Ford Lumban Gaol: Reviewing all of the manuscript to be proper for a publication.

8.3. Ethics

Any ethical issues or in case of problems after the publication of this paper will be the responsibility of the authors.

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