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## What small business executives have learned about managing information technology

Cynthia K. Riemenschneider<sup>a,\*</sup>, Peter P. Mykytyn Jr.<sup>b,1</sup>

<sup>a</sup>*Computer Information Systems and Quantitative Analysis Department, University of Arkansas, Fayetteville, AR 72701, USA*

<sup>b</sup>*Department of Information Systems and Management Sciences, University of Texas at Arlington, Arlington, TX 76019, USA*

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### Abstract

In this study, 308 small business executives were interviewed and asked to identify the single most important thing they had learned about managing the use of information technology (IT) in their firms. The most common response was staying current/keeping up with changing IT. The training/education of end users, the ability to get information quickly, and accurate data were also given as things the executives had learned. The small business executives interviewed were from a variety of industries including the computer industry, the health care industry, engineering, consulting, manufacturing, insurance, accounting, and law. Ninety-two percent of the executives had acquired new hardware and 89.9% had acquired new software for their firms since their firms had first started using computers. In approximately 90% of the firms, the number of users of computers had increased and the majority of the new users were classified as both managerial and clerical. Again, approximately 90% of the firms had increased the number of functions for which computers were used within their firms with applications in accounting having the greatest increase. © 2000 Elsevier Science B.V. All rights reserved.

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### 1. Introduction

Information technology (IT) has formed an integral part of the operational and competitive environment of large organizations for many years. IT perspectives have evolved from mainframe environments of the 1960s and 1970s, to the small, so-called minicomputer era of the latter 1970s and early 1980s, to the PC era of today. And even the PC phenomenon has been trans-

formed from the standalone models of the mid 1980s to the integrated, network-based systems found today. Indeed, the continuing evolution in hardware and software technologies has brought about a spiraling decline in costs for all organizations, such that even the smallest of business organizations can afford to purchase needed IT. Therein, however, lies part of the problem.

The majority of IT research has been done with large firms [1,14]. And although hardware and software costs are significantly lower today, thereby making it possible for organizations of any size to purchase IT, the research findings, i.e., problems, solutions, benefits, etc., that relate to the larger organization may not necessarily apply to smaller firms. Small

\* Corresponding author. Tel.: +1-501-575-6120;

fax: +1-501-575-4168.

E-mail addresses: criemen@comp.uark.edu

(C.K. Riemenschneider), mykytyn@uta.edu (P.P. Mykytyn Jr.)

<sup>1</sup> Tel.: +1-817-272-3537; fax: +1-817-272-5799.

businesses employ 54% of the private working population, and they contribute 52% of all the sales in the US [27]. Admittedly, small businesses play a vital role in the economy of the US, and therefore, warrant more study tied to IT than has been conducted previously.

Many smaller organizations contain many of the same functions and activities as their larger counterparts, albeit on a lesser scale. These include sales and marketing, manufacturing, accounting, etc. It should be of interest to information systems (IS) researchers and to the business executives themselves to learn more about how these firms have acquired IT, or perhaps upgraded their systems, as well as to gain a deeper understanding of many important problems and managerial issues that have evolved. It should also lead to additional research that could provide for comparisons with larger organizations; similarities, if any, as well as markedly different areas could be identified.

The overall purpose of this research is to assess how IT is used in smaller organizations. This examination includes the identification of the different functional areas of firms. Additionally, the results of what small business executives say they have learned about managing IT are presented. In the next section of this paper, we discuss some of the previous research dealing with smaller businesses, drawing attention to the fact that it does not provide either IS researchers or business executives with significant information about IT uses. Following that, the research method is presented. The paper concludes with a discussion and suggestions for additional research.

## 2. Small business research

Prior to 1988, IT research relevant to small businesses fell into three primary categories: studies which gave advice for purchasing computer hardware and software, studies which reported on computer usage, and studies which reported on the use of computers to make managerial decisions. Inasmuch as the technology has changed dramatically since then, i.e., one study [21] examined the nature and selection of minicomputers, and the software and applications in use then were predominately accounting, inventory control, and word processing, there seems to be little to be gained by examining the research in detail.

Since 1988, much of the IT-related research that has examined small business perspectives has been

industry specific. A number of studies, such as those by Raymond [22], DeLone [7], Montazemi [16], Cronan [5], Evans [9], and Cragg and King [4] present some interesting perspectives. Table 1 reviews each of these studies, identifying, for the most part, the number and type of subjects, the research focus, and the findings/observations/issues. In general, however, the following points about post 1988 research are noted:

- Accounting and financial activities account for a large portion of IT usage by small businesses.
- It is important that businesses examine the nature and content of training programs directed at managers in small businesses.
- Top management support and involvement, including that from CEOs, is crucial if IT implementations are to succeed.
- Consistent with the findings of most IT-related research, end user involvement is crucial if user satisfaction is to be achieved. In turn, user satisfaction can lead to system success and, ultimately, to successful business efforts.

As stated above, most of the prior cited research since 1988 is industry specific; in addition, some of the research is dated. Therefore, this supports our research which includes a heterogeneous sample of businesses from different industries and which examines IT usage in dynamic situations and environments.

### 2.1. Questionnaire items

The instrument used for this research, attached as Appendix A, contained seven questions related to IT usage. Most of the questions were based on the previous study of Cragg and King [4], which also allows for certain comparisons between that research and the current study. Questions dealt with: acquisition of new hardware/software, usage of the new hardware/software to extend the range of applications, number of functional areas of computer use, and the number of users. Other researchers have also examined a number of these issues as well. Regarding the number of functional areas using computers, Raymond and Magnenat-Thalmann [25], Nickell and Seado [18], and Farhoomand and Hrycyk [10] found accounting to be the most common application for small businesses (See Table 1).

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