



## Chapter 14

# Utilization and User Satisfaction in End-User Computing: A Task Contingent Model

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*There has been much controversy regarding the relationship between utilization and user satisfaction. Moreover, conflicting empirical results on that relationship have been reported. Based on the information processing view, a new, alternative model which can resolve this conflict is suggested. The model includes the congruence of task uncertainty and utilization and the contingent effect of task uncertainty on the relationship between utilization and user satisfaction in the context of end-user computing (EUC). This new model is moderately supported by an analysis of data obtained from 134 end-users in 16 Korean business organizations. The results imply that we should pay attention to the fit between task uncertainty and utilization to promote user satisfaction. The results also provide a framework which resolves the inconsistent relationship between utilization and user satisfaction. Implications and future research directions are drawn for further research on MIS and EUC and for the management of EUC.*

Utilization and user satisfaction have been used most extensively as the dependent variable to surrogate IS success (Amoroso & Cheney, 1991; Igarria & Nachman, 1990). These two variables are also the primary measures of success in the study of end-user computing (EUC) (Ein-Dor & Segev, 1982; Schiffman et al., 1992). Taking these two variables into consideration, two issues prompt concern: the adequacy of them as surrogate measures and the relationship between them.

As a surrogate measure for IS success, utilization is an excellent measure in that it is

more objective and easier to quantify than any other measures identified (DeLone & McLean, 1992). However, it has been argued that utilization is appropriate only when such usage behavior is voluntary (DeLone & McLean, 1992; Gatian, 1994). Researchers who insist on this argument have generally adopted the user satisfaction approach. User satisfaction instruments, however, have a significant problem in that they rely solely on cognitive dimension (beliefs about characteristics of a system) and affective dimension (attitudes towards a system or towards using a system) of IS success without accounting for the performance-related dimension (performance-related goals for which systems are designed) (Etezadi-Amoli & Farhoomand, 1996). In spite of weaknesses of these two measures, utilization and user satisfaction are the most frequently proposed alternatives.

In this chapter, the relationship between the two constructs is our primary concern. There has been inconsistency on that relationship. In addition, conflicting empirical results lead to the conclusion that the relationship may need further investigation (Igarria & Nachman, 1990). Based on the information processing view, we make an effort to resolve this perplexing issue. A task contingent model to clarify the relationship between them is suggested and empirically tested in the context of EUC.

The information processing view of organizations is that organizational effectiveness is a function of the fit between the information processing requirements and the information processing capacity of the organization (Tushman & Nadler, 1978). In the context of EUC, the information processing requirements are largely determined by end-users' task uncertainty. In order to increase information processing capacity, one of the most important mechanisms is to invest in information technology (Ghani, 1992). At an individual level, end-users are able to increase their information processing capacity by being involved in EUC activities, which can be represented objectively by utilization measures. Task uncertainty, therefore, would be closely associated with utilization. And user satisfaction depends to some extent on the match between task uncertainty and utilization. In this perspective, we can argue that the match between task uncertainty and utilization is more important than the simple increment of utilization.

In summary, the purpose of this chapter is to suggest a task contingent model clarifying the relationship between utilization and user satisfaction. Based on empirical data, this study examines the model: the direct relationship between task uncertainty and utilization, and the moderating effect of task uncertainty on the relationship between utilization and user satisfaction.

## **THEORETICAL BACKGROUND**

### **End-User Computing**

In defining EUC, Rivard and Huff (1985) attempted to be more definitive by distinguishing between user developed applications (UDA) and the much broader set of activities termed EUC. Sipior and Sanders (1989) defined EUC as the development and use activities associated with the employment of computer resources to perform or facilitate job-related tasks and responsibilities. This study defines EUC more broadly as the direct, individual use of computers encompassing all the computer-related activities, by non-DP professionals, to accomplish or facilitate one's job (Rainer & Harrison, 1994; Sipior & Sanders, 1989; Doll & Torkzadeh, 1989; Ein-Dor & Segev, 1991). And this study defines end-users as the non-DP professionals who use and sometimes develop and manage computer-based applications to support their work in functional areas (Alavi, 1985; Benson, 1983; Sipior & Sanders, 1989;

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