

# Post Appraisal of E-government Projects in Sri Lanka

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**Abstract:** Electronic government (e-government) refers to the use of information and communication technologies for transforming government organizations to make those more accessible, effective and accountable. Following the global trend in e-government developments, the government of Sri Lanka, has invested heavily in implementing numerous e-government projects over the past few years for improving the performance of its public organizations. Even though various e-government projects has been implemented, it is doubtful whether a proper assessment has been conducted regarding the performance of implemented e-government projects in Sri Lanka.

The aim of this research is to find out the issues related to success or failure of e-government projects in Sri Lanka. To accomplish the aims and objectives of this research, previous research papers, journals, reports as well as the internet sources has been analysed to gather previous literature in this criteria. Further, a quantitative survey has been carried out using a questionnaire and a qualitative data analysis also carried out to strengthen the results of the qualitative data analysis process.

**Keywords:** E-government, Post evaluation of e-government projects

## I. INTRODUCTION

The term "Electronic government" (e-government) is firstly introduced in United States of America in 1993 and used to describe the process of use of information and communication technologies (ICT) to enable public organizations to make those more reachable, effective and efficient (Heeks and Bailur, 2007; Karunasena, 2012).

ICT is used not only to improve the services of the public sector organizations, further it can be used to improve the services to the general public by enhancing the effectiveness of the public sector organizations through increasing the efficiency, responsibility as well as the transparency (Deng, 2008; Wangpipatwong, Chutimaskul and Papisraton, 2009).

With the global trends and identifying the benefits of the introduction of ICT services to the public sector organizations, the government of Sri Lanka is also initiated and launched number of e-government projects to improve the delivery of the services of the public sector organizations (Hanna, 2007; Gamage and Halpin, 2007; Karunasena, 2012; Rajapakse and Gunawardane, 2015).

It is revealed that, the importance and the necessity for post implementation evaluation of the performance and sustainability of e-government projects. Post appraisal study of e-government projects will help the government of Sri Lanka to identify the value of the investment made for ICT projects in government organizations. Further, such post appraisal analysis will facilitate to identify the comparative performance and sustainability of e-government projects in other countries in the world.

## II. LITERATURE REVIEW

### Overview of e-government and post appraisal of e-government projects in Sri Lanka

Over the past several years many countries have introduced various changes to their public sector organizations, in order to make their public sector organizations more efficient and effective in providing services to the general public. Most of the countries in the world have introduced ICT to their public sector organizations to enable those to offer a better service to the general public (Karunasena, 2012).

An e-government project will deal with different kind of stakeholders such as government, employees of the government sector organizations, local and foreign Investors, vendors, intermediaries as well as citizens of the country. (Perez and Hernandez, 2008).

Introducing ICT services to government sector organizations is described as e-government. The term e-government means the digitisation of public sector information or the method of conducting digital transactions with the general public. Most of the governments all around the world have already started to introduce ICT to government organizations through special ICT implementation projects (Ndou, 2004; Karunasena, 2012).

Further, many developing countries have launched e-government projects and have identified as a major policy with high priority. Even though the e-government projects have been carried out investing huge funds to deliver a better service, failure rate is also high due to several reasons (Heeks and Bailur, 2007; Karunasena, 2012).

When the governments implement e-government projects, the respective government officials evaluate the criteria such as;

- to improve the interaction among government agencies
- to improve the quality and efficiency of the services provided
- to deliver web based services
- e-commerce
- digital equality to improve the transparency
- e-finance

A major factor for success of an e-government service is addressing the user expectations with higher level of user satisfaction. Therefore in a post appraisal of e-government systems it is required to analyze the issues with e-government systems in order to provide a satisfactory service from the e-government projects (Rajapakse and Gunawardane, 2015).

### Independent Variables

**Human resources:** Human resource is a major component in any projects. Accordingly, human resource management is playing a vital role in managing e-government projects as well. Since, e-government is a new and emerging approach, it will face various challenging issues when introducing and

implementing new technologies to the public sector organizations (Gichoya, 2005).

An e-government project will change the existing system in different dimensions of a government sector organization, including changing the responsibilities of the employees and needs of the employees. When introducing new technologies and modern working practices, the issues such as lack of skilled staff, lack of training provided to the existing staff, allocation of appropriate staff members for the correct task, allocation or providing of other resources in the organization, health issues of the employees, safety of the employees, as well as job security of the employees should be considered (Ojo et al., 2007).

Developing short term as well as long term strategies of human resource management in relation to e-government projects will facilitate to reduce most of the issues arise in e-government project implementation and maintaining e-government systems in Sri Lanka (Gichoya, 2005).

**User Attitudes:** Attitudes of the users of e-government services are considered as a vital factor to determine the

success or failure of the e-government projects. Negative user attitudes will considered as a major barrier to the post implementation and maintenance of e-government projects in Sri Lanka as well as in any other country. The determinants of the possible users' and their attitudes towards adoption of e-government systems in a developing country can be identified by the Unified Theory of Acceptance and Use of Technology model (AlAwadhi & Morris, 2008).

**Theory of Technology Acceptance Model**

The theory of Acceptance Model (TAM) is a further development of Ajzen and Fishbein's (1980), The theory of Reasoned Action (TRA). This theory has been developed by Fred Davis in 1986. This theory is a model that has been constructed with the theory of how users accept as well as use new technologies. According to this model, when users of the system are provided with a new concept, system or equipments, there are number of variables which will influence the choice about how and when the new things should use by them. According to this model there are two major variables called Perceived Usefulness and Perceived Ease of Use (Davis & Arbor, 1989).

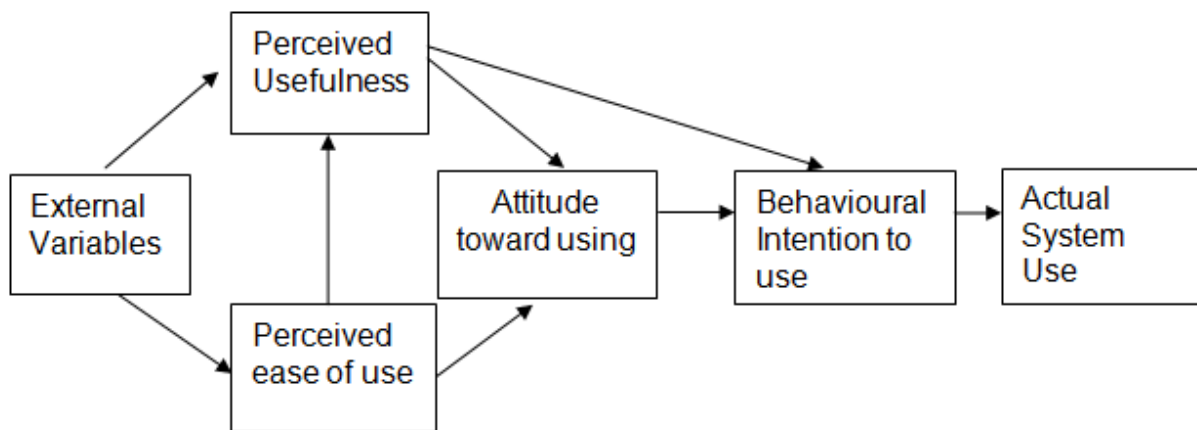


Figure 1: User Acceptance Model Source: (Davis, Bagozzi & Warshaw, 1989)

**Theory of Public Value**

The theory of public value is a usual theory used in evaluating the success of the services in the public sector organizations (Moore 1995, Alford and O'Flynn, 2009).

In this theory, it states that, the value of the citizens has to direct the operations and processes of the public sector organizations, when provide services to the general public. The theory of public value provides a complete framework to investigate the performance of the public sector organizations (Kelly et al. 2002; Alford & O'Flynn, 2009).

**Maintenance:** Maintenance plays an important role to make e-government project successful and sustainable. Therefore, it is important to analyze the issues related to post implementation of e-government projects and find a solution for the issues which enable continuous operation of ICT related activities in the government sector organizations (Gunadi, 2015).

**Compatibility:** The term e-government describes the use of information and communications technologies to deliver government services to the citizen in an efficient and effective manner while improving the quality of the internal management system in government authorities (Novakouski and Lewis, 2012).

Therefore, it is essential to design, develop, implement and update the e-government systems according to the needs of the services required by the general public, complying to the existing manual procedures in order to adopt the new system with the existing manual system without any conflicts (Novakouski and Lewis, 2012; Rajapakse and Gunawardane, 2015).

**Conceptual Framework**

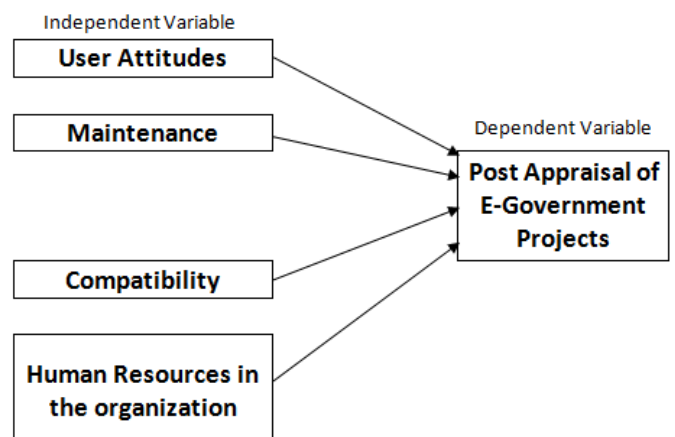


Figure: 2 Source: Author

**III. RESEARCH METHODOLOGY**

**Quantitative Data Analysis**

The quantitative data analysis approach has emerged from exploring natural occurrences. Quantitative data analysis process engages in the analysis of patterns in collected numeric data like ordinal, interval and ratio. First, data has to be validated and should be tested for reliability. When testing the numeric data, there tests such as correlation test, regression test as well as comparison of means (Ashaye, 2014). In this research a questionnaire has been used to collect ordinal quantitative data.

**Population**

Since Sri Lanka is still a developing country, there is a huge variation of use of Information Technology services with the people live in rural areas and the people in the main cities. Introducing e-government systems in to the rural areas is difficult, since the information technology literacy as well as information technology infrastructure facilities have not spread evenly around the country. The participants of the survey in this research are e-government users in government organizations where e-government projects have been implemented have been used as the population.

**Sample**

Government organizations located in Colombo city limit in the western province of Sri Lanka and Kandy city limit in Central province of Sri Lanka have been selected to conduct the survey.

**Demographic Data Analysis**

In order to gather information in relation to post appraisal of e-government projects in Sri Lanka, in this survey, 100 survey questionnaires have been distributed among the employees in the various government organizations in Colombo and Kandy city limits. Among these 100 people, 67 people have

responded to the survey questionnaire. From these responded questionnaires, 17 questionnaires have been rejected due to incorrect and partially completed questionnaires. Finally, 50 questionnaires have been used in this survey.

**List of Hypothesis**

- H<sub>1a</sub> - There is a relationship between human resources and post appraisal of e- government projects.
- H<sub>2a</sub>- There is a relationship between user attitudes and post appraisal of e- government projects.
- H<sub>3a</sub> - There is a relationship between maintenance and post appraisal of e- government projects.
- H<sub>4a</sub> - There is a relationship between compatibility and post appraisal of e- government projects.

**Hypothesis testing**

According to the results of the correlation test, the relationships between the independent variables and the dependent variable is identified and described as follows;

**Hypothesis 1:** Since the significance value is less than 0.05, there is a relationship between the independent variable human resource and the dependent variable Post appraisal of e- government projects.

**Hypothesis 2:** Since the significance value is less than 0.05, there is a relationship between the independent variable user attitudes and the dependent variable post appraisal of e- government projects.

**Hypothesis 3:** Since the significance value is more than 0.05, there is no relationship between the independent variable compatibility and the dependent variable post appraisal of e- government projects.

**Hypothesis 4:** Since the significance value is more than 0.05, there is no relationship between the independent variable maintenance and the dependent variable post appraisal of e- government projects.

Table: 1 Source: Author

**ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	5.452	4	1.363	6.734	.000 <sup>b</sup>
Residual	9.109	45	.202		
Total	14.561	49			

a. Dependent Variable: av\_Post\_Appraisal

b. Predictors: (Constant), av\_Compatibility, av\_Maintenance, av\_HR, av\_UA

Table: 2 Source: Author

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.615	.529		3.053	.004
av_HR	.293	.193	.295	1.517	.136
av_UA	.386	.178	.429	2.163	.036
av_Maintenance	-.122	.134	-.134	-.915	.365
av_Compatibility	-.441	.180	-.302	-2.449	.018

a. Dependent Variable: av\_Post\_Appraisal

## Model Development

Using the statistics of the quantitative data analysis, the following model has been developed to predict the value of the dependent variable post appraisal of e-government projects with the given value of independent variables of human resource and user attitude.

### Human resource

$$Y = \beta_0 + B_1 X_1$$
$$Y = 1.615 + 0.293 X_1$$

### User attitude

$$Y = \beta_0 + B_1 X_1$$
$$Y = 1.615 + 0.386 X_1$$

Y=Value of the dependent variable.  
X<sub>1</sub>=Value of the independent variable

## Qualitative data analysis

In this research qualitative data analysis has been used to strengthen the results of the quantitative data analysis process. To verify the relationship between human resources, user attitude, compatibility and maintenance with post appraisal of e-government projects, a qualitative data gathering is carried out through the personal interviews and telephone conversations.

The study has revealed that there is a significant relationship between human resources and user attitude with the success or failure of the e-government systems.

## Discussion and Findings

The results of the quantitative data analysis of this research has revealed that, there is a relationship between human resource and post appraisal of e-government projects as well as there is a relationship between user attitudes and post appraisal of e-government projects. Further, the researcher was able to find the perspectives of the respondents through the qualitative data analysis to strengthen the results of the quantitative data analysis.

Based on the quantitative data analysis results and with the findings of the qualitative data analysis, variables which are affecting the success or failure of the e-government projects were identified and a model has been developed to forecast the value of the dependent variable post appraisal of e-government projects with the given value of independent variables of human resource and user attitude.

## CONCLUSION

To find out the answers of the research question of the research, a mixed research methodology has been used. To collect quantitative data, a questionnaire has been developed and distributed among 100 employees in the various government organizations in Colombo and Kandy city limits. From the 67 respondents of the survey, only 50 questionnaires have been used in this survey, since 17 questionnaires have been rejected due to incorrect and partially completed questionnaires.

Later, a qualitative data analysis also has been carried out to strengthen the results of the quantitative data analysis. The

analysis of this research has revealed the relationship between human resources in the government sector organizations with post appraisal of e-government projects as well as the relationship of the user attitude with post appraisal of e-government projects.

## Recommendations

The issues related to lack of human resources with IT skills and lack of IT professionals available in government organizations should be considered as critical issues. Therefore, government of Sri Lanka has to invest in providing a proper training to existing employees in government organizations specially where there are e-government systems has been already implemented. Further, the government of Sri Lanka should take necessary steps to recruit qualified IT Professionals to manage as well as to provide necessary consultancy services required to improve the efficiency of e-government services. The delivery of the services of e-government projects is mainly driven by the employees of the government organizations.

Therefore, the quality of the service provided by e-government projects mainly depends on the attitudes of the employees in the organization. To maintain the e-government systems properly and to provide better service using e-government systems to the citizens, it is required to invest in conducting training sessions, seminars and workshops to change the negative user attitudes and develop the positive attitudes of employees in the government sector.

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