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

Meg Kletke
Oklahoma State University

James E. Trumbly
Oklahoma University

Debra L. Nelson
Oklahoma State University

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 introdus-
tion 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 lev-
els.

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 manage-
ment 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 au-
thors agree that the forecast productivity in-
creases associated with microcomputer use in
organizations have not been forthcoming
(Bowen, 1986; Thor, 1988). Plenart (1987) indi-
cates 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”) microcompu-
ters in organizations, has contributed to the
suggested failure of microcomputers to improve
productivity. Jenkins (1988) suggests that obvi-
ous productivity gains come from automating the
previously manual processes associated with
transaction processing, but that the soft benefits
associated with other areas in which microcom-
puters 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 addi-
tion, Pyburn reports, the president felt that micro-
computers distracted employees from their ma-
jor responsibilities and did not contribute to the
overall success of the firm. Pyburn also men-
tioned 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 microcompu-
ters has the potential of increased productivity, it
also presents risks due to poor management con-
trol. 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 train-
ing to use software effectively. Nelson and
Cheney (1987) reaffirm both the necessity for
end-user training and the lack of training empha-