CHAPTER 52
Planning a Portfolio of Decision Support Systems

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The planning of a portfolio of decision support systems takes place within the broader information systems planning process. The process can be viewed as being comprised of five phases with each having multiple activities. The objective of the process is not only to create the portfolio, but also to increase the likelihood of its implementation and to raise the value delivered by its decision support and other systems. Understanding the challenges of the planning process helps to explain the rationale behind the process itself.

Keywords: Information systems planning; Decision support systems; Information technology (IT) strategy

1 Introduction

Planning is the act of formulating a program for a definite course of action, usually to fulfill goals or objectives that are defined either before or during the formulating of the program. Planners seek to produce a program – or plan – that is better than the alternatives. One underlying presumption is that planners have the ability to evaluate alternative plans in terms of their anticipated benefits and costs in the presence of uncertainty about the future. Another is that the plan can and will be implemented over some predetermined period, which is referred to as the planning horizon. The planning process itself is costly in terms of the required time and effort, but faith in the presumptions motivates planners to proceed with the process.

Information systems planning has been defined as “the process of identifying a portfolio of computer-based applications that will assist an organization in executing its business plans and realizing its business goals” (Lederer and Sethi 1988, p. 446). The portfolio specifies the decision support systems, transaction processing systems, and any other conceivable type of information system. Decision support systems play such a significant role in the management of an organization that they are probably the most important type of information system that might be identified. Because transaction-processing systems typically provide data input to decision support systems, they can likewise be of great importance.
Information systems planning includes not only identifying the portfolio of decision support and other information systems, but also the specification of changes to the infrastructure of databases, software, hardware, and telecommunications to support the portfolio. It can encompass technical training planning, end-user computing planning, standards and procedures planning, facilities planning, and systems control planning in addition to software planning, hardware planning, network communications planning, data security planning, disaster recovery planning, and personnel planning. It can include the identification of the required new skills and positions necessary for the planning process, the implementation process, and the ongoing business processes supported by the systems. It can include the development of a variety of documents, such as task lists and schedules, to improve the quality of the portfolio and to increase the chances of successful implementation of the systems. The purpose of information systems planning can thus include not only producing the portfolio and foundation for its implementation, but also laying the groundwork for the longer-term management of information systems in the organization.

The complete output of information systems planning is often referred to as the information technology (IT) strategy. It typically includes much more than the portfolio. It includes the infrastructure changes, new skills and positions, task lists and schedules, and the delineation of other changes to improve the long-term management of information systems in the organization.

The purpose of this chapter is to explain the process of creating a portfolio of decision support systems. The chapter does so within the context of information systems planning with an emphasis on decision support systems. An understanding of the objectives of such planning is essential in order to comprehend the process; therefore the next section elucidates the objectives of that planning process. The subsequent section describes the process. A section about the challenges of information systems planning follows because the challenges help the reader better understand the rationale for the activities in the process.

2 The Objectives of Information Systems Planning

Although tangible measures for successful information systems planning such as improved profit, return on investment, or net present value would be preferable to subjective evaluations, such measures have proven problematic not only in information systems planning research but in planning research in general (King 1988, King and Grover 1991, Segars and Grover 1998). Because the success of such planning is believed to be best measured in terms of the fulfillment of its key objectives (Venkatraman and Ramanujam 1987), the assessment of the extent of fulfillment of key objectives has typically been employed for such judgment.