MANAGING THE INTRODUCTION OF INFORMATION SYSTEMS TECHNOLOGY: THE CASE OF DESKTOP PUBLISHING AS AN ORGANIZATION-WIDE RESOURCE

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Effective management of information system technologies in the 1990s will be a combination of information system and management training, detailed planning and organization, and understanding the technical and human needs of the corporation. Managing change is becoming a way of life in modern organizations, and the strategies for implementing information systems have changed significantly over time. Desktop publishing uses a microcomputer system to generate documents comparable to those produced by a professional printer, and presents numerous management challenges. Operational concerns include the high cost of hardware and software, as well as training and staffing requirements. By establishing standards, an organization is able to address many of the operational concerns. The assignment of budgetary control and the development of guidelines for the use of desktop publishing help to bring the management of desktop publishing under control.

Effective management of information system technologies in the 1990s will be a combination of information system and management training, detailed planning and organization, and understanding the technical and human needs of the corporation (Grodman, 1988). Key to the successful introduction of any new technology is planning. A comprehensive information systems plan should be based on the organization’s overall business plan and should reflect organizational goals. These plans may include modifying and restructuring the organization to take advantage of emerging technologies. Gallagher (1988) identifies four interacting factors contributing to corporate interest in utilizing computer technology: (1) recent advances in computing hardware making possible a new generation of applications, (2) a developing perception that information and knowledge is a corporate asset; (3) easy-to-use software products and an increase in the sophistication of applications; and (4) the utilization of information technology as a competitive weapon.
Introducing New Computer Information Systems

In any business environment, new computer information systems are implemented to increase customer service, improve productivity, or cut costs (McManis & Leibman, 1988). Introducing new systems, then, is often necessary to meet the competition and retain a customer base. At the same time new systems are being developed and introduced, the widespread use of information technology throughout the organization is causing information overload (Berger, 1989). Many organizations face a crisis: they don’t believe they can prosper or even survive without continually introducing new information technology, while at the same time they are frustrating their managers with an ever-changing and often difficult to understand and utilize information system.

Several key issues need to be considered by management if the new system is to have a smooth transition into the organization. Most important in the implementation of the new system besides the actual hardware success is the attitude of the personnel using the system. The organization must recognize the importance the human resource function can play in the process. Other issues that require consideration include the effects of technology introduction on the organizational structure, effects on job responsibilities within the organization, and a change in the way managers perform their tasks (McManis & Leibman, 1988).

Some of the changes that the introduction of computer technology cause include: (1) a change in the relationship between individuals and departments; (2) a change in training needs for system users; and (3) a change in work relationships, managers often become more dependent on high-tech employees. (Denton, 1986)

Managing change is becoming a way of life in modern organizations, including managing and controlling the pace of innovation and change when implementing the use of computer technology (Lucas, 1986). The emergence of this technology brings with it a number of important management concerns: (1) a concern for ergonomics and the associated health and injury risks such as repetitive strain injury and vision problems associated with using keyboards and video display terminals; (2) the development of systems by naive computer specialists, causing management to focus attention on trivial areas at the expense of more important areas; and (3) the focusing of control of an organization into the hands of those who control the information resources (Er, 1987).

Strategy

Technology strategy is itself but one part of an overall business strategy, therefore it must always be conceived and implemented within the context of the overall strategic management of business (Wilson, 1989). Information technology’s increased importance means senior executives, information systems personnel, and users must plan and control the introduction and use of information technology (Grindlay, 1986). The primary steps involved in creating and maintaining an effective strategic plan for information systems include: (1) identification of objectives - the IS should support the objectives of the parent organization; (2) establish balanced priorities for investment in technical resources and user applications; (3) establish a reasonable time frame for the planning horizon and the anticipation of the future IS environment; and (4) expect the unexpected, as many external forces will impact the plan (Miller, 1988).

Strategy for implementing information systems has changed significantly over time, as have the hardware and software products available to organizations. In the large central systems of 1960s and 1970s, management focused on transaction oriented systems supporting large administrative units. Economies of scale were often cited as a powerful argument to promote administrative efficiency. Supporting the individual manager with decision support applications has been the focus of the 1980s. These applications are often microcomputer driven, and