



Organizational Actions, Computer Attitudes, and End-User Satisfaction in Public Organizations: An Empirical Study

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This paper reports the results of a field study that investigated the relationship among organizational actions (management advocacy and internal computing support), computer attitudes, and end-user satisfaction in public organizations. The results show that computer attitudes have a positive direct influence on end-user satisfaction. The findings also reveal that management advocacy has positive direct effects on computer attitudes and end-users satisfaction. Internal computing support, however, failed to show a significant effect on neither computer attitudes nor end-user satisfaction. We discuss these results and suggest directions for practice and future research.

INTRODUCTION

Information systems (IS) scholars have examined various issues related to the role of information technology (IT) in the public sector (e.g., Aggarwal and Mirani, 1999; Bozeman and Bretschneider, 1986; Bretschneider and Wittmer, 1993; Byrd and Marshall, 1997; Jain, 1997; Nidumolu, Goodman, Vogel, and Danowitz, 1996; Otten, 1989; Seneviratne, 1999; Ugbah and Umeh, 1993). Most of this research discusses organizational-level issues of computing in public organizations. Past IT research reveals that limited attention has been paid to end-user computing (EUC) in public administrations. Thus, if public managers are to keep pace with the challenges of their jobs, more effort must be made to understand individual-level computing issues in government.

User satisfaction is, undoubtedly, the most widely used surrogate of computing success (Gelderman, 1998). DeLone and McLean (1992) numerated three reasons for this popularity. First, user satisfaction has high face validity. Second, the available instruments used to measure other success dimensions (e.g., quality) are so poor that nobody will employ them. Finally, many instruments exist to measure user satisfaction. Doll and Torkzadeh (1988), after reviewing the information satisfaction literature, conceptualized the end-user satisfaction construct and developed a twelve-item instrument to measure it. The authors used responses from six hundred and eighteen end-users to test the instrument. Later, Doll and

Weidong (1997) cross-validated the twelve-item instrument using confirmatory factor analysis, and they showed that the instrument is robust. We will adopt the end-user satisfaction construct and the instrument developed by Doll and Torkzadeh (1988) for the purpose of our study.

Since our study is exploratory in nature and represents an early attempt to examine end-user satisfaction in the public sector, we developed a *basic* model of the factors affecting satisfaction at the individual level. Lacking a priori reasons for why these factors will differ from those factors affecting satisfaction of individuals in the private sector, we chose to study three highly significant determinants of end-user satisfaction, i.e., computer attitudes, management advocacy, and internal computing support. Previous research in private organizations has identified computer attitude as a very important predictor of end-user satisfaction (e.g., Amoroso and Cheney, 1991; Hiltz and Johnson, 1990; Igarria and Toraskar, 1994; Rivard and Huff, 1988). Further, a number of empirical investigations have noted the importance of such organizational action variables as management advocacy and internal computing support for creating favorable attitudes towards computers and user computing success (e.g., Abdul-Gader, 1990; Amoroso and Cheney, 1991; Govindarajulu, 1998; Igarria and Chakrabarti, 1990; Lucas, 1978; Mahmood and Swanberg, 1999; Mirani and King, 1994).

The main purpose of this paper is to examine empiri-

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cally some of the factors affecting end-user satisfaction in the context of public organizations. More specifically, we will try to answer the following two broad questions: (1) What is the impact of computer attitudes on end-user satisfaction? and (2) What is the impact of organizational action variables (management advocacy and internal computing support) on computer attitudes and end-user satisfaction?

PUBLIC VERSUS PRIVATE ORGANIZATIONS

The premise of this paper is that public and private organizations are not alike, hence, EUC environments in the two sectors may not be identical. We believe this is because fundamental differences exist between public and private sector organizations. Organizations operating in the two sectors differ in terms of incentive, operation, structure, personnel management system, and technology assimilation. There are many other differences as well (Aggarwal and Mirani, 1999; Bretschneider and Wittmer, 1993; Kernaghan and Siegel, 1991; Starling, 1993). The mission of a private organization is to serve and please its internal and external customers who provide all types of support to the organization in order that it makes a profit. This may not be the case in a public organization. It usually operates less efficiently than does a private organization. In terms of structure, unlike the case in a private organization, the responsibility and authority in a public organization are unclear. Additionally, in a public organization, the personnel management system is much more complicated than that of a private organization. According to Kernaghan and Siegel (1991, pp. 8-9), "the merit system of hiring and promoting employees [in a public organization] includes several criteria that go well beyond the idea of technical efficiency." Finally, the empirical evidence also shows that a significant difference exists between private and public organizations in terms of the propensity towards IT assimilation (Aggarwal and Mirani, 1999; Bretschneider and Wittmer, 1993).

Based on the above, it is evident that there are differences between private and public organizations. However, so far "much of the empirical research in the area of information technology and its impacts on organizations has occurred in the private sector. Unfortunately, there has not been much empirical research in the public sector..." (Seneviratne, 1999, p. 48). In addition, available research on IT in the public sector falls short of assigning equal attention to the critical issues facing IT managers. Next, we review IT in the public sector.

IT IN THE PUBLIC SECTOR

Public administrators encounter a variety of critical IT issues. These issues range from organizational-level concerns such as managing IT resources in public administrations to more specific individual-level concerns like meeting

the computing needs of individual workers. Whether we are addressing organizational or individual IT issues, it is safe to agree that, based upon empirical evidence, public managers need assistance from information systems researchers in the form of practical guidelines.

The organizational experiences of the private sector is of limited relevance to the design and implementation of public information systems due to the dissimilarity in issues related to IS management in public and private sectors (Jain, 1997). Hence, information systems scholars have specifically attempted to shed light on the various issues related to the role of technology in the public sector. However, most of this research discusses organizational-level issues of computing.

A number of attempts have been made to examine organizational-level issues of computing in public organizations. Some information systems researchers, for example, examined the value of IT investments in public organizations (e.g., Byrd and Marshall, 1997). Others studied the efforts to balance the need of managers for information with the responsibilities of organizational control (e.g., Ugbah and Umeh, 1993). Another group of information systems scholars (Nidumolu et al., 1996) explored the ability of political, social, and functional perspectives in understanding the outcomes of IS projects during the different project phases. Other researchers (e.g., Otten, 1989) examined the challenges related to the information systems environment for public administration. Moreover, information systems researchers examined the role of the capabilities of IT in strengthening organizational coordination and cooperation (e.g., Gibson and McDonough, 1996) and in preparing public managers to meet the evolving challenges of their future careers (Granger and Lippert, 1998). As a result, public managers can find some guidelines in the literature that will help them face organizational-level computing challenges.

Unlike the attention paid to organizational-level issues of computing in public organizations, inadequate attention has been paid to studying the individual-level issues. The study by Aggarwal and Mirani (1999) is an exception. The authors explored DSS model usage in public and private organizations and found differences between the two types in terms of model usage, modeling techniques, and applications. Nevertheless, the issues of organizational actions, computer attitudes, and end-user satisfaction in public organizations have not attracted enough attention from IS researchers. This unfortunate situation leaves public managers lacking the help needed to deal with these critical individual-level computing issues. We will try to fill this gap in the present study.

RESEARCH MODEL & HYPOTHESES

Overview of the Research Model

The models by Amoroso and Cheney (1991), Lucas (1978), and Rivard and Huff (1988) provide the theoretical support for the present paper. The Rivard and Huff (1988)

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