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Alignment of Information Systems Strategy with Business Strategy

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Alignment of information systems (IS) strategy with business strategy is an important objective if organizations are to use information technology resources effectively. Alignment is especially important for companies which use information technology (IT) as a strategic resource. Studying the alignment practices of companies offers insight into how effectively they are using information technology. This proposed study will operationalize a contingency model to evaluate the effect of key IS planning practices. The research model in figure 1 depicts how the predictor variables environmental uncertainty and importance of IT to the firm affect key practices of the IS area, how these practices are related to strategic alignment of the IS plan with the business plan, and how alignment impacts the contribution of IS to organizational performance. It is hypothesized that the research variables have a causal effect upon alignment and that IS practitioners have some control over these effects.

Alignment of the information systems plan (ISP) with the business plan (BP) has been the subject of much research and has been cited as one of the chief problems facing IS planners and managers (Teo 1994; Jang 1989; Cresap, McCormick, and Paget 1983). Applied properly, information can provide competitive advantage to allow companies to outperform their competition. Without alignment, organizations may not be able to realize full value from IT investments (Henderson and Venkatraman 1993).

The major purpose of this study is to increase our knowledge of the influences upon strategic ISP-BP alignment and the impact such alignment has upon the organization. Specific research objectives are:

- 1) Define and develop measures for the predictor variables environmental uncertainty and importance of IT to the firm;
- 2) Define and develop measures for the ISP-BP alignment construct;
- 3) Develop a conceptual framework of the key practices influencing ISP-BP alignment;
- 4) Define and develop measures for the impact of ISP-BP alignment on IS contribution to organizational performance; and
- 5) Assess the relationship of the predictor variables with the degree of alignment and the degree of alignment with IS contribution to organizational performance.

Uncertain environments, characterized by unpredictiveness and rapidly changing technologies, place time constraints upon decision-making, force companies to adopt coping mechanisms and generally require higher levels of strategic linkage between the IS and business plan (Pyburn 1983; Jang 1989). A response many companies have found to be effective is to use IT to leverage the capabilities of key executives, thus exploiting unique firm capabilities and distinctive competencies. Environments that can be characterized as dynamic, hostile, and heterogeneous create the need for IT-based solutions directed at reducing organizational uncertainty, providing product differentiation, and integrating IS with business strategy.

Executive support for IT is the key enabler of alignment. Chief executive officers (CIOs) and top management may not agree on the importance of IT in attaining business objectives. One measure of perceptual congruence, the *strategic grid*, considers the strategic importance of a firm's current IT applications and portfolio of future IT applications (McFarlan, McKenney, and Pyburn 1983). Using the grid, an organization can assess its current and future IS environments, allowing IS managers to focus on the organizational role of the IS function and to proactively plan for any contingencies. A mismatch in perceptions of top management and IS executives about the company's strategic grid position can result in ineffective and wasteful IS planning efforts and inappropriate use of technology (Raghunathan and Raghunathan 1990).

Companies with products and services characterized by high information intensity are in a better position to exploit IT. Products or services that require special information for use or incorporate information into the product or the purchase decision may be viewed as strategic resources that can provide competitive advantage. Similarly, where the information component of a product or service is significant, information intensity is built into the firm's value chain. The CIO can capitalize on information technology by looking for ways to incorporate information into a product or service, thus elevating the importance of IT to the firm.

In a survey of 80 organizations, a problem rated most severe was the difficulty in gaining top management's support for implementing the IS plan (Lederer and Sethi 1988). When IS executives are directly involved in the business planning process they are better informed of the firm's goals. Equally important to the participation of IS executives in business planning is the participation of the CEO in IS planning. Research suggests that the CEO's participation on the IS steering committee and frequent contact with the CIO increase ISP-BP alignment and the quality of the IS plan.

Strategic planning presumes the existence of a set of business strategies based upon the corporate mission or vision. For organizations that view IT as a strategic resource, the alignment between business and IS strategies is critical. Alignment may be measured by how tightly the IS plan and the business plan are linked; e.g. to what extent do the IS strategies support the business strategies, and to what extent does the business plan exploit the strategic potential of IT. Alignment may also be measured by direct references between the ISP and BP (King 1978).

Both top management and IS executives agree upon the importance of measuring the performance of the IS function. In a Delphi study, IS executives ranked the top five evaluative dimensions in the following order: IS impact on strategic direction; integration of IS and corporate planning; quality of information outputs; IS contribution to organizational financial performance; and, IS function operational efficiency (Saunders and Jones 1992, p. 72). Of particular interest, top executives were more interested in the alignment aspect of planning supporting organizational objectives and strategies than identification of specific applications that changed the strategic direction of the firm.

Strategic planning for IS involves identifying the role of the IS function (key practices) and identifying how IT can be exploited for competitive advantage. To validate the importance of alignment, and thus the efficacy of the IS practices, it is necessary to establish its association with organizational outcomes. Porter and Millar (1985) posit several measures for competitive IT strategies: altering the power of buyers; altering the power of suppliers; altering the threat of new market entrants; altering the threat of substitute products; and, altering the threat of competition.

The research methodology will be a field survey employing questionnaires sent to senior IS executives and members of top management, within the same firm, in private corporations within the United States. This will facilitate statistical testing across a wide variety of organizations and reduce the effects of common source variance by measuring the independent and dependent variables from different respondents. Operationalization of constructs will be in the form of survey questions based on an extensive literature review and consideration of existing validated measures. Confirmatory factor analysis will be used to measure the relationships among the variables.

This study's contribution to practice will result primarily from identifying key practices with organizational outcomes given the influence of the contingency variables. CIOs recognize that key IS practices must be examined and oriented to top management's role for IT. Identification of relationships between the predictor variables and ISP-BP alignment should have important consequences for practitioners seeking ways to improve their contribution.

Contributions to research will derive from the completeness of the model, use of the construct *IT's Importance to the Firm* as a contingency variable, and the use of the *Key IS Practices* construct to provide relationships heretofore unexplored. It is expected that the degree of ISP-BP alignment and the impact of key IS practices upon organizational performance will be moderated by the importance of IT to the firm. The strength of these relationships should provide questions for future research. Future research would also benefit from examining the feedback effect of outcomes on the importance of IT to the firm as proposed in the research model.

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