MICROCOMPUTER IMPLEMENTATION IN SMALL BUSINESS: CURRENT STATUS AND SUCCESS FACTORS

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An empirical study of microcomputer implementation in small businesses found only 27 percent of businesses contacted were using microcomputers. For the user group, applications and microcomputer management activities did not reflect sophistication. Planning, acquisition and user knowledge were found to be statistically related to system satisfaction.

Small businesses in the United States are extremely important as they employ 55 percent of the nation’s workforce, produce 55 percent of all innovations and account for 38 percent of the nation’s Gross National Product (Baumback, 1981). The failure rate among this economic sector is enormous. Baumback indicates that one of five fails within the first year of operation and two of three fail within seven years. Wyant and Duncan (1983) observed that half the businesses that fail were less than five years old.

With the advent of microcomputers, the small business now has access to a tool that can provide capabilities in areas where management may lack expertise. Both reasonably priced and easy to use, almost any business can now enjoy the advantages associated with computerized information systems (Kolowich, 1986). Principal benefits include; faster billing of customers, accuracy of customer statements, better control of inventory, more timely reports, and better management information (DeLone, 1982).

Small businesses wishing to computerize are faced with numerous problems. Lacking extensive computer knowledge, the manager may encounter difficulty selecting the proper hardware and software, acquiring it at the best price, planning for proper implementation, oper-
ating it effectively, and properly assessing its performance (Cheney, 1979; Cohn and Lindberg 1982).

Despite its importance, little empirical research (see below) has been done to assess the small business experience with microcomputers (Cochran, 1981). It appears doubtful that research on large computer systems can lead to a meaningful understanding of what is taking place in small businesses (Ein-Dor and Segev, 1978).

**Previous Research**

Haugen (1981) surveyed 31 small businesses in the Midwest. Her findings included that sixty percent used computers. Note: her study was not restricted to microcomputers although she did find they were being used. She also discovered that nearly all bought rather than leased their equipment and IBM was the predominant vendor. Not surprisingly she found Accounting to be the dominant application. Consultants wrote 33% of the programs and BASIC was the primary small business computer language.

Newpeck and Hallbauer (1981) concluded from their research that too many small firms rely on a single outside technician to totally complete their computer system project, thus increasing the risk of later problems.

In another study, DeLone (1983) examined factors associated with successful system implementation. He drew two major conclusions: The success of small business computer operations is directly related to the knowledge and involvement of the chief executive and the type of computer, its on-site location, and computer planning and controls, when combined, are positively related to success.

A study by Lees and Lees (1987) of 400 small businesses found that practices among small businesses varied widely, some following recommended procedures for implementation, while others (the majority) were lacking a formal systems plan. Baker (1987) conducted inter-

views at 40 small industrial firms. He concluded that while progress was being made in computerizing small business operations, more needs to be done, including the training of high level managers and the assignment of clear authority and responsibility for information systems needs.

Finally, Nazem (1989) in his survey of small Businesses in Nebraska notes that substantial progress in computerizing is evident in small business and this trend should continue. He further relates that the limited applications he found suggests that small businesses are still in the initial stages in computer utilization and indicates that a diversity of application, showing that they are comfortable with computer technology will occur.

**Research Methodology And Design**

Drawing on variables suggested in the literature, an overall model of successful computer implementation was constructed. This simplified model as shown in Figure 1 provides a framework for data acquisition and analysis but ignores the interactions between the dependent variables. The model suggests that successful

*Figure 1: Satisfaction Model for Controllable Variables*
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