

# Chapter 15

## A Risk–Based Audit Model for Improving the Success Rates of E–Government Project Implementation

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### **ABSTRACT**

*This study develops a model to help improve the success rates of e-Government projects. In recent years, several e-Government studies have identified many challenges of e-Government initiatives and the critical success factors of such initiatives. Regular audit reviews of project performance provide cost-effective minimization of risks by providing information to management and by helping to take corrective actions in order to ensure a successful project outcome. Despite the potential contributions of audits and risk management to minimize project failure, e-Government and public administration research pay little attention to risk-based project implementation and the specific methods needed to mitigate project challenges. Based on the assumption that project risks are inherent in all phases of the project lifecycle in various dimensions and levels of significance, and that for public sector projects, these risks manifest in four broad categories - stakeholder, institutional, technical and project management risks - the model developed in this research uses a risk-based audit approach to project implementation to provide a comprehensive and methodic tool to systematically improve the success rates of project implementation.*

### **1. INTRODUCTION**

Digitizing public administration entails implementation of many e-Government projects with high potentials for developing better services for citizens and for transforming government structures (Irani et al., 2007). However, many e-Government projects are characterized by large size and high complexity, which may contribute to project failures (Gil-Garcia & Pardo, 2005; Shah et al., 2011). One approach to prevent e-Government project failures is to conduct regular and methodological audits in order to

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identify, report and recommend improvements. An audit seeks to discover deviations from accepted standards and instances of illegality, inefficiency, irregularity and ineffectiveness early enough to take corrective action, to hold violators accountable, and to take steps to prevent further losses (Mikesell, 2007). In general, information technology (IT) audits play a crucial role in effectively and efficiently managing IT in a public organization.

From e-Government project perspective, regular audit reviews of project performance provide cost-effective minimization of risks by providing information to management and by helping to take corrective actions in order to ensure a successful project outcome. This implies the need for continual audit reviews of on-going e-Government projects to offer independent perspective from the standpoint of efficiency and risk management in order to ensure that such projects are completed timely, within budget, according specification, and meet stakeholder expectations. Despite the potential contributions of audits and risk management to minimize project failure, e-Government research pays little attention to audit reviews and risk-based project implementation. Although several e-Government studies (e.g. Heeks, 2003; Pardo & Ho, 2004; Gil-Garcia & Pardo, 2005) have identified many challenges and critical success factors of e-Government initiatives, the specific methods needed to mitigate these challenges and translate the critical success factors into reality have been largely ignored in public administration research. The purpose of this study is to develop a theoretical model that can be applied to help improve the success rates of e-Government projects. The model uses a risk-based audit approach to project implementation for continual reviews of project risks across project lifecycles.

For the purpose of this study, a risk-based audit approach to project implementation entails the development and application of a risk assessment model and an audit framework that helps to identify, analyze and manage the risks inherent in the project, on continual basis, and to provide recommendations for corrective actions in order to ensure a successful project outcome. Project risk is defined as the chance of something happening that will have adverse impact on the accomplishment of the project objectives. Through effective risk assessment, regular audit reviews and tailored recommendations, good e-Government project teams should be able to manage risks to enhance the chances of project success. Risk assessment is done by determining the likelihood of the risk occurring and the significance of the impact in order to develop and implement risk mitigation strategies for successful implementation. The goal is to apply project management methods in direct relation to an assessment of the potential risk of the project. Therefore, projects with high risk demand more rigorous application of project management methods (Wirick, 2009). For high risk e-Government projects, there are tools and techniques that project managers and their teams can use to understand and manage project risks. These include a bottom-up analytical approach known as Failure Mode and Effects Analysis (Wang et al., 2009) and a top-down approach called Fault Tree Analysis (Sutton, 2007). Another assessment named the Probabilistic Risk Assessment integrates information from these two approaches and other sources to assess the potential for failure and implement risks mitigation strategies.

The model developed in this paper assumes that project risks are inherent in all phases of the project lifecycle – initiation, planning, execution, monitoring and control and implementation. Additionally, it assumes that for public sector projects, these risks manifest in four broad categories – stakeholder, institutional, technical and project management risks, and that these categories of risk are present in various levels of significance across the project lifecycle. Furthermore, the model assumes audit representation on project teams, as independent examiners, to help reduce project risks through continual project improvement reviews. Finally, it assumes e-Government project risks are interrelated and bidirectional. For the purpose of this model, stakeholder risks are those posed by individuals and organizations such as senior

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