



GAP Analysis of E-Government Implementation in Indonesia

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Abstrak

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Penelitian ini bertujuan untuk mengukur gap antara desain dan implementasi aktual dari sebuah proyek e-Government menggunakan metode ITPOSMO. Dengan mengetahui kesenjangan ini, para pemangku kepentingan yang terlibat dalam proyek dapat menemukan pendekatan yang sesuai untuk mencegah proyek jatuh pada implementasinya. Informasi tentang aplikasi, diperlukan dengan melakukan observasi dan wawancara dengan berbagai pihak yang terlibat dalam penggunaan SIPKD (Sistem Informasi Manajemen Keuangan Daerah) di kabupaten Kampa, Provinsi Riau. Dari penelitian ini ditemukan bahwa kabupaten Kampa memiliki kesenjangan antara desain dan implementasi proyek e-Government khususnya dalam penerapan SIPKD sebesar 22 poin. Sebaran kesenjangan tersebut adalah 5 titik pada dimensi informasi, 3 titik pada dimensi teknologi, 3 titik pada dimensi proses, 3 titik pada dimensi tujuan dan nilai, 4 titik pada dimensi kepegawaian dan keterampilan, 3 titik pada sistem dan struktur manajemen, dan 1 titik dalam dimensi sumber daya lainnya. Berdasarkan total gap yang terjadi, implementasi aplikasi SIPKD memiliki risiko kegagalan sebagian dari desain awalnya kecuali diambil tindakan untuk mengurangi gap antara desain dan kenyataan. Kesenjangan terbesar ada pada dimensi informasi dan dimensi kepegawaian dan keterampilan.

Keywords:
Very High Frequency Air
to Ground;
Transmitter;
Automatic Change Over
Switch;
Arduino Mega;
LCD Touch Screen.

Abstract

This research aims to measure the gap between the design and actual implementation of an e-Government project using the ITPOSMO method. By knowing this gap, stakeholders involved in the project can find a suitable approach to prevent the project from falling on its implementation. Information about the application, required by conducting observation and interviews with various parties involved in the use of SIPKD (Regional Financial Management Information System) in Kampa district, Riau Province. From this research, it was found that the Kampa district has a gap between the design and implementation of an e-Government project, especially in the SIPKD application of 22 points. The distribution of the gap is 5 points in information dimension, 3 points in technology dimension, 3 points in process dimension, 3 points in objective and value dimension, 4 points in staffing and skills dimension, 3 points in management system and structure, and 1 point in other resources dimension. Based on the total gaps that have been occurred, the implementation of the SIPKD application has the risk of partial failure from its initial design unless action is taken to reduce the gap between design and reality. The biggest gap is in the information dimension and staffing and skill dimension.

1. INTRODUCTION

The power of information and communication technology rapidly changes including in the daily operations and activities in government all over the world, e-Government is the use of information and communication technologies (ICTs) to improve the activities of public sector organizations [1], The World Bank has defined e-Government as "government-owned or operated systems of information and communications technologies (ICTs) that transform relations with citizens, the private sector and/or other government agencies to promote citizen empowerment, improve service delivery, strengthen accountability, increase transparency, or improve government efficiency [2]. E-Government is a platform aimed to bring transparency, accessibility, and low cost of government information communication between government to citizens (G2C), government to business enterprises (G2B), and inter-agency relationship (G2G) [3]. There are many different definitions of e-Government, but of all definitions, it can be concluded that e-Government is the use of information technology to interact between the government and stakeholders associated with it [4].

The adoption of e-Government promotes transparency, efficiency, and effective massive communication to serve an interactively accessible, reliable, and valid platform to the public both in the local and central government system. Some efforts have been considered to support the adoption of e-Government such as presidential decree and executive order on the utilizing of information and communication technology in government. However, some failures in adopting the implementation of e-Government in some areas are still found [5].

The impact of the failure to harness the adoption of e-Government is not only in terms of cost but also in several things such as follows [6] first **direct Financial Costs**. The money invested in equipment, consultants, new facilities, training programs, etc. The second **Indirect Financial Costs**. The money invested in the time and effort of public servants involved, The third **Opportunity Costs**. The better ways in which that money could have been spent, if it wasn't spent on the e-Government failure. **Political Costs**. The loss of 'face' and loss of image for individuals, organizations, and nations involved in the failure. **Beneficiary Costs**. The loss of benefits that a successful e-Government project would have brought. **Future Costs**. An e-Government failure increases the barriers for future e-Government projects. It does this in two main ways. First, through loss of morale of stakeholders, particularly e-Government champions, who may 'defect' to the private sector or overseas. Second, through the loss of credibility and loss of trust in e-Government as an approach to change. This increases risk aversion in some stakeholders; and provides support for others with vested interests in the status quo.

These potential costs are intangible, few are ever measured in the event of e-Government failure, many officials and politicians are still very keen on e-Government despite the consideration on the good analysis and good planning on the potential failures, the aims of creating good governance will not be achieved [7]. A high rate of failure of the e-Government implementation project is identified almost 35% of the project is total failures, 50% are partially failure, and only 15% of e-Government project is successful [8]

E-government projects, which should be able to provide various benefits to the wider community, are seen as not working properly because these projects were not made with a complete concept and planning. There are at least six dimensions of the public value of e-government and associated Key Performance Indicators (KPIs) [9], which can then be used as benchmarks in evaluating the implementation of e-Government.

Although the government is aware of the impact of failure in implementing an e-Government project, these failures still occur in various countries. For example, Zardini writes in his article after an e-Government project was initiated and implemented, three years after the introduction of the information technology tools as an effort to reduce the costs, time, and bureaucracy involved, based on his assessment the process had not improved [9].

Indonesia is one of the countries that is very aggressive in using e-Government [10], not only in the business sector but also in government. Various studies on the implementation of e-government are found in various articles that study various aspects of the implementation of e-government [11][12][13][14][15]. Even the government has made a ranking of Indonesian information technology (PEGI) so that all regions are competing to implement e-Government.

Although in its implementation there are still various failures, such as what happened in south Sulawesi [16], in this study, the authors used ITPOSMO to measure the gap between planning and implementing e-Government projects in the field. A significant gap occurred in the implementation of the project, so to prevent the project from failing, the writer also gave some suggestions for improvement.

These failures, if not improved, can have a wider impact, as described above. Therefore, every e-Government project that has been implemented must be evaluated between planning and its implementation in the field, so that improvements can be made to minimize and eliminate gaps that arise in its implementation [17]. With the increasing use of e-Government, although there are various shortcomings in its implementation, it must always be evaluated and improved, so that people feel the benefits provided by the e-Government system that can make them believe in the e-Government project. The community will actively participate in developing various potentials that can be obtained from the implementation of e-Government, one of which is using the E-KTP for various things [18].

This study, therefore, is motivated to evaluate several e-Government projects in Indonesia. The gap analysis was employed to evaluate the proposed design of e-Government and the implementation to get several anticipations to minimize the failure. Several indicators were used to evaluate the potential factors that contribute to the e-Government projects such as Information, Technology, Processes, Objectives and values, Staffing and skills Management systems and structure and Other Resource or ITPOSMO.

2. METHODS

To evaluate the gap between the proposal and the implementation project of e-Government a gap analysis ITPOSMO is employed. This kind of methodology proposed by Heeks is the combination between hard approach dan and approach. Heeks describes the ITPOSMO Gap Analysis as follows:

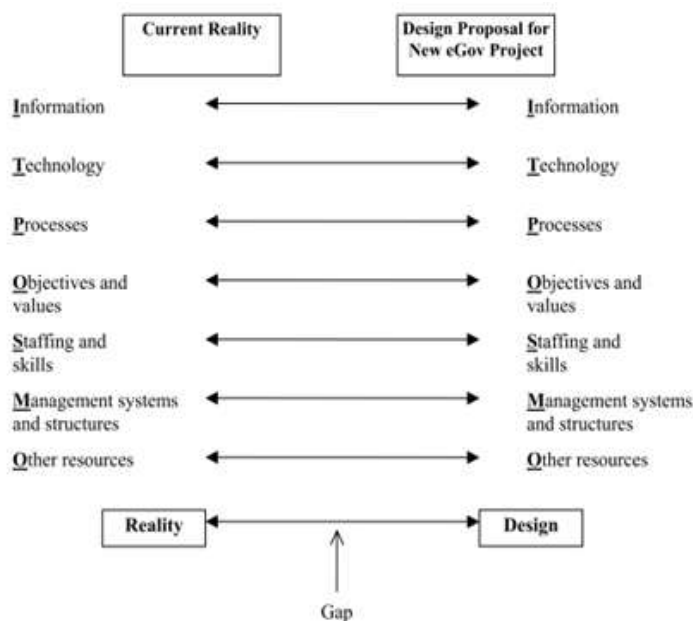


Figure 1 ITPOSMO gap analysis

These seven elements are given in a sequence of values from 0 to 10. The description of the elements are elaborated as follows:

- Information: indicates the information used in the e-Government application (comparing the information requirements contained within the design of the e-Government application vs. the information currently really being used in the organization)
- Technology: indicates the technology used in the agency (comparing the requirements contained within the design of the e-Government application vs. the real situation now).
- Processes: indicates the work processes undertaken in the agency (comparing the processes needed for successful implementation of the e-Government application vs. the real situation now).
- Objectives and values: indicates the objectives and values that key stakeholders need for successful implementation of the e-Government application vs. their current real objectives and values.
- Staffing and skills: indicates the staffing numbers and skill levels/types required in/by the agency (comparing the requirements for successful implementation of the e-Government application vs. the real situation now)
- Management systems and structure: indicate the management systems and structures required in the agency (comparing the requirements for successful implementation of the e-Government application vs. the real situation now)
- Other Resources: indicate such issues as the time and money required to successfully implement and operate the new application compared with the time and money available now.

Reality Gap Analysis developed by Richard Heeks, a framework that has been used in many types of research related to the measuring of success and failure of Information Systems in Developing countries on the private and state institution. Heeks sees the source of a project failure on the size of the Design-Reality Gap. The possibility of a project being successful or failing depends on the size of the gap between the "current reality" in which the project is and "project design". The larger design-reality gap leads to a greater risk of project failure, and vice versa.

To understand this gap, the gap rating values 1- 10 for each dimension are ranked in a table in numerical order. The rating is managed by comparing the design and the current condition, the bigger distance between the design and the reality, the bigger gap is identified. The illustration is as follows:

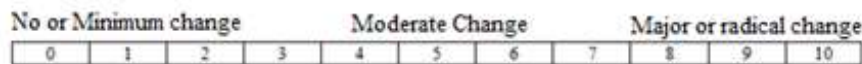


Figure 2 Meaning of ITPOSMO Gap Values

Each of the ITPOSMO elements will be valued individually. Later, all of them are summed up and the total value representing "Gap Value" will be explained in the following table.

Tabel 1 Overall Rating ITPOSMO [3]

Total score	Likely Outcome
57 -70	The e-Government project certainly failed as actions are not taken to close design-reality gaps.
43 – 56	The e-Government project may well fail unless action is taken to close design-reality gaps.
29 – 42	The e-Government project might fail, or might well be a partial failure unless action is taken to close design-reality gaps.
15 – 28	There is a partial failure in the e-Government project as actions are not taken to close design-reality gaps.
0 – 14	The e-Government project well succeeded

3. RESULT AND DISCUSSION

Based on the data we got through interviews and direct observations at the Kampa sub-district office, which we then aligned with the information system development plan planned by the Kampar district government. From these two things, we assess all aspects needed to evaluate the gap that exists between the development plan and implementation that occurs in the field. Here we present some of our findings.

Kampar has a local financial management application known as SIKPD. The application created by the Ministry of Home Affairs aims to improve the effectiveness of the implementation of various regulatory areas of financial management areas starting from planning, implementing, and reporting. Kampar is one of the pilot projects of E-Payment integrated with local financial management SIPKD [6].

3.1 Information Gap.

Information element provides the data on the information requirement contained within the local financial management application vs the information currently being used in the organization. It is found not significantly different due to the contained data used in planning, implementing, and reporting being standardized based. This application is created by promoting transparency in managing the local financial resources, but the access to the public is limited due to the administrative process, SIKPD should be reported to DISKOMINFO. In further, in terms of design and reality, a few changes on the aims of designing application are found, Based on those founding, a gap score of 5 is given.

3.2 Technology Gap.

Several prerequisite components in managing the local financial management application (SIKPD) such as an office with server computer and local area network, and two personal computers as a working media for admin and operator. Besides, a meeting room is also needed to enable the staff to have coordination. Every regencies or city is asked to decide five staff as admin, a person from the Agency of Regional Development, two people from the office for management of Regional Revenue, Finance, and Assets, a person from the inspectorate, while every regional unit is asked to decide 3 staffs as the operator as in details are treasurer, administration staff and financial department (Circular Letter on Minister of Home Affairs No. SE.900/122/BAKD).

The implemented reality has all technical requirements as well as personal computers, except the availability of a local area network. The operator used the cellular area network as the hotspot to get internet access. Thus, the technology gap is not highly contributed. Due to the unavailability of the local area network, a gap score of 3 is given.

3.3 Process gap

The implementation process of local financial management application is based on the regulation stated by the Minister of Home Affairs as well as the report on the financial regional budget. It is used to minimize the administration risks. The E-Payment is also used although in a small portion. The local government has been decided to have maximum cash transaction on Rp.10.000.000/day, e-payment is used for the cash transaction more than Rp. 10.000.000. The government is proposing a maximum cash transaction of Rp. 5.000.000/day to increase the use of e-payment in all the budgeting processes.

The sub-district office in managing the local finances has been incorporating the e-payment in the process. Although a small portion of the process still possesses a minimum gap. Based on those founding, a gap score of 3 is given.

3.4 Objectives and values Gap.

The current reality in the use of local financial management application, in terms of design and implementation, shows an improvement concerning efficiency in land administration processing both in time and effort, time-consuming in the administration process in processing a Letter of Assignment on Contract Payment is not experienced more.

Lack of public information is the gap due to the current application promoting transparency as the government way to minimize the gap in communication to the citizen. Based on those founding, a gap score of 3 is given.

3.5 Staffing and skills Gap.

The design calls for personnel to have experience at least a bachelor of ICT, but in reality, no one is hired from bachelor of ICT, and also the range of age is the cause of the technology literate. Another challenge is the mutation on the staff for several periods, they need to build up the skills by learning the job on managing the local financial management application.

The skill of the staff in managing the local financial management application is the gap found. Based on those problems, a gap score of 4 is given.

3.6 Management systems and structure Gap.

The design called for a professional personnel involvement such as a planning staff work in the planning area, implementation and budgeting process is handled by the financial resources, and also the liability is handled by the commitment-making official to ensure the professionalism.

In reality, in Kampar regency, the intended personal were not hired based on the intended level due to the small portion of the task. The planning step is handled by the head of the staffing division,

while the implementation, costing, and reporting are handled by the financial division. The value gap 3 is given based on our findings.

3.7 Other Resource Gap

In other resources, we looked at the commitment supported in implementing the local financial management application of the government. A strong commitment is described clearly on the utilization of the application in the financial process; most of the work organizations are involved in it. In further, Kampar was chosen as the fourth Pilot Project among the other regencies in Indonesia on the E-Payment implementation, even some divisions of the work organization are not utilized it yet. The concrete step on the policy of the limit on cash transaction/day is the word of commitment on it. Thus, a gap score of 1 is given.

3.8 Total Gap

The total gap in comparing the design and the current project of e-Government in Kampar regency is described in detail as follows:

- Information: 5
- Technology : 3
- Processes : 3
- Objectives and values: 3
- Staffing and skills: 4
- Management systems and structure: 3
- Other Resource: 1

The total gap of 22 indicates that there is a partial failure in the e-Government project and the project may fail unless action is taken to close design-reality gaps; see Table 1 for reference.

4. CONCLUSION

The findings of data analysis showed that the total gap of 22 indicates that there is a partial failure in the e-Government project and the project may fail unless action is taken to close design-reality gaps. The main reason for the large gaps in these two dimensions was the lack of awareness about the transparency of the information and the lack of the intended professional staff.

5. SUGGESTION

Further research is more information transparency and improve the system properly and correctly

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