E-Government Project Evaluation: A Balanced Scorecard Analysis

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ABSTRACT

Due to the large amount of investment in e-government projects, a series of e-government project performance evaluation index systems with strong maneuverability and synthesis are come up with to pilot sound development of e-government. It is one’s responsibility to reconsider giant projects and update knowledge about it. This paper is mainly talking about the construction of e-government projects performance evaluation from the view of financial, user, internal process and learning and growth which are the core elements of the balanced scorecard. Using AHP to calculate the weight of each index and figure out the final score of a project. After analyzing the weaknesses of AHP, the method of minimum range and GA is put forward to prefect some weight values and make the appraisal result more impersonal and convincing.

KEYWORDS

AHP, Balanced Scorecard, E-Government, Genetic Algorithm, Performance Evaluation

INTRODUCTION

E-government considerably promotes national economic development and social stability. Related to state secret information and highly sensitive core public affairs, e-government also involves the implementation of national public policy execution, providing transparent, fair and public services. However, e-government projects are not always satisfactory. UN believes e-government projects in developing countries have a 60% to 80% failure rate (UN, 2003). The significance of e-government construction makes performance evaluation get more attention. Decades of years have witnessed China’s e-government projects investment (Yuan et al., 2013), and it was agreed that overall performance of e-government projects are under the expected.

The present situation of e-government performance evaluation in China can be summarized as the following three aspects:(1) Leaders are striving to use e-government as an engine for economic development. For this reason, the understanding of gaining healthy e-government projects has become deeper which is badly in need of available performance evaluation system (Sun, 2009). (2) E-government performance evaluation is inconsistent with e-government in their development stages. China has invested billions of dollars in the modern informatization projects even transcending some developed countries in some extent. Nevertheless, the absence of a set of universal standards and specifications hampers process of performance appraisal. (3) Some provinces and cities in China have explored effective paths of e-government performance spontaneously and disorderly such as Guangdong, Lanzhou and Anhui, etc. (Song & Guan, 2013). Acted as a guiding role, e-government performance evaluation aims to encourage good behavior. Effective assessment in regions and departments can help and support government control the picture of application and maintenance.
status, collecting successful experience of e-government planning, construction, operation and management. Meanwhile, problems are discovered to reach higher goal. Through synthetic evaluation, it is our destination that enhances the cognition about e-government and accelerates development with consensus. High-investment, high-yield and high-risk are the basic elements of e-government. It is obvious that we should manage and estimate the whole life cycle of e-government projects which include planning, construction, operation and maintenance. As modern management master Peter F. Drunker says, the classic concept of “cannot be measured, cannot manage” determines the necessity of e-government performance evaluation.

This paper is mainly devoted to establishing performance evaluation index system of e-government projects in China based on the four dimensions of the balanced scorecard and the usage of AHP (Analytic Hierarchy Process) to calculate weights of each index. Due to some shortcomings of AHP, it is possible to take advantage of a method about minimum range on account of GA (Genetic Algorithm) to better the importance of some indexes, which makes overall evaluation more objective and accurate.

RELATED WORKS

E-Government Performance Evaluation

Western developed countries have been seeing a start to e-government performance assessment, and there are many international organizations, research institutes and consulting firms that carrying out appraisal work since 2001 (Qin & Liu, 2013). Given the high failure rate of e-government, they had conducted plenty of studies. The United Nations Department of Economic and Social Affairs put forward e-government indexes to measure e-government development level of a country or a region concerned government website construction, infrastructure conditions and human resources. In 2003, they took E-government Readiness Index and E-government Participation Index as the primary index, investigating 191 countries and regions about their electronic government process (Qiu & Liu, 2013., Lei & Jiang, 2006). The OECD treats Good Governance as a standard to measure the output of the electronic government affairs, including legality, the rule of law, transparency, in charge of willful, integration, efficiency, consistency and adaptability, participation and consultation. International Development Centre of Harvard University has carried out a study of e-government performance evaluation which consists of Network Use and Enabling Factors (Lei & Jiang, 2006). Jersey University and Sungkyunkwan University attaches importance to security/privacy, public participation, and online service, etc. (Lei & Jiang, 2006). Brown University has been releasing global e-government assessment reports since 2001, focusing online information, service delivery and public access, etc. (Brown University, 2007). The consulting firm Gartner appraises the effectiveness of a country’s e-government project from three aspects covering public service level, operational efficiency and political gains (Lei & Jiang, 2006). TNS pays attention to development degree, application degree, population coverage, personal privacy and information security when conducting an evaluation while Accenture employed Overall Maturity (OM) to assess the development level of e-government which contains Service Maturity and Customer Maturity (Qin & Liu, 2013., Accenture, 2003). IBM research centre (Stower, 2004) comes up with the idea of input, output and outcome which has been welcomed generally by the academia. These indicators evaluation system are the inevitable products with the evolution of e-government performance evaluation with cons and pros. But every single model has specified objects and circumstances. It is supposed to consider that special values of them should be excavated. In China, the evaluation work of e-government projects is primarily in charge of the government departments, such as Ministry of industry and information technology, National Audit Office and related authorities. In recent years, the third party intermediary can be treated as an emerging force to take part in the evaluation process. For example, in 2014, Guangzhou city municipal government called for tenders (third-party professional organizations) to carry out the e-government performance evaluation work in Guangzhou city.

The concept of citizen satisfaction is well received. From a Citizen Relationship Management (CiRM) perspective, Tavana et al. assessed a community ’s overall e-government readiness (Tavana
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