

## Research Paper

# Toward a Comprehensive Framework: EUC Research Issues and Trends (1990-2000)

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### ABSTRACT

*During the 1980s and into the early 1990s, end user computing (EUC) was reported to be among the key concerns facing managers and organizations. Is EUC still an important topic? This study examines academic research during this period. A research-focused framework is offered to provide a conceptual structure for examining the trends and issues in EUC. This framework is both parsimonious and allows a comprehensive classification of end user computing's three major dimensions: end user, technology, and organization. The study examined every article from five leading IS journals (ISR, MISQ, JMIS, I&M, JEUC) for the 11 years 1990-2000. The results indicate that there has been no diminishing of EUC interest and studies during this time, either overall or in any journal or dimension. A discussion of emerging trends, important themes, and journal differences concludes this examination.*

*Keywords: computing trends; end user computing (EUC); EUC research; framework; taxonomy.*

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### INTRODUCTION

End user computing (EUC) has been evolving since mainframe end users in the late 1960s; it was mainstreamed with the introduction of the personal computer over 20 years ago. As organizations and individuals discovered the advantages and capabilities of personal computing technology, new competencies and efficiencies were developed which transformed the workplace. The academic study of EUC grew as an attempt to provide direction and control to managers, executives, and knowledge workers who persisted in this new technology.

The importance of EUC was evident early as academics and practitioners consistently rated it as one of the key areas of concern. In a list of the most important managerial issues, Dickson, Leitheiser, Wetherbe and Nechis (1984) reported EUC as the second most important. Brancheau and Wetherbe (1987) placed it at #6. More recently, EUC has been ranked high in a number of different settings and nations. Managers of small businesses ranked training and education of end users as #2 and end user support as #4 (Riemenschneider & Mykytyn, 2000). U.S. multinational corporations ranked EUC as #4 of 32 top issues (Deans, Karwan, Goslar, Ricks &

Toyne, 1990-91), while U.S. public sector organizations ranked it #4, with office automation #5 (Caudle, Gorr & Newcomer, 1991). Taiwanese managers ranked communications with end users #2 (Yang, 1996), while a similar study in China listed the same issue #1 (Wang, 1994).

In the last few years, the relative importance of EUC is reportedly diminishing, particularly in the U.S. Niederman, Brancheau and Wetherbe (1991) reported facilitating and managing EUC as the #18 most important managerial issue. Four years later Brancheau, Janz and Wetherbe (1996) placed it as #16, as did Lee, Trauth and Farwell (1995) in their study of critical IS activities. Clearly, there are some inconsistencies present regarding EUC's importance.

Part of the problem is the lack of concurrence as to what comprises EUC today. It is important to note the distinction between managerial "EUC" and EUC as used academically. To the manager in the organizational setting, end user computing comprises the functions of planning, managing, and supporting the computer needs of end users. As organizations gain experience and expertise, EUC becomes less important as a management issue, as evident in some of the larger or more technologically advanced organizations (Essex, Magal & Masteller, 1998; Guimaraes & Igbaria, 1994).

To the information systems (IS) academic community, however, EUC covers a wide range of themes and research, from investigations into the nature of individual attitudes and behaviors to organizational strategies for project development. In fact, there is disagreement as to what should be included in such research. In over 20 years of research in EUC, there is no consensus as to what EUC success means or how organizations should assess their EUC

needs (Harris, 2000). A comprehensive examination of relevant EUC research reveals some consistent patterns and themes. This study examines all EUC articles from five leading IS journals for the years 1990-2000. The trend indicates that EUC is still a well-researched and relevant topic that still grapples with crucial issues.

The objectives of this article are: (1) to examine the nature and characteristics of EUC and end users; (2) to present a comprehensive framework for the study of EUC based on the end user, technology, and organization; (3) to assess how this framework characterizes the various themes of EUC; and (4) to explore the position of EUC within the IS academic community by detecting and establishing EUC trends and issues.

## EUC & END USERS

EUC as a subset of IS has been examined since before 1980. In an early study, Benson (1983) noted the shift from main-frame computing to micro-computers and reported on relevant management issues concerning this change. As computing became available and useful to users and managers outside the data processing centers, it evolved along three paths: growth in number of users, growth in the hardware and software technologies, and growth in computer skills of users (Harris, 2000).

Disagreement persists over what EUC actually is and even the identity of end users (Rainer & Harrison, 1993). There exist two widespread definitions of EUC, one broad and one that focuses on applications development. The more restricted definition states that EUC is the adoption and use of information systems by users outside the IS department to develop software applications to support organizational tasks and decision making (Aggarwal, 1994;

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