Where Are the Models for Students in IS Programs to Learn About the Future?

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Abstract

Research is being conduct on an appropriate model for students to learn about future planning in a Management of Information Systems or a Telecommunications Management program. This paper describes and contrasts various models, such as scenario planning (Schwartz 1991), creating a competitive advantage (Porter 1980, 1985), and the link between business strategy and technology strategy (Keen 1991). In addition to the search for a relevant model or combination of models, the authors analyzed current curriculums for the appropriate positioning of such a course in a degree program—an introductory course, an IT strategic planning course, or as the underpinning for an integrated future-oriented capstone course.

Keywords: Scenario modeling, IS strategy, telecommunications management, IS curriculum

Students are asked to think *outside the box* when planning IS strategy. They are asked to describe where the organization or information systems will be in one year, five years, and even ten years from now. Most frequently Porter (1985, 1980) is cited for research in the ability of organizations to create and sustain a competitive advantage. The inducement of the organization to remain competitive justifies its strategy in product cost and differentiation. Recognizing and exploiting the competitive significance of technological change allows organizations to maintain or establish their competitive advantage. The important contribution of Keen (1991) is the link he makes between the discipline of information technology with the real strategic concerns of business. Leaders of the organization must take responsibility for investments in information systems and ensure that it pays its way. Payback can be realized by ensuring that the product or service offering has *reach* (geographic) and *range* (across applications) functionality.

A measurement of the growing importance of this topic is seen in the investment of organizations in information systems. Schwartz (1991) suggests that we can plan for the future by developing scenarios, while Fisher (1987) has expressed the ultimate rationale for such planning. Scenario planning involves developing theoretical views of the future based on social, economical, political, and environmental forces in the environment. The future, according to Porter's model (1985), is determined by the strategy of the organization to be the leader, to offer product differentiation, or to satisfy a niche. Both

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models suggest that the organization undergoes learning, which facilitates a better view of the future.

Uncertainty about the future is not a comfortable position for organizations and their leaders. Leaders understand that information systems are part of this development and would like to see a future based on the past. Appropriate models for information systems may be found in our nation's previous attempts to build networks: the railroad, the telegraph, the telephones, and the Web. The railroad's fundamental advantage was its ability to provide a service that was dependable and precisely scheduled (Beatty 2001). In the early 1900s, giant consolidation took place in response to increasing competition. The early history of the telegraph and telephone were quite similar. The telephone, telegraph, and railroads existed with the obligations and privileges of public service companies—the obligation to serve the public without unjust discrimination. (Stone 1989).

The telephone, telegraph, and railroads served local communities and through competition and consolidation expanded their networks to include much larger communities. They initially allowed others to use their networks. This philosophy changed under the guise of maintaining network integrity to the point where any equipment or usage not authorized by the parent company was prohibited.

The development of the Web or the Internet suggests an evolution in the business strategy of inhibiting others in the name of competition. The network that Berners-Lee (1999) fostered recognized that connectivity was only as valuable as the number of connections that were possible and that the concepts of product cost and differentiation (Porter 1985) and *range* and *reach* (Keen 1991) could best be served with a network that included these organizational strategies. Using the future scenarios planning of Schwartz (1991) and grounding it in lessons learned from previous technology development (telephone, telegraph, and the Web), students can develop strategic visions with a little certainty.

The question then is how to best incorporate this type of planning into a graduate IS or Telecommunications Management curriculum. Should it be part of or the theme of a separate course on the future of Information Systems or should it be a central component of a course on IT Policy and Strategy? A preliminary review and comparison of the experiences of the authors at two different universities suggests that the concepts of scenario modeling be included in a graduate program and such a course is integral to the degree program.

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