INTEGRATION OF MICROCOMPUTERS INTO THE ORGANIZATION: A HUMAN ADAPTATION MODEL AND THE ORGANIZATIONAL RESPONSE

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As organizations in business and industry continue to acquire microcomputers in increasing numbers, it is becoming apparent that achieving the increases in productivity purportedly associated with microcomputers has not been as easy as some may have anticipated. This paper suggests that to realize the maximum potential of microcomputers at the firm level, it is necessary first to ensure successful incorporation of microcomputers into tasks of employees at the individual level. Organizations have not done enough toward this end, and the result has been the lack of a smooth integration of microcomputers into the organization. With the goal of improving the productivity of microcomputers in the organization, this paper provides a model to explain the individual’s response to the introduction of microcomputers into the organization and discusses possible contributors to dysfunctional development. A framework is developed to explain a subset of individual and organizational variables that contribute to successful and productive adoption of microcomputers in the organization.

The recent growth and rapid diffusion of end-user computing (EUC) throughout organizations has been viewed with great interest within the management information systems (MIS) discipline (Mackay and Lamb, 1990). As individuals within organizations assume a larger and larger share of computing responsibilities and activities, the importance of a smooth transition to an integrated, productive microcomputer function within the firm increases. Much work has been done on the need for management control of EUC (Alavi and Weiss, 1986; Dickson, et.al, 1984; Guimaraes and Ramanujam, 1986; Pyburn, 1987; Rockart and Flannery, 1983), and some work on ways and means (Alavi and Weiss, 1986; Cheney, Mann and Amoroso, 1986; Leitheiser and Wetherbe, 1986). Research on specific training methods for end users has begun to appear (Mackay and Weaver, 1990; Mackay and Lamb, 1990). Many other studies to date focus on management issues from an overall perspective, but do not reach the level of the individual user. With the goal of
improving the productivity of microcomputers in the organization, this paper provides a model to explain the individual’s response to the introduction of microcomputers into the organization and discusses possible contributors to dysfunctional development. A framework is developed to explain a subset of individual and organizational variables that may contribute to successful and productive adoption of microcomputers in the organization. In addition, the model and the framework suggest directions for future research efforts at the individual and organizational levels.

**Literature Review**

**Background**

Since the appearance of Rockart and Flannery’s (1973) classic article illuminating the EUC concept, EUC has become a vital concern to managers in business organizations (Dickson, et al., 1984; Branch, and Wetherbe, 1987). Methods of achieving smooth integration into the organization are still evolving, and the lack of productivity increases and inadequate management control characterize many organizations as they strive for this smooth integration (Thor, 1988). Data on productivity increases due to microcomputer adoption is sparse, but many authors agree that the forecast productivity increases associated with microcomputer use in organizations have not been forthcoming (Bowen, 1986; Thor, 1988). Plenart (1987) indicates that one-third of the microcomputers that are in business organizations are being used for the purposes for which they were purchased; one-third are being used in functions unrelated to that for which they were purchased; and one-third are not being used at all. Bowen (1986) affirms that underuse of microcomputers, and the existence of unused (or “dusty”) microcomputers in organizations, has contributed to the suggested failure of microcomputers to improve productivity. Jenkins (1988) suggests that obvious productivity gains come from automating the previously manual processes associated with transaction processing, but that the soft benefits associated with other areas in which microcomputers are used are difficult, if not impossible, to measure.

Compounding the problem of realizing productivity gains and establishing management control strategies are the ambivalent attitudes of many executives towards microcomputers and their potential benefit for the organization as a whole. Pyburn (1987) reports the comment of one insurance company president who stated that personal computers are a “snare and a delusion”, and do not produce measurable results. In addition, Pyburn reports, the president felt that microcomputers distracted employees from their major responsibilities and did not contribute to the overall success of the firm. Pyburn also mentioned that, at the other extreme, some executives feel that a microcomputer is like a telephone: everyone should have one without having to justify it on a cost/benefit basis.

**Productivity and Management Control**

Productivity and management control concerns are clearly seen in recent studies that address various facets of EUC. These will be mentioned and then positioned into a framework that presents an overall view of EUC. That framework is then used to focus the thrust of this study, which focuses in more detail on concepts contained therein.

Brancheau and Wetherbe (1987) point out that although the proliferation of microcomputers has the potential of increased productivity, it also presents risks due to poor management control. Management must learn to balance control of EUC with support of innovation and learning. This balance is slow in coming, and training support is lacking in many organizations (Guimaraes and Ramanujam, 1985). Mackay and Lamb (1990) state that end users need training to use software effectively. Nelson and Cheney (1987) reaffirm both the necessity for end-user training and the lack of training empha-