



Chapter 8

Exploring the Measurement of End User Computing Success

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As end user computing (EUC) becomes more pervasive in organizations, a need arises to measure and understand the factors that make EUC successful. EUC success is viewed as a subclass of organizational information system (IS) success, having distinct characteristics that distinguish it from other sources of organizational computing success. Namely, the success of applications developed by the information systems department (ISD), software vendors, or outsourcing companies. The literature shows that despite the volitional nature of end user computing, end user satisfaction is the most popular measure EUC success. Moreover, despite known limitations reported in the literature, self-reported scales are the instruments of choice by most researchers. This paper explores the literature on EUC success measurement and discusses the main issues and concerns researchers face. While alluding to the difficulty of devising economic and quantitative measures of EUC success, recommendations are made including the use of unobtrusive measures of success, take into account contextual factors, use well-defined concepts and measures and seek a comprehensive integrated model that incorporates a global view.

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End user computing, defined as the optional development of computer applications and models by personnel outside the MIS department (Brancheau and Brown, 1991), is an important issue for IS executives (Niederman et. al., 1991; Watson and Brancheau, 1991). The emergence of EUC can be traced to the proliferation of microcomputers, increased organizational computing needs, more sophisticated user application development tools and higher computer and information literacy among staff and professional workers. Actual and invisible backlogs that could not be satisfied by the information systems department served as a catalyst to this trend. But, has IT investment in EUC been successful? Has the proliferation of microcomputers in organizations truly enhanced productivity, effectiveness and competitive advantage?

The answer to these questions should be seen in the context of overall computing success within the organization. A model showing subsets of organizational computing success and characteristics of application development within divisions or organizational computing is shown in Figure 1. The figure shows that overall organizational IS success is a conglomerate of end user developed applications (EUC success), information systems department (ISD) developed applications (ISD success), vendor off-the-shelf applications (vendor success), and applications developed by outsource companies (outsource success).

End user computing applications are usually developed with a great deal of freedom, using less standardization and control than ISD and vendor supplied applications. They often solve individual or departmental problems and are low risk but lack integration with other organizational systems. An organization's IS application's portfolio will be characterized by one or many intensities of each source of application development depending on the organization's IS acquisition strategy. The role of general management is to optimize the success of the application development mix by attempting to maximize the success of each component within the constraints of the organizational environment.

Measurement

Centuries ago, sailors would measure their speed and progress on the sea without the aide of a global positioning system. With a rope of evenly tied knots, the slow release of the rope into the water would give a measure of speed. It was a satisfactory measure of their progress toward their goal at the time. A captain, assuming he knew how to navigate, could judge progress by simply calculating the distance traveled. In the very early days of computing

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