MICROCOMPUTER EDUCATION: ARE INSTITUTIONS OF HIGHER LEARNING PROVIDING EFFECTIVE MICROCOMPUTER TRAINING TO FUTURE BUSINESS LEADERS?

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Modern microcomputer technology is currently offering many advantages to decision makers in the support of their information processing needs. While microcomputers are now used in a variety of business functions as support tools, and as microcomputer users are becoming more self-sufficient in satisfying their information needs, college education and training in microcomputers has been limited to mainly introducing students to various software packages. The future business managers must be better equipped with a broader understanding of microcomputers and their potentials in a variety of managerial applications.

Introduction
As the complexity of decision making in the business environment increases, the need for the more efficient use of available business tools will increase proportionally. The business manager can be better prepared for critical situations by taking advantage of the available computer technology that has increased calculation power and speed. In addition, with the availability of inexpensive and powerful modern microcomputer hardware and "user-friendly" software, business managers now can interact directly with data and models when personally organizing information for decision making.

Some business managers, however, have not been able to take advantage of all that the microcomputer has to offer.

Most managers usually understand the basics of microcomputer technology, but often adequate analysis, selection, design, and implementation of the microcomputer-based applications are beyond the manager's abilities. On the other hand, the majority of microcomputer applications are developed by end users/managers. Some of these users normally invest tremendous amounts of time to learn the art of system application development without having any prior training in the process or any assistance from information systems personnel in their organizations. Despite the lack of adequate knowledge about the microcomputer-based application process, many have managed to utilize microcomputers to their fullest potential. Conceiva-
bly, better educated microcomputer users could have a much greater positive impact on organizations by utilizing this new technology in a more efficient and effective way.

Today's business students enrolled in colleges and universities -- the business managers of the future -- have a need to be educated about the current and future potential of microcomputer technology. However, many microcomputer courses offered at the college level may not be sufficient to respond effectively to the future needs of an increasingly demanding and competitive business world. At present, most business schools are offering microcomputer exercises as either a part of a specific discipline, such as accounting, finance, or marketing, or as a complete course in microcomputer applications. In either case, the emphasis is basically on a few limited business applications and the operation of one or more software package.

This paper focuses on the current status of microcomputer education at the college level and the future needs of business managers. In addition, it provides some direction for the better preparation of business students in dealing with microcomputer technology and its potential.

Utilizing Micros in Business

In recent years, the influx of inexpensive, powerful, user-friendly, microcomputer software packages for business, and the vast computing power of the modern microcomputer, have helped to make microcomputers powerful tools primarily useful for decision making and information management. It has been estimated that there were approximately 5.4 million microcomputers in 1984, doubling the number in 1983. Projections of the number of microcomputers in use by the year 1990 are estimated to be approximately 13 million units (Guimaraes & Ramanujam, 1986).

When reviewing the impact of the microcomputer, the true value can be realized in decision support type applications. A Decision Support System (DSS) can be thought of as a total integration between managers, microcomputer hardware and software, models, and databases whose purpose is to contribute to the decision process necessary to accomplish strategic, tactical, and operational objectives within an organization (Davis, 1988; McLeod, 1988). The technology available in modern decision support systems will allow managers to interact with data on a continual basis, and in a more intimate way (Fay & Wallace, 1987).

In addition to DSS applications, microcomputers can be regarded as a power tool for communication applications where managers can share data, information, and messages with their colleagues without the worry of location constraints. Microcomputers have been utilized for accessing electronic mail systems, electronic bulletin boards, databases, and other computers. The technology of local area networks (LANs) of the past decade has revolutionized the capabilities of microcomputer applications and use. Through networking, many organizations have managed to take advantage of microcomputer technology in a way that has shaped their competitive posture in the market place.

The Impact of Microcomputers on Information Processing

One of the challenges made to the management of traditional information processing systems is that the information systems department no longer controls all computer usage in most organizations. Therefore, the information systems manager now has the responsibility to be knowledgeable about many different aspects of the microcomputer and software support.

It has been predicted that the future information systems (IS) professional will be less of a controller and more of a support person, primarily responsible for the education of end users and offering supportive assistance toward their computing and information processing needs (Holmes, 1977; Sullivan, 1985). With an ever-increasing number of end users in organizations,