COMPUTER SYSTEMS IN SMALL PROFESSIONAL ORGANIZATIONS: A DISCRIMINANT MODEL FOR DETERMINING SUCCESS FACTORS

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This study reports on an empirical investigation of determinants of success for small professional organizations (physicians, accountants, lawyers, etc.). The purpose of this study is to identify factors that could affect the successful acquisition and use of computer systems in small professional organizations. Results indicate that 80.5% of the sample firms were correctly classified as successful or less-than-successful using variables such as estimated savings as a result of the computer system, total assets, net income, the number of vendors considered before the system was purchased, the number of computer system employees, post installation time by vendors, and the cost of maintenance.

The availability of small computer systems in the marketplace at relatively reasonable costs has presented today’s small business owner with many problems as well as opportunities. These “inexpensive” small computer-based systems are advertised as “the” machines that can ensure complete automation of records (financial, inventory, and other) for small business and professional organization decision making.

This is especially the case for small professional organization (SPO) owners who need inexpensive systems (as compared to additional personnel) to maintain day-to-day operations. (SPOs are defined as those small businesses having a few employees, typically somewhat less than fifty and usually providing a professional service, for example, Public Accountants, Physicians, Lawyers). Accordingly, information regarding factors that could lead to successful acquisition, implementation, and utilization of computer systems would be valuable to SPO owners. The objective of this study is to analyze successful and less-than-successful SPOs and their computing systems to identify success factors.

A central research concern continues to
be the identification of factors that influence successful acquisition and use of computers in small businesses and SPOs. Ein-Dor and Segev (1978) identified organizational variables that could influence such success. Among those included were organizational size and structure and organizational resources. Studies that address the measure of quality and effectiveness of computer systems in businesses do exist, but only a few (Montazemi, 1988; Raymond, 1985; Raymond and Magnenat-Thalmann, 1982) investigate small businesses.

Information systems research has increased its focus on small computer systems and personal computer systems in businesses. Relevant research has concentrated on personal computers (Guimaraes and Ramanajam, 1986) and acquisition and selection (Burnet and Nolan, 1975; Dologite, 1981; Edstrom, 1977; Lipsher, 1979; Microcomputers, 1983; Neumann and Segev, 1980; Stiefel, 1981) as well as measures of quality and success, and the use of computers in small businesses. Many studies on quality involving field experiments began as a result of an article by King and Rodriguez (1978). Subsequent research has focused on success in development (McKeen, 1983; White and Leifer, 1986), user involvement (Hirschheim, 1985; Ives and Olson, 1984; Olson and Ives, 1981; Robey, 1979), end-user computing (Cheney, Mann, and Amoroso, 1986; Rushinek and Rushinek, 1986), and effectiveness of systems (usage and user satisfaction) (Bailey and Pearson, 1983; Baroudi, Olson, and Ives, 1986; Baroudi and Orlowski, 1988; Ives, Olson, and Baroudi, 1983; Srinivasan, 1985).

DeLone (1981) studied the relationship between size and organizational characteristics of computer use. He suggests that size makes a difference since small businesses face different problems. He also suggests more research in small business computer systems. Raymond (1985) and Raymond and Thalmann (1982) address success of computer systems in a small business context. The 1982 study (Raymond and Magnenat-Thalmann, 1982) indicated no differences between computerized and noncomputerized small firms in the importance to managers in various decision problems and information satisfaction.

The 1985 study by Raymond (1985) explored the organizational characteristics of computer usage which are associated with success. Using a sample of small businesses in the Province of Quebec, he finds that success seems to increase as the degree of sophistication (number and type of application) increases. In addition, allowing users to be more autonomous in development, operation, and utilization appears to indicate greater success. Cheney, Mann, and Amoroso (1986) in a 1983 study measured success and attempted to identify reasons for failure. They suggested that successful implementation depends on the design of programs, the number of hardware problems, and the process of implementation.

A 1988 article by Montazemi reports on an investigation of determinants of Computer-Based Information Systems (CBIS) success in small businesses. Results indicate that end user satisfaction is correlated with the number of systems analysts, degree of analysis of information requirements, level of participation, and end user level of literacy. In addition, the study reports that decentralization tends to create a need for more effective CBIS.

Recent small business studies concentrate on larger small businesses without regard to SPOs and do not emphasize the organizational resources (financial characteristics) or the computer acquisition characteristics of the firm. As a
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