## Chapter 16

# IT Progress Stage and Management Level Growth in Local Governments: The Modeling of the Japanese Government Using Empirical Surveys

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### **ABSTRACT**

This chapter considers the management of local governments in a growing information society. We high-light two proposed models for the management of local governments. The first model is the IT progress stage. This stage considered the previously published literature. The second model is the management level model. This model indexed the appearance of management activities learned from an original empirical survey completed in 2009. We analyzed the relationship between the IT progress stage and the management level model. Thereafter, we proposed a common progress stage model for local governments.

### INTRODUCTION

Since 2001, local governments in Japan have been showing strong progress in e-transformation, in accordance to the e-Japan strategy (Prime Minister

of Japan and his cabinet, 2001). As a result, the infrastructure of Information Technology (IT) has spread and citizens have become frequent users of Information and Communication Technology (ICT). Although the use of ICT has spread, there

DOI: 10.4018/978-1-60960-839-2.ch016

is little system satisfaction among the citizens of Japan. Therefore, improvements and initiatives are required for the future of ICT. Citizens also require an approach that promotes the use of local resources and provides security within a changing society.

With an increasing number of tasks, local governments are faced with significant management problems. Local governments are managed from the optimization of one part of an activity as well as all local government activities. However, it is difficult to define the management of local government in a changing society. Therefore, a management level model for real local activities is required (Anttiroiko, 2003; Kubo & Shimada, 2007; Shimada & Ushida, 2003; Kubo & Shimada, 2008a; Kubo & Shimada, 2008b).

Previous studies have proposed several IT progress stages for local governments. These studies consisted of empirical surveys or case studies. Since e-transformation is a current topic in management issues, the above research methods are effective. Thus, the use of these previous studies will be appropriate in our research.

In this study, we focus on newer issues in management activities based on the IT progress stage. We discuss this premise by using empirical surveys as follows: First, the background of this study is described, showing the framework of the analysis. We denote the IT progress stage from our previous empirical surveys. Next, we verify the validity of the stage model. The other model for management level is discussed, using our empirical survey under the following categories: organization reform, personnel training, life safety, and regional brands. For these four categories, we create a level model by the index of difficulty of the questions in our empirical survey. We show progress directions for these four categories and compare them to the IT progress stage. We indicate the relationship between the IT progress stage and management level model to improve the service in an advanced information society. Furthermore, we discuss the common characteristics of progress models, which we hope will assist in the management of local governments. Finally, we show the impact that our research could have on local governments.

### BACKGROUND

IT effects major changes to many activities and many situations. It has especially altered the management of most corporations and organizations, recently including the management of local governments.

The Ministry of Economy, Trade and Industry in Japan has defined the e-transformation stage of corporations. This is composed of four stages. The first stage is "the introduction of electronic computers". The second stage is "e-transformation of business". The third stage is "optimization of corporate process". The fourth stage is "cooperation, integration, and standardization outside the corporation" and "optimization of communications". The first and second stages are called the stages of the sub-optimization (implementation rate is 65.8%). The third and fourth stages are called the entire optimization stage (implementation rate is 34.2%).

In corporations, e-transformation occurs in the individual business to the complete organization. Furthermore, it has changed to e-transformation of the business between organizations. The local government also has been subject to change from sub-optimization, like individual administrative services such as ledger management and call center installation, etc., to complete optimization such as BPR. These changes include web technology, ICT, and new activities involving citizens and government officers.

ICT has had a significant impact on advanced IT societies. In Japan, most citizens have mobile phones and can access the Internet at home and in their offices and schools. People are able to exchange a great deal of information, resulting in a more interactive society. ICT growth provides

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